# Role of neutrophils to lymphocyte ratio (NLR) in patients with mycosis fungoides

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# **Introduction & Objectives:**

the neutrophil/lymphocyte ratio (NLR) at diagnosis, has been shown to correlate with advanced disease and to be a prognostic factor in many tumors. However, its role as a prognostic factor for mycosis fungoides (MF) has not been yet clarified.

Our study aimed to evaluate the correlation of NLR with stages of disease in patients with MF, to define weather or not higher values of this marker correlate with a more aggressive disease.

## **Materials & Methods:**

we retrospectively analyzed NLR in a total of 302 newly diagnosed MF patients. NLR was calculated using the complete blood count (CBC) data.

## **Results:**

median NLR among patients with the non-advanced disease (low-grade IA-IB-IIA) was 1.88, while the median NLR for patients with advanced disease (IIB-IIIA-IIIB) was 2.64. Statistical analysis showed positive associations of advanced MF stages with NLR higher than 2.3.

# **Conclusion:**

our analysis demonstrates that NLR represents a cheap and easily available parameter which could be used as a marker for advanced MF. This could help identify patients with advanced stages of disease requiring a strict follow-up.

## Significance of primary melanoma regression on local infiltrate and outcome

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**Introduction & Objectives:** The characteristics and the prognostic value of regression in primary melanomas are controversial. The aim of this study was to further characterize "hot" and "cold" tumor's stromas and to investigate the association between dermoscopy, pathology, and the prognostic implications of regression.

**Materials & Methods:** A 14-year-collection-based retrospective analysis was carried out on 40 patients with confirmed regressive melanomas in the dermatology department of Lyon sud Hospital , France. Histologic regression was sub-classified into 3 stages as reported in the literature. Stage 1, or "inflammatory phase", stage 2 or "regressing phase" where melanoma cells are still recognizable, and stage 3 or "regressed melanoma" which is characterized by the complete disappearance of the tumor that is replaced by a dense fibrotic tissue with vessels and melanophages. The extent of regression was also classified as focal if it involved a portion of the dermal component of the tumor, partial if it involved the entire dermal component, and complete if it involved the entire tumor.

**Results:** The extent of regression in dermoscopy was associated with the stage of the regression (p=0.05) and with the MelanA patterns in histology (p=0.02). Blue-grey and grey-brown color of the peppering (p=0.01), and the eccentric, multifocal character of the dermoscopic regression (p=0.05) were associated with "hot" stromas (CD8+, Granzym B+). Focal histologic regression (regressing melanomas) was associated with a good outcome (p<0.001), while a complete regression (regressed melanomas) was associated with melanoma-related death (p<0.001). "Hot" stromas (CD8+) were significantly associated with survival at 10 years (p=0.044), while "hot" stromas (Granzyme B+) were associated with the locoregional extension (p=0.016), and the initial distant metastasis (p=0.016).

**Conclusion:** Dermoscopic features of regression in primary melanomas were associated with the stage of regression, its extent, and the "hot" or "cold" nature of the tumor stroma, with prognostic implications.

Often Misdiagnosed: A Case Report of Subcutaneous Panniculitis-Like T Cell Lymphoma (SPTCL).

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**Introduction & Objectives:** Subcutaneous panniculitis like T cell lymphoma (SPTCL) is an uncommon peripheral T cell lymphoma frequently misdiagnosed as panniculitis resulting in delay in diagnosis. We herein report a case with SPTCL.

**Results:** A 14-year-old lady presented to a private hospital with spontaneous painless purplish skin discoloration on both knees and right shin of 1 month duration. Initial skin biopsy was reported as erythema nodosum. Celecoxib, prednisolone and hydroxychloroquine were started but she responded partially. She presented again to our center 6 months later when she started to develop intermittent fever. Examination revealed subcutaneous plaque on bilateral knee, right shin and right elbow. Purulent discharge oozed from her right leg biopsy wound. Laboratory investigations revealed leukopenia and thrombocytopenia. A repeat skin biopsy in our center revealed subcutaneous panniculitis like T cell lymphoma. Immunohistochemistry showed atypical lymphoid cells which express CD3, CD8 and TIA-1. Positron emission tomography (PET) scan showed numerous active cutaneous-subcutaneous-nodules of limbs, chest wall and abdomen. Multiple metabolic active enhanced lymph nodes also noted at left common, external iliac, bilateral inguinal and right popliteal fossa although clinically no lymphadenopathy. Bone marrow aspiration and trephine biopsy didn't show any evidence of marrow infiltration by primary disease or hemophagocytosis. She was started on anthracycline-base chemotherapy.

**Conclusion:** Awareness of SPTCL among dermatologist is important so that accurate diagnosis can be made early and appropriate treatment initiated.

## The vulvar microbiome in premalignant diseases - potential players in cancer development?

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The vulvar microbiome in premalignant diseases – potential players in cancer development?

# **Introduction & Objectives:**

The vulvar microbiome and its role in the development of (pre)malignant vulvar disease is scarcely investigated. Microbiome perturbations suggest possible etiologic pathways in cervical cancer. Therefore, the aim of this study was to describe the vulvar microbiome composition in lichen sclerosus (LS) and vulvar high-grade squamous intraepithelial lesions (vHSIL), in addition to comparing the premalignant patients' and healthy controls' microbiome composition and biophysical assessments.

#### Materials & Methods:

Women with vulvar lichen sclerosus (n=10), vHSIL (n=5) and healthy controls (n=10) were included, of whom vaginal, vulvar and anal swabs were collected. Both lesional and non-lesional sites were swabbed in LS and vHSIL patients. The vulvar, vaginal and anal microbiome composition was characterized with metagenomic shotgun sequencing. Biophysical assessments included trans-epidermal water loss for evaluation of the vulvar skin barrier function and vulvar and vaginal pH measurements.

# **Results:**

Healthy vulvar skin resembled vaginal, intestinal and skin-like composition, including the genera *Prevotella*, *Lactobacillus*, *Gardnerella*, *Staphylococcus*, *Cutibacterium* and *Corynebacterium*. No significant differences were observed in diversity and richness between healthy and diseased vulvar skin. Compared to the healthy vulvar skin, the vulvar microbiome composition of both LS and vHSIL patients was characterized by significantly higher proportions of *Papillomaviridae* (p=0.03 and p=0.002). In contrast, *Bacteriodia* and *Actinobacteria* were significantly less abundant in respectively LS (p=0.04)and vHSIL (p<0.05) compared to healthy vulvar skin. While bacteria and viruses were most abundant, fungal and Archaeal taxa were scarcely observed. Trans-epidermal water loss was increased in affected skin compared to healthy vulvar skin.

# **Conclusion:**

This study is the first to examine the vulvar microbiome in vHSIL and use metagenomic shotgun sequencing to analyse its composition. Diseased vulvar skin presents with a distinct signature compared to healthy vulvar skin with respect to bacterial and viral fractions of the microbiome. This pilot study provides clues to the aetiology of LS and a steppingstone for expanding the knowledge on potential drivers of vulvar premalignant disease.

Single-cell RNA sequencing of a poorly metastatic melanoma cell line and its subclones with high lung and brain metastasis potential reveals gene expression signature of metastasis with prognostic implication

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## **Introduction & Objectives:**

The molecular mechanisms underlying melanoma metastasis remain poorly understood. In this study, we aimed to delineate the mechanisms underlying gene expression alterations during metastatic potential acquisition and characterize the metastatic subclones within primary cell lines.

#### **Materials & Methods:**

We performed single-cell RNA sequencing of a poorly metastatic melanoma cell line (WM239A) and its subclones with high metastatic potential to the lung (113/6-4L) and the brain (131/4-5B1 and 131/4-5B2).

# **Results:**

Unsupervised clustering of 8,173 melanoma cells identified three distinct clusters according to cell type ("Primary", "Lung", and "Brain" clusters) with differential expression of MITF and AXL pathways and putative cancer and cell cycle drivers, with the Lung cluster expressing intermediate but distinct gene profiles between Primary and Brain clusters. Principal component (PC) analysis revealed that PC2 (the second PC), which was positively associated with MITF expression and negatively with AXL pathways, primarily segregated cell types, in addition to PC1 of the cell cycle pathway. Pseudotime trajectory and RNA velocity analyses suggested the existence of cellular subsets with metastatic potential in the Primary cluster and an association between PC2 signature alteration and metastasis potential acquisition. Analysis of The Cancer Genome Atlas melanoma samples by clustering into PC2 high and low clusters by quartiles of PC2 signature expression revealed that the PC2 high cluster was an independent significant factor for poor prognosis (P-value < 0.001) with distinct genomic and transcriptomic characteristics, compared to the PC2 low cluster.

#### **Conclusion:**

We identified signatures of melanoma metastasis with prognostic significance and putative pro-metastatic subclones within a primary cell line.

# The limited value of sentinel lymph node biopsy in lentigo maligna melanoma: results of 29 years of the nationwide Dutch Pathology Registry (PALGA)

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# **Introduction & Objectives:**

Lentigo maligna melanoma (LMM) predominantly presents in the head and neck of the elderly. The value of sentinel lymph node biopsy (SLNB) for LMM patients remains to be determined, as the reported average yield of positive lymph nodes is less than 10%. It is unclear whether this is due to more favorable tumor characteristics or age at presentation. In this nationwide cohort study, we wanted to identify LMM patients with an increased risk of SLNB-positivity.

# **Materials & Methods:**

LMM cases, including subsequent lymph node (LN) histology and cytology reports, were retrospectively identified from the nationwide network and registry of histo- and cytopathology in the Netherlands (PALGA) between 1991-2020. Inclusion criteria consisted of an unequivocal LMM diagnosis with i) performed SLNB or ii) an SLNB indication according to the current staging of the 8th edition of the American Joint Committee on Cancer (AJCC). Cases with i) a Breslow thickness <0.8 with missing ulceration status or ii) missing data were excluded.

Univariable logistic regression analysis was used to estimate the odds ratio (OR) for a positive SLNB outcome. Included clinicopathological factors were age, sex, Breslow thickness, localization, and histological characteristics (e.g., ulceration and microsatellites). We subsequently performed a penalized (LASSO) logistic regression analysis, with 10-fold cross-validation, to get a parsimonious combination of clinicopathological factors that is predictive for a positive SLNB.

## **Results:**

1989 LMM patients met our inclusion criteria (Table 1). SLNB was performed in 16.7% (n=333) and was positive in 7.5% (25/333). No patients with a positive SLNB featured histological regression (n=41) or a desmoplastic component (n=13). The false-negative rate was 21.9%. Clinically detectable regional lymph node (LN) metastases were found in 1.3% (n=25).

Clinicopathological characteristics best predictive for SLNB-positivity (OR; 95% CI) were age (0.95; 0.91-0.99), ulceration 1.59 (0.44-4.83), T4-stage (1.81; 0.43-6.2), male sex (1.97; 0.79-5.27), (lymph)angioinvasion (5.07; 0.94-23.31), and microsatellites (7.23; 1.56-32.7) (C-statistic 0.75). Age was inversely associated with SLNB-positivity (P=0.007), with a decreasing OR (95%. CI) of 0.1 (0.01-0.51) (P>0.001) for the 51-60 age group to 0.09 (0.09-0.59) (P=0.032) for the >80 age group.

A minimal 2 and 5-year follow-up period was available for 85% (n=1701) and 64.4% (n=1281) of the patients, respectively. The median (Q1-Q3) time to recurrence was 15 months (7.7-38.5). Regional LN recurrences were

detected in 4.2% (n=83) patients. The regional LN recurrence rate was 5.3% (n=2) and 3.7% (n=6) for LMM with a desmoplastic component and regression, respectively.

## **Conclusion:**

Our findings indicate a limited positive yield of SLNB in LMM patients when performed according to current melanoma guideline-recommended indications. Using the data of the nationwide network and registry, we identified clinicopathological characteristics of LMM patients at high risk for SLNB-positivity and would carefully consider reserving SLNB for the following selected group of LMM patients: i) age below 60 years of age, ii) a combination of T4 stage, ulceration, and male sex, iii) presence of (lymph)angio-invasion. As melanoma with microsatellites (N1c) are classified as stage IIIB according to the current 8th edition of the AJCC, their presence would already lead to an indication for adjuvant therapy.

Table 1. Clinicopathological	l characteristics of LMN	I grouped by regi	onal baseline nod	al status (n=1989)		
	Clinically detected	SLNB performed		No SLNB	Total	P-value*
	LN metastases "			performed		
		SLNB (+)	SLNB (-)			
N (%)	25 (1.3)	25 (1.3)	308 (15.5)	1631 (82.0)	1348 (100.0)	
Age at diagnosis (years)	77.0 (71.0-82.5)	65.0 (51.5-72)	70.0 (63.0-	77.0 (69.0-84.0)	76 (68.0-82.0)	<0.001
(Median; Q1-Q3)			76.0)			
Sex						<0.001
Female	6 (24.0)	8 (32.0)	150 (48.7)	881 (54.0)	1045 (52.5)	
Male	19 (76.0)	17 (68.0)	158 (51.3)	750 (46.0)	944 (47.5)	
Localization						< 0.001
Head and neck	24.0 (96.0)	18 (72.0)	197 (64.0)	1301 (79.8)	1540 (77.4)	
Trunk & extremities	0 (0.0)	7 (28.0)	111 (36.0)	294 (18.0)	412 (20.7)	
Unknown	1 (4.0)	0 (0.0)	0 (0.0)	36 (2.2)	37 (1.9)	
Breslow (mm)	2.3 (1.5-4.1)	2.0 (1.1-3.7)	1.5 (1.1-2.2)	1.3 (0.9-2.2)	1.3 (1.3-2.2)	<0.001
(Median; Q1-Q3)						
T classification b						<0.001
T1	2 (8.0)	4 (16.0)	69 (22.4)	597 (36.6)	672 (33.8)	
T2	9 (36.0)	10 (40.0)	146 (47.4)	581 (35.6)	746 (37.5)	
T3	8 (32.0)	6 (24.0)	72 (23.4)	324 (19.9)	410 (20.6)	
T4	6 (24.0)	5 (20.0)	21 (6.8)	129 (7.9)	161 (8.1)	
Histological characteristics						
Ulceration	4 (16.0)	5 (20.0)	30 (9.7)	192 (11.8)	231 (11.6)	<0.001
Missing	1 (4.0)	1 (4.0)	25 (8.1)	302 (18.5)	329 (16.5)	
Microsatellites	4 (16.0)	5 (20.0)	5 (1.6)	40 (2.5)	54 (2.7)	<0.001
Missing	5 (20.0)	4 (16.0)	40 (13.0)	447 (27.4)	496 (24.9)	
(Lymph)angio-invasion	3 (12.0)	4 (16.0)	6 (1.9)	27 (1.7)	40 (2.0)	<0.001
Missing	8 (32.0)	10 (40.0)	140 (45.5)	973 (59.7)	1131 (56.9)	
Dermal mitoses	13 (52.0)	12 (48.0)	136 (44.2)	610 (37.4)	771 (38.8)	NS
Missing	7 (28.0)	5 (20.0)	120 (39.0)	660 (40.5)	792 (39.8)	
Regression	0 (0.0)	0 (0.0)	41 (13.3)	121 (7.4)	162 (8.1)	<0.001
Missing	5 (20.0)	5 (20.0)	76 (24.7)	732 (44.9)	818 (41.1)	
Perineural growth	1 (4.0)	3 (12.0)	15 (4.9)	59 (3.6)	78 (3.9)	<0.001
Missing	12 (48.0)	16 (64.0)	211 (68.5)	1247 (76.5)	1486 (74.7)	
Desmoplastic component <sup>c</sup>	1 (4.0)	0 (100.0)	13 (4.2)	24 (1.5)	38 (1.9)	0.014

LN = lymph node; LMM = lentigo maligna melanoma; SLNB = sentinel lymph node biopsy;

<sup>\*</sup>P-values: t-test or Mann-Whitney *U* test for continuous variables, and chi-squared test or Fisher's exact test for categorical variables where appropriate.

<sup>&</sup>lt;sup>a</sup> Positive lymph node fine needle aspiration cytology (n=21) & selective excisional lymph node biopsy (n=4)

<sup>&</sup>lt;sup>b</sup> According to the 8th edition of the American Joint Committee on Cancer (AJCC) TNM classification

<sup>&</sup>lt;sup>c</sup> Median (Q1-Q3) Breslow thickness 3.9mm (3.0-5.6)

Epidemiological profile of primary cutaneous lymphomas in adults over a period of 14 years Experience of the Dermatology Department of the University Hospital of Tlemcen, West Algeria

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# **Introduction & Objectives:**

Primary cutaneous lymphomas are a group of very heterogeneous entities due to their clinical, morphological, molecular, evolutionary, therapeutic and prognostic characteristics.

#### **Materials & Methods:**

Our study aims to describe the epidemiological and clinical profile of adult primary skin lymphomas at Tlemcen University Hospice, to research pathological associations and to evaluate our diagnostic and therapeutic practices

#### **Results:**

Over a 15-year period, we collected 41 patients including 36 primary skin T lymphomas and 5 primary skin B lymphomas. The most frequent subtypes was mycosis fungoides (70.7%). The mean age at diagnosis was 57.9 years, the male-to-female ratio was 1.56. The main personal pathological associations observed were psoriasis, tertiary syphilis, atopy and basal cell carcinoma. In our series, skin lymphoma is not associated with another personal or family lymphoma.

The notions of smoking and alcoholism are found in 19.5% and 2.2% of primary skin lymphomas respectively, all T lymphomas. An exposing profession was reported 27.6% of mycosis fongoides. The average diagnostic time was 49.7 months. The majority stage in mycosis fongoides was stage T2 and the majority stage in cutaneous T lymphomas other than mycosis fongoides-Sézary syndrome and in B lymphomas was stage T3. Early stages were the majority in mycosis fongoides (73.4%) Histopathologically, epidermotropism was noted in 68.9% of mycosis fongoides,

Pautrier microabscesses in 13.8% of cases, and large cell transformation in one case. The immunohistochemical variant CD4+CD8- was predominant. Biologically, eosinophilia was detected only in mycosis fongoides (11.1%), an increased LDH rate in 32.3% of the total cases and Sézary cells were found in 26.6% of mycosis fongoides/ Sézary syndrome.

Serologies of human immunodeficiency virus, hepatitis B and C were negative for all cases. At the time of diagnosis, histological lymph node involvement was found in two mycosis fungoid while no visceral or medullary involvement was detected for the entire study population.

### **Conclusion:**

The main therapeutic weapons used were methotrexate and dermocorticoids in T lymphoma and polychimiotherapy in B lymphoma (40%). Complete remission was achieved in 39% of patients, partial remission in 41.4%, progressive disease in 19.5% and relapse after first-line treatment in 41.4%. After an average follow-up time of 27.67 months; systemic changes were noted in 12.2% of cases., 34.1% of our patients are still alive, 29.2% have died and 39% are lost to sight.

Infectious complications were the leading cause of T lymphoma death (50%).

Our study provided an overview of the epidemiological, clinical, pathological and evolutionary characteristics specific to our population and is the starting point for new research projects related to this previously mysterious pathology. Acquiring more knowledge about this disease and critically analyzing our results will undoubtedly contribute to better management of our patients

## Pilotropic mycosis fungoides 3 months after an allogeneic stem cell transplantation

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# **Introduction & Objectives:**

Stem cell transplantation (SCT) increases the risk of secondary malignancy because of DNA damage from chemotherapy and radiation, as well as long-term immunosuppression. The most observed malignancies are post-transplant lymphoproliferative disorders, usually EBV-associated donor-derived B-cell lymphomas, while T-cell lymphomas are rare. We report a case of pilotropic mycosis fungoides (MF) following SCT.

#### **Materials & Methods:**

#### **Results:**

A 51-year-old man was referred for an itchy eruption three months after undergoing allogeneic SCT from his brother for acute myeloid leukemia. The rash initially appeared on his face and spread to the thoracic and upper back areas. We observed multiple follicular erythematous papules on the face and trunk. The histological examination of two biopsies revealed an atypical CD4+ lymphoid infiltrate with folliculotropism and follicular mucinosis, consistent with pilotropic MF. PCR analysis showed the same T-cell monoclonal rearrangement in both samples. A complete staging procedure, including blood smear and fluorodeoxyglucose positron emission tomography, found no extracutaneous involvement. We contacted the donor, who mentioned the presence of urticarial lesions and claimed an excellent response to antihistamine treatment but did not agree to participate in a dermatological examination to exclude MF lesions, despite our recommendation.

# **Conclusion:**

The development of MF after allogeneic SCT is a rare event, with only three other cases reported in the literature, all of which arose at least three years after SCT. Here, the lesions appeared only three months after SCT, supporting the hypothesis that the tumor cells were transmitted via allogeneic stem transplant. Further investigations of the donor should be conducted to confirm this.

# Estimation of serum and tissue level of Interleukin-15 (IL-15) and IL-15 receptor alpha (IL-15Ra) in mycosis fungoides before and after treatment

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# **Introduction & Objectives:**

Mycosis fungoides (MF) is a chronic, highly recurrent cutaneous T cell lymphoma, whose pathogenesis has not yet been fully elucidated. The cutaneous micro-environment plays a crucial role in its development, where numerous cytokines and adhesion molecules play role. IL-15 was previously highlighted as a viability factor for cutaneous T cell lymphoma shedding light on its role in pathogenesis of MF which was later found to be overexpressed by the keratinocytes in MF patients.

This study was conducted to evaluate serum and tissue expression of IL-15 and IL-15Ra in early cases of MF (IA, IB, IIA) at baseline and following phototherapy; an established skin directed therapy for early cases of MF.

### **Materials & Methods:**

Fourteen early MF cases (IA, IB, IIA) aging  $\geq$  18 years, either newly diagnosed or recurrent after cessation of treatment were recruited. Serum and tissue samples were taken prior to starting phototherapy treatment.

Patients underwent thrice weekly sessions. Serum and tissue samples were retaken *following clearance/ near complete clearance of the biopsied lesion or after a maximum of 36 sessions of phototherapy* to assess change in expression of IL-15 and IL-15 Ra levels following treatment using enzyme-linked immunosorbent assay (ELISA).

Thirty age and sex matched controls were recruited and assessed for both serum and tissue levels of IL-15 and IL-15 Ra.

# **Results:**

Serum and tissue levels of IL-15 and IL-15Ra in early MF cases (IA, IB, IIA) were significantly higher than their levels following phototherapy treatment and higher than healthy controls. However, following phototherapy treatment, serum and tissue levels of IL-15 as well as tissue levels of IL-15Ra dropped significantly with no statistical difference between treated cases and controls. Only serum IL-15Ra remained significantly elevated than their levels in controls. Neither extent of MF nor its duration was of influence on the serum and tissue expression of IL-15 and IL-15Ra. Tissue expression of IL-15 was significantly positively correlating with IL-15Ra tissue expression. Similarly, serum levels of IL-15 were significantly positively correlating with IL-15Ra serum levels. Additionally, serum and tissue expression of IL-15 were significantly positively correlating with one another. However, serum and tissue expression of IL15Ra were not correlating with one another. One patient developed recurrence following clearance of MF during the study duration, whose IL-15 and IL-15Ra expression was found to resurge.

#### **Conclusion:**

Interleukin-15 and its receptor alpha appear to contribute to the pathogenesis of MF, being significantly elevated than healthy controls, which were normalized following phototherapy treatment, apart from serum IL-15Ra, which remained elevated. Controlling IL-15/ IL-15Ra expression is a newly proposed mechanism of action of

phototherapy in MF. Resurging of IL-15/ IL-15Ra expression in the recurrent patient, draws attention to possible role of IL-15 in MF recurrence.

Trefoil factor 1 and trefoil factor 3 are sensitive markers for intraepithelial component of extramammary Paget's disease: immunohistochemical expression changes between intraepithelial and invasive components

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#### **Introduction & Objectives:**

Trefoil factor peptides (TFF) are secreted by gastrointestinal epithelial cells and play important roles in mucosal defence and epithelial repair. TFF3 is highly expressed in the lower gastrointestinal tract, while TFF1 and TFF2 are specifically expressed in gastric mucosal epithelial cells. TFFs are also expressed in salivary glands, lung, pancreas and other mucous epithelial tissues. The expression changes of TFFs in various malignancies, including some types of adenocarcinomas, has been reported. In breast cancer, high expression of TFF3 was correlated with prognosis. In pancreatic cancer, loss of TFF1 was observed in invasive components compared to intraepithelial components, suggesting TFF1 was associated with invasion and migration of cancer cells. However, the expression and functional role of TFFs in extramammary Paget's disease (EMPD), a rare intraepithelial adenocarcinoma, remain unclear. In this study, we examined clinicopathological features of TFFs in EMPD with immunohistochemical staining.

#### **Materials & Methods:**

We retrospectively analyzed 90 patients with EMPDwho underwent biopsy or surgery in the department of dermatology at Keio University Hospital from 1999 to 2022. Patients who received any preoperative treatment, including topical imiquimod cream, radiation therapy or chemotherapy, were excluded before analysis. Immunohistochemical staining with anti-TFF1, TFF2 and TFF3 antibodies was performed on the formalin-fixed paraffin embedded tissues (62 *in situ* cases, 28 invasive cases). Proportion score based on the percentage of positive cells (on a scale of 0 to 4) and intensity score (on a scale of 0 to 3) were evaluated for intraepithelial and invasive components, respectively. Total score was calculated as proportion score x intensity score. For statistical analysis, the total score 0 or 1 was considered as negative (Grade 1), 2 to 4 as low level of expression (Grade 2), and 6 to 12 as high level of expression (Grade 3). Differences between Grades was tested using Pearson's chi-square test (a p-value <0.05 was considered as significant).

## **Results:**

In 62 *in situ* cases, the positivity rates for TFF1 and TFF3 were 96.8% (Grade2 n=17, Grade3 n=43) and 100% (Grade2 n=14, Grade3 n=48), respectively, while TFF2 was 1.6% (Grade2 n=1). On the other hand, in 28 invasive cases, although the positivity rate for TFF1 was 100% (Grade2 n=9, Grade3 n=19) in intraepithelial components, the positivity rate was 57.1% (Grade2 n=12, Grade3 n=4) in invasive components. Similarly, the positivity rate for TFF3 was 100% (Grade2 n=12, Grade3 n=16) in intraepithelial components, while 57.1% (Grade2 n=8, Grade3 n=8) in invasive components. The expression levels of TFF1 and TFF3 were significantly lower in invasive components than intraepithelial components (p <0.001, respectively).

## **Conclusion:**

Both TFF1 and TFF3 were found to be highly positive in intraepithelial component of EMPD. This result indicates they are very sensitive diagnostic markers for EMPD. In addition, the expression of TFFs were decreased in invasive component compared to intraepithelial component, suggesting that the expression change of TFFs may be involved in the process of invasion from epidermis into stroma in EMPD.

# Artificial Intelligence in Mobile Health for skin cancer diaGnostics at Home (AIM HIGH): A pilot feasibility study

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# **Introduction & Objectives:**

Artificial intelligence (AI)-based mobile phone apps (mHealth) can be used to triage suspicious skin lesions. In a primary care setting, such mHealth apps could be used by patients themselves or serve as a diagnostic aid for general practitioners (GP). However, the feasibility and impact of implementing these apps for use by patients or GPs is unknown. Therefore, we investigated the conditions and feasibility of conducting a study that incorporates an mHealth app in primary care and evaluate its potential impact.

# **Materials & Methods:**

We conducted a pilot feasibility study with a mixed-methods design in three primary care practices in the Netherlands. The primary outcome was the inclusion and successful participation rate of patients and GPs. Secondary outcomes were the reasons, facilitators and barriers for successful participation and the potential impact in both pathways for future sample size calculations. Patients who contacted their GP because of a suspicious skin lesion were offered to use an AI-based mHealth app before their consult. The GPs first assessed the patient blinded to the app's assessment and then unblinded. Their working diagnosis and treatment plan were registered and if GPs made any changes based on the app's assessment this was also registered. Qualitative data included observations and audio-diaries from patients and GPs, and focus-groups and interviews with GPs and GP assistants.

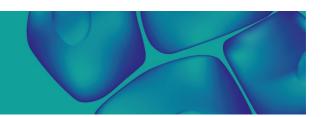
#### **Results:**

Fifty patients were included with a median age of 52 years (IQR 33.5-60.3), 64% were female, and 90% had a light skin type. The average inclusion rate was 4-6 patients per GP practice per month and 84% (n = 42) successfully participated. Similarly, in 90% (n = 45 patients) the GPs also successfully completed the study. The app correctly classified 80% (28 out of 35) of the benign lesions and 90% (9 out of 10) of the (pre)malignant lesions. However, only 44% of the patients were able to successfully use the app on their own. In four cases (8%) the app could not make an assessment of the skin lesion because of segmentation issues (n = 2) or because the lesion was covered by a lot of hair (n = 2). GPs never changed their working diagnosis based on the app's assessment, but did change their treatment plan in five cases. Notably, 54% of patients with a benign skin lesion and low risk rating, indicated that they would be reassured and cancel their GP visit with these results (p < 0.001).

## **Conclusion:**

In conclusion, we found that it is feasible to study implementation of an AI-based mHealth app for skin cancer detection in primary care when used by patients or as a diagnostic tool used by GPs. We identified multiple barriers and facilitators that can be incorporated in a future study to improve the chance of successful

participation by GPs and patients. Preliminary results indicate potential to further investigate both intended use settings.



## Risk factors for lentigo maligna compared to other histological subtypes of cutaneous melanoma

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**Introduction & Objectives:** Lentigo maligna exhibits a unique epidemiological profile compared to other histological subtypes of cutaneous melanoma, with a propensity for the head and neck area and higher mean age at diagnosis. Few small-scale studies have exclusively evaluated the risk factors for the development of lentigo maligna to date with variable findings. Our aim was to evaluate potential risk factors for the development of lentigo maligna compared to other histological subtypes of cutaneous melanoma in terms of pigmentary characteristics, history of occupational sun exposure, nevus count and familial melanoma history.

**Materials & Methods:** This was a case-control study of 152 patients with lentigo maligna (LM) and 784 patients with other cutaneous melanoma subtypes (OM). The Mann – Whitney t-test and Pearson chi-squared test were used to detect differences between the two cohorts in continuous and categorical variables respectively. Univariate and multivariate logistic regression models were then constructed to identify risk factors for the development of LM compared to other melanoma subtypes.

**Results:** In multivariate logistic regression analysis, LM was more frequently detected in patients with freckle count >50 and occupational sun exposure compared to OM (OR 2.10, 95% CI 1.35 – 3.29 and OR 2.18, 95%CI 1.33 – 3.57 respectively), whereas patients with increased nevus count and fair or medium skin colour were less likely to develop LM than OM (OR 0.93, p<0.001, 95% CI 0.91 – 0.94 and OR 0.28, p<0.001, 95% CI 0.17 – 0.46 respectively). In univariate analysis, LM exhibited an overall weaker association with pigmentary traits than OM. Atypical mole count and family history were not particularly associated with either subtype.

**Conclusion:** Our findings confirm our initial hypothesis that LM may arise via a distinct etiological pathway to other cutaneous melanoma subtypes, which could have direct implications in informing strategies for melanoma prevention and screening of high risk individuals.

Carcinoma cuniculatum of the maxilla mimicking nonhealing extraction sockets at the right molar region - An interesting case

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Carcinoma Cuniculatum of the Maxilla Mimicking Nonhealing Extraction Sockets at the Right Molar Region – An Interesting Case

**Introduction & Objectives:** Carcinoma cuniculatum is a rare variant of squamous cell carcinoma, mostly affecting the skin but also sparsely reported to occur in the oral cavity. According to both the 2005 and 2017 World Health Organization (WHO) classifications of tumors, oral carcinoma caniculatum (OCC) represents a rare, independent, locally aggressive subtype of oral squammous cell carcinoma (OSCC). OCC tends to be misdiagnosed as verrucous carcinoma; this may lead to inadequate treatment and recurrence due to the locally aggressive nature of the tumor.

**Materials & Methods:** a 56-year-old man with a progressively enlarging painful OCC at the maxillary right molar region, exhibiting both exophytic (red, soft, nodular mass) and endophytic (superficial ulceration and bone exposure, mimicking nonhealing extraction sockets) growth patterns. Incisional biopsy was consistent with OCC, a diagnosis that was corroborated through histopathologic examination of the resected specimen.

**Results:** The patient underwent en bloc resection (segmental maxillectomy) of the tumor and prosthetic rehabilitation with an obturator and remains disease-free 2.5 years postoperatively.

**Conclusion:** The aim of this report is to provide a thorough clinical imaging and histopathological presentation of OCC in order to highlight the difficulties of accurate diagnosis and the pitfalls in treating this uncommon entity. The diagnosis of OCC remains challenging because of clinicians' lack of familiarity with this entity, leading to underdiagnosis and a deceptively low incidence. The correlation of histopathological findings with clinical and radiological features is crucial to its diagnosis and differentiation from other histological subtypes of OSCC, such as verrucous carcinoma and papillary OSCC.

## **ACSL4: A Potential Prognostic Biomarker for Patients with Melanoma**

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# **Introduction & Objectives:**

Ferroptosis is characterized by the accumulation of lipid reactive oxygen species that have been oxidized by iron. There are many regulators of ferroptosis. One of these regulators is acyl-CoA synthetase long chain family member 4 (ACSL4). ACSL4 is a family of five enzymes that are expressed on the endoplasmic reticulum and the outer membranes of mitochondria and they function to catalyze the conversion of fatty acids into acyl-CoAs. ACSL4 was determined to increase cell sensitivity to ferroptosis, making this form of cell death more likely. Given this information, ACSL4 has now been identified as a target for therapeutic treatment approaches for diseases related to ferroptosis. Acyl-CoAs play a role in fatty acid metabolism, including fatty acid metabolic processes that result in cellular membrane modifications. Based on current available data, it seems that high levels of ACSL4 in cancers that typically highly express ACSL4 predicts a poorer prognosis. Similarly, low levels of ACSL4 in cancers that typically lowly express ACSL4 predicts a poorer prognosis. Thus, it is possible that reversing the level of ACSL4 expression to oppose the usual pattern of expression in a particular type of cancer may be an option for a therapeutic approach. The objective was to better elucidate the role of ACSL4 expression in melanoma not only to improve the understanding of the role of ACSL4 in melanoma cells, but also to potentially guide future therapeutic options and prognostic counseling for patients.

#### Materials & Methods:

We classified ACSL4 expression level (high or low) and the survival fraction and immune cell tumor infiltration in in patients with melanoma. Results are displayed in Kaplan Meier Curves as well as scatter plots that depict immune cell infiltration.

# **Results:**

The results collectively suggest that ACSL4 expression is positively correlated with the responses of patients to immune checkpoint inhibitors. ACSL4 expression is also positively correlated with tumor-infiltrating immune cells. The results of this study suggest that ACSL4 expression in melanoma cells improves survival likely through ferroptotic-mediated cell death, and is also more highly expressed in metastatic disease.

# **Conclusion:**

In summary, ACSL4 expression increases the likelihood of ferroptotic cell death occurring. The results of the present study suggest that ACSL4 expression in melanoma cells improves survival likely through ferroptotic-mediated cell death, and is also more highly expressed in metastatic disease. Future research efforts should be directed towards the effect of ACSL4 expression on survival in melanoma patients with metastatic disease, differentiated by the type of metastasis occurring. Also, future studies may further investigate the role of ACSL4 expression in mediating immune cell infiltration into tumor cells, and the mechanisms by which this process facilitates tumor cell death. Once the role of ACSL4 in melanoma is more thoroughly understood and fully elucidated, its expression may be used as a prognostic indicator that can guide patient counseling and also may

be used as a target for future therapies that aim to alter its expression.

## Search for risk factors on late recurrence in melanoma patients and their survival.

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# **Introduction & Objectives:**

Cutaneous melanoma is a type of skin cancer that requires prompt treatment and continued follow-up to avoid the significant and potentially deadly outcomes of advanced disease. Melanoma patients often have frequent and early recurrences, usually within 10 years. Often, patients without recurrence for more than 10 years are considered cured. However, 0.41-6.9% of melanoma patients experience recurrence after 10 years, and these recurrences are referred to as "late recurrence." The existing literature on risk factors for late recurrence and the survival prognosis is inconsistent, which is not surprising, as usually the only available cohorts with a follow-up of more than 10 years are quite small. A better understanding of this late recurrence phenomenon could have important implications, including a better definition of follow-up duration. The literature shows that the number of late relapses tends to be underestimated. The objective of the present study is to elucidate factors that influence late recurrence of melanoma so that better guidelines can be established in the future with regard to adequate follow-up for patients with melanoma.

# **Materials & Methods:**

A cohort of 30 patients retrieved from the Segez database were examined. Pearson and Spearman correlation analyses between the variables were generated. Univariate and multivariate cox proportional hazards models were used for the data set to identify significant independent prognostic factors for overall survival, progression-free survival, and post-recurrence survival.

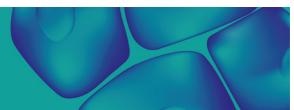
#### **Results:**

Female sex was identified as a characteristic that was associated with a more favorable overall survival and progression-free survival. Age was another characteristic that was a significant influence on progression-free survival, suggesting that patients younger than 50 years old have a significantly later recurrence than patients older than 50 years old.

#### **Conclusion:**

Patients with cutaneous melanoma are often considered cured after 10 years disease-free. However, there seems to be a cohort of patients that will have a late recurrence of melanoma after 10 years. This study highlights some important indicators for survival and the results show that there are better survival outcomes, specifically for progression-free survival, for females and younger patients. This identifies certain groups, including males and elderly patients, that may have a heightened risk of late recurrence. Given that late recurrences are undoubtedly seen in patients, regardless of potential risk factors, this study highlights the importance of following patients even beyond 10 years after the initial cure. Because survival after surgical removal of late melanoma recurrences, particularly regional ones, often was prolonged, this underscores the need for clinicians to follow all melanoma patients for protracted periods of time. As limited data on late melanoma recurrence exists, future efforts should be directed at elucidating risk factors with larger sample sizes, determining how long clinicians should follow

melanoma patients beyond 10 years or indefinitely, and investigating the modalities used for effective treatment of late recurrences.



# Efficacy and Safety of Cemiplimab in the Treatment of Advanced Cutaneous Squamous Carcinoma in Spain: a Multicenter Real-World Retrospective Study

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**Introduction & Objectives:** Cutaneous squamous cell carcinoma (CSCC) is the second most frequent cancer in humans. Surgery the main treatment option for CSCC and sometimes radiation is also implemented. However, a subgroup of patients with locally advanced (IaCSCC) and metastatic (mCSCC) will not respond to local therapies. Cemiplimab was the first approved drug for advanced CSCC (aSCC). It is a human monoclonal antibody directed against PD-1 and has demonstrated efficacy in immunocompetent patients with IaCSCC and mCSCC, with response rates of 50% and 47%, respectively. Real-world data on cemiplimab treatment for CSCC are scarce, missing in Spain, and may vary from country to country. Therefore, our aim was to explore the efficacy and safety of cemiplimab in the real-life setting of Spanish clinical practice.

**Materials & Methods:** Retrospective, observational, multicenter study that collected patients treated with cemiplimab for aSCC from 12 Spanish sites (2019-2022). Patient demographics, clinical and histological characteristics of the primary tumor, and other relevant medical history such as immunosuppression were recorded. RECIST criteria were used to assess response and CTCAEv5.0 were used to assess safety profile.

**Results:** 74 patients were included. The median age was 81 years (IQR 12.25), 74.3% male. 67.6% had laCSCC, 33.2% had regional metastases, and 17.6% had distant metastases. 12.2% were immunocompromised. 79.7% had treatments prior to cemiplimab and median drug infusions was 10 (IQR 18). Cemiplimab was safe and only 10.8% had any serious adverse event. Objective response rate (ORR) was 58.1% and disease control rate (DCR) was 77%. No significant differences in response were found between immunocompetent and immunocompromised patients. The presence of satellite disease was associated with a worse response (P=0.007).

**Conclusion:** Real-world data confirm the efficacy and safety of cemiplimab in the treatment of aCSCC. Immunocompromised patients also benefit. ORR and DCR were higher in this Spanish cohort than in the pivotal trial. In-transit metastases may be associated with a poorer response, but these data need additional confirmation.

## The effect of weight bearing on tumor recurrence and invasion in malignant melanoma of the foot

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# **Introduction & Objectives:**

Malignant melanoma is known to be the most lethal skin cancer, %(3), and cases in the plantar area are specifically associated with bad prognoses. this study aims to find the effect of mechanical stress of weight bearing on the depth of invasion in malignant melanomas and whether it works as a risk factor in its recurrence.

#### **Materials & Methods:**

Retrospective chart review were conducted between January of 2001 and January of 2021, identifying those diagnosed with malignant melanoma in foot. The patients were sorted by the location of malignant melanoma into weight bearing group (WB group), and into non-weight bearing group (NWB group). The depth of invasion was recorded by Breslow thickness and Clark level (I -V) for each group, as well as the nodal status and the presence of distant metastasis at the time of discovery. In cases of recurrence following complete surgical excision, duration until recurrence were recorded and type of recurrence were sorted into local cutaneous recurrence, distant cutaneous recurrence, nodal recurrence, and distant metastasis.

## Results:

A total of 125 patients were confirmed with malignant melanoma in foot, of which 81 patients (64.8%) were affected in the weight bearing area and 44 patients (35.2%) in the non-weight bearing area. Breslow thickness showed a mean depth of  $4.11(\pm 2.89)$  in the WB group and  $2.25(\pm 2.27)$  in the NWB group, (p-value <0.0001). In terms of Clark level, the WB group consisted of most numerously of 27 patients in level IV (33.33%), and 18 (40.91%) of level I in the NWB group (p-value = 0.0001). Nodal invasion shows 20 (24.46%) patients of WBG and 4 (9.1%) patients of NWB group. Recurrence rates of WB group was 28 (34.57%), which was significantly higher than that of the NWB group at 5 (11.36%) patients. (p=0.0055)

## **Conclusion:**

This study shows that malignant melanoma in locations of weight bearing are more prone to have a deeper depth of invasion, higher rates of nodal invasion at the time of discovery, and a higher recurrence rate after complete surgical excision.

Photodynamic therapy with BF-200 ALA and red-light for the treatment of non-aggressive BCCs: 5-year follow-up data of a randomized, controlled, comparative multicenter phase-III-trial

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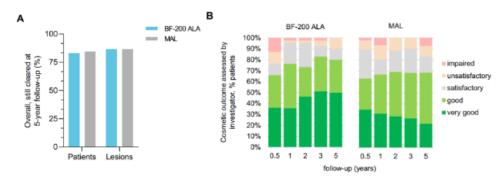
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**Introduction & Objectives:** Basal cell carcinoma (BCC) is the most prevalent skin cancer. While excision is the treatment of choice, scarring can have major cosmetic implications. Another treatment option for BCC is the photodynamic therapy (PDT), combining good efficacy with good cosmetic outcome. However, long-term efficacy data is scarce. We present novel results of the 5-year follow-up of a randomized, positive-controlled, observerblind, phase-III-trial conducted in Germany and the UK from 2014 to 2020 assessing efficacy and safety of redlight PDT in the treatment of non-aggressive BCCs (NCT02144077).

Materials & Methods: 272 adult subjects with 1-3 primary nodular or superficial BCCs ≤2 mm thickness on face/scalp, neck/trunk or extremities were randomized (1:1) to receive up to 4 PDTs with 7.8% aminolevulinic acid (ALA) gel (BF-200 ALA) or 16% methyl-aminolevulinate (MAL) cream. Primary outcome was BCC lesion clearance 12 weeks after the last PDT. All patients who completed the treatment phase of the study entered the FU period to assess the long-term treatment effect with respect to recurrences of BCC lesions and cosmetic outcome.

**Results:** Patient-based clearance rates 12 weeks after treatment were 93.4% (BF-200 ALA) and 91.8% (MAL), and clearance remained high after 5 years (83.1% vs 84.5%, respectively) (see figure A). Most recurrent lesions occurred in the first two years. The probability and sustainability of clearance remained high throughout the follow-up period. Subgroup analyses showed a higher sustained clearance probability for females and patients with superficial BCC. Initial cosmetic outcome was very good or good in 60% (BF-200 ALA) and 49% (MAL) of patients, and further improved during follow-up (see figure B).

**Conclusion:** The initial and sustainable high clearance rates and the high patient satisfaction demonstrate that PDT is an effective and sustainable treatment option for BCCs.



## Characteristics of lesions of the cervix in patients with vulvar lichen sclerosus et atrophicus

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**Introduction & Objectives:** Vulvar lichen sclerosus et atrophicus (VLS) is a benign disease of the external genitalia of women of a multifactorial nature, against which cancer can occur in 5-49% of cases. So far, it has not been sufficiently studied whether the processes occurring in the cervix and in the external genital area are synchronous, or sequential, or independent of each other. Given that most urogenital infections have a tropism for the epithelium of the cervical canal and urethral canal, it was of interest to study the condition of the cervix and the presence of human papillomavirus (HPV) 16/18 in patients with VLS.

**Materials & Methods:** Under our observation there were 35 women diagnosed with VLS aged 18 to 61 years and disease duration from 2 months to 15 years. The patients were divided into three main groups according to the STRAW + 10 criteria (Stage of reproductive aging workshop), reproductive period, transitional and postmenopausal. The first group included 14 (40.0%) women, the 2nd - 11 (31.4%) women and the 3rd - 17 (48.6%) women. Real-time PCR detection was used to diagnose HPV 16.18 types. A cytological examination of smears from the exo- and endocervix according to Papanicolaou ((Pap-smear-test), as well as a colposcopic examination was carried out.

Results: As a result of the studies, it was found that normal variants of the colposcopic picture (stratified squamous epithelium) were found only in 4 (28.6%) patients of the 1st group, 3 (21.4%) patients of the 2nd group and 5 (29.4%) %) of patients of the 3rd group. Ectopia (cylindrical epithelium) occurred only in 2 (18.2%) and 2 (11.8%) patients of the 3rd group. The transition zone (transformation zone) took place in 4 (28.6%) patients of the 1st group, 2 (18.2%) patients of the 2nd group and 3 (17.6%) patients of the 3rd group, this was obviously due to concomitant inflammation due to the presence of other infections of the urogenital tract. During the examination, a histological examination of polyps was carried out, which confirmed their benign structure. Erosions of various diameters and depths were present mainly in 2 (14.3%) patients of the 1st group, 1st (9.1%) patients of the 2nd group and 3 (17.6%) patients of the 3rd group and they also noted II-III-I degree of dysplasia, there was tuberosity and bleeding. Leukoplakia in the cervix was noted in 3 (17.6%) other patients of the 3rd group. Colposcopic signs of inflammation occurred in 8 (57.1%) patients of the 1st group, 7 (63.6%) patients of the 2nd group and 9 (52.9%) patients of the 3rd group, which indicates a high incidence of background inflammation. Herpetic eruptions on the mucous membrane of the cervix and the upper 1/3 of the vagina occurred in 4 (28.6%) patients of the 1st group. In almost 60% of cases, the 2nd and 3rd types of Pap smears prevailed. The 4th type of Pap smear occurred in 3 (17.6%) patients of the 3rd group, the 5th type occurred in the 1st (5.9%) patient of the 3rd observation group. In 11 (31.4%) patients out of 35, HPV 16/18 was isolated from a scraping from the cervix. The simultaneous presence of HPV 16/18 in vulvar biopsies was confirmed in 8 (22.9%) patients.

**Conclusion:** Thus, it can be concluded that a normal colposcopic picture in patients with VLS was observed in approximately 30% of cases. In other cases, the patients had abnormal and atypical colposcopy findings. Also, a significant proportion of women had signs of inflammation in the cervix and cervical canal, which can support chronic inflammation, against which degenerative processes of the vulva could form.

# Sun exposure and associated risks: Insight from a survey conducted in 17 countries with a focus on individuals treated for skin cancer or pre-cancerous lesions

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# **Introduction & Objectives:**

This survey investigated worldwide the knowledge and behaviors regarding sun exposure among individuals treated for skin cancer (melanoma/non melanoma) or pre-cancerous lesions.

## **Materials & Methods:**

The survey (N= 17001) was conducted online in 17 countries (5 continents) between 28 September and 18 October 2021. Automated selection from the Ipsos online Panel ensured samples of 1000 individuals in each country to fit the quotas method based on gender, age, employment status, and country regions. Data included demographics, phototype, exposure habits and practices, knowledge and understanding of risks.

## **Results:**

The present sub population represents 8% (n=1372) of the general population, 54% were men, the average age was  $49.9\pm17.6$  years and 58% had phototype I or II. 90% were aware of sun-related skin-health issues compared to 88% in the general population). 97% knew that sun protection is useful if the weather is overcast compared to 61% in the general population(p<0.001). 34% indicated that it is safe to expose themselves without any protection if already tanned compared to 23% in the general population. 54% did not understand the difference between UVA and UVB vs 70% in the general population (p<0.001).

28% systematically/often use all protections means during exposure compared to 12% in the general population. 42% stated that they protect themselves from the sun all over the year compared to 23% in the general population. During sun exposure, among the 91% who declared using sunscreen, 74% applied sunscreen only once or twice a day, corresponding to the prevalence in the general population (74%). When tanned 38% decreased frequency application and/or used lower protection (44% among general population). 82% regretted not having previously used better protection, compared to the general population (57%).

# **Conclusion:**

Although individuals who have been treated for skin cancer or pre-cancerous lesions had better knowledge and

behavioral attitudes compared to the general population, this survey shows that even a population at high risk of skin cancer and having a regular medical follow-up does not sufficiently perceive the importance of photoprotection in a prevention objective.

These results may question about the implementation of new information tools with an higher impact.

## The prevalence of common melanocytic nevi among adults in Kaunas city population

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**Introduction & Objectives:** The incidence of melanoma is growing. The design of appropriate preventive measures requires the analysis of risk factors, including the prevalence of common melanocytic nevi (CMN) and sun exposure habits.

Aim: to establish the prevalence of CMN in adults and their relationship with sun exposure habits and vitamin D level in serum.

Materials & Methods: After the approval of the regional ethics committee a cross-sectional study was performed between February 2020 and March 2020, in Kaunas city. Subjects (N=839) were randomly selected from the population register of Kaunas city. The participants were invited by a letter, 60 individuals from each decade. The overall response rate was 29.4% (N=247). The interview about sun exposure habits and skin examination was performed by 4 medical students and 3 residents, who were trained by an experienced dermatovenerologist. Eye color, hair color, skin phototype according to Fitzpatrick, and the total number of CMN (< 2 mm, ≥2-5 mm, and > 5mm in diameter) were recorded. Vitamin D concentration in serum was assessed in all study participants (n=117), excluding those who have been taking vitamin D supplements, systemic corticosteroids, or ultraviolet radiation exposure during the last 4 weeks. Univariate logistic regression analysis adjusted according to the subject's age was used to calculate the odds ratio (OR) and 95% confidence intervals (CI) for the risk factors of high ≥ 40 total number of CMN.

**Results:** The mean number and standard deviation (SD) of total CMN in females (N=108) and men (N=139) is 58.4 and 59.0 (p > 0,05), and it depends on the subject's age. In the 25–35 years, 36–45 years, 46–55 years, and 56–64 years of age groups the mean of total number CMN is 59.1 (56.8), 61.8 (59.5), 60.1 (63.3), and 55.2 (70.2) respectively. Sunburns (during the previous summer) were reported by 33,1% of participants, while cream with SPF ≥15 was not used by 66,9%. Normal vitamin D levels were found in 4 (3.4%) participants, 48 (41.0%) subjects had sufficient, and 65 (55.6%) deficient levels of vitamin D. The number of >5mm CMN does not depend on the subject's age but is significantly higher in men (1.85 (4.5)) than in women (1.09 ((2.4)). The number of CMN does not dependent on vitamin D level. Univariate logistic regression revealed that a high ≥ 40 total CMN number is related to the subject's skin phototype II (OR 3.98, 95% CI 1.45 – 10.87) and III (OR 3.05, 95% CI 1.19 – 7.81) as compared to I and IV skin phototypes.

**Conclusion:** The number of CMN depends on the subject's age, male sex, skin phototypes II and III. Although the prevalence of CMN does not depend on severe sunburns, sunscreen use, eye and hair colour, or vitamin D concentration in serum.

## Desmoplastic melanoma of the foot sole: beware of an uncommon presentation

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# **Introduction & Objectives:**

Desmoplastic melanoma was firstly described by Conley et al. In 1971. Most of the cases have been described in sun-exposed areas of the head, neck, and upper part of the trunk in elderly male patients. However, infrequently some cases can appear in other hidden areas such as the foot sole.

## Case presentation:

A 78-year-old male was referred from the Emergency Department for evaluation of an enlarging and bleeding nodule in the sole that appeared more than six months ago. The patient had a previous diagnosis of verrucae by another specialist.

On physical examination, he presented a 2-cm excrecent reddish tumor without evident foci of pigmentation. On dermoscopy however, there were microscopic areas of parallel furrow pattern in the periphery of the tumour. The lesion was biopsied and histopathological analysis revealed a melanocytic proliferation within a desmoplastic stroma that infiltrated the full thickness of the dermis. The whole tumour was excised and infiltrated deeply into the muscular tissue underneath.

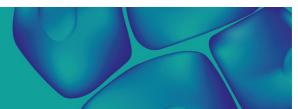
Sentinel lymph node biopsy was performed and proved negative. No evidence of further metastasis was evident on a further full-body computed tomography scan. On follow-up visits, no local or regional recurrence has been detected up to this day.

# **Discussion:**

Desmoplastic melanomas are usually nonpigmented lesions that are often mistaken clinically as scars, sarcomas or dermatofibromas. They often arise de novo or in association with a pre-existing lentiginous lesion, most commonly lentigo maligna in sun-exposed areas. When they appear *de novo*, they can present as unspecific skin-colored indurated papules, plaques or nodules.

Microscopically, desmoplastic melanomas show a proliferation of melanocytic spindled cells grow dispersed in a prominent fibrous and collagenous tissue stroma. Pure desmoplastic melanomas contain desmoplasia in more than 90% of the lesion, whereas combined or mixed forms present desmoplasia in less than 10% of the whole lesion and certain heteromorphism (presence of different phenotypes within the neoplasm). The tumour usually shows diffuse positivity for S-100 and vimentin, while HBM45 is frequently negative.

Although most cases of desmoplastic melanomas are located in sun-exposed areas, in exceptional cases they can appear in hidden non-exposed areas such as the foot sole. We consider that both dermatologists and dermatopathologists should be aware of this uncommon clinicopathologic variant of melanoma that may be otherwise misdiagnosed



## Metastatic Basal Cell Carcinoma: Treatment with a potentially best in class Hedgehog Inhibitor, Taladegib

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**Introduction & Objectives:** Basal cell carcinoma (BCC) is considered the most common malignancy in Caucasians. It accounts for about 80% of all non-melanoma skin tumors, characteristically arising in areas of the body exposed to the sun, its most common location is the head and neck, and it is characterized by slow, locally aggressive growth. Fewer than 1% of basal cell carcinomas metastasize beyond the primary cancer site. For patients with advanced BCCs not amenable to local therapies such as surgery or radiation therapy, options for systemic therapy include, Hedgehog pathway inhibitors, Checkpoint inhibitor immunotherapy and Chemotherapy. We have identified a specific patient population in our ongoing Phase 2a clinical trial where metastatic BCC patients with PTCH1 Loss of Function mutations, who were refractory to vismodegib and immunotherapy responded to Taladegib, a potentially best in class hedgehog pathway inhibitor with a more manageable safety profile. We report here for the first time, a metastatic BCC patient treated with Taladegib who is currently on the study for about 12 months.

Materials & Methods: This clinical trial with a 2-stage design aims to evaluate the efficacy and safety of ENV- 101 (Taladegib), a potent Hedgehog (Hh) pathway inhibitor, in patients with refractory advanced solid tumors characterized by loss of function (LOF) mutations in the Patched-1 (PTCH1) gene. Stage 1 of this study will enroll approximately 44 patients randomized between two dose levels. As appropriate, Stage 2 of the study will expand enrollment based on the results of Stage 1. Taladegib is administered once daily at either 200 mg or 300 mg with an option to lower the dose to manage adverse events. Patient is a 76 year old male with unspecified malignant neoplasm of skin of left upper limb including shoulder BCC. Patient underwent surgery and radiation therapy. Patient was further treated by vismodegib for 12 months followed by Cemiplimab.

**Results:** Patient enrolled in June 2022 with mBCC was assessed at C3 with Stable disease (29.8% reduction). Patient's dose was modified to 200 mg at C3 due to fatigue. At C5, the investigator assessed the patient a partial response (PR=50.8%). The radiographs and CT scans showed PR subsequently at C7, C9 and C11. Patient reported fatigue, alopecia, muscle spasms and dyspnea during the study. Patient is currently on the study with durable response ongoing at 11 months. The study is currently enrolling mBCC patients along with other multiple histologies.

**Conclusion:**For the first time we report here that mBCC patients who were refractory to current standard of care treatments responded to taladegib with a duration of response of around one year with fewer and manageable adverse effects.

# Efficacy of imiquimod in the management of lentigo maligna.

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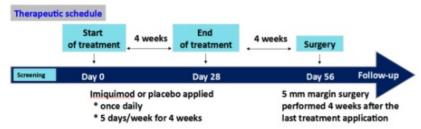
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# **Introduction & Objectives:**

Lentigo maligna (LM) is a melanocytic proliferation occurring on photo-exposed skin that may progress to LM melanoma. Surgery is recommended as first-line treatment. Excision margins of 5 to 10 mm remain, without international consensus. Several studies have shown that imiquimod, an immunomodulator, induces LM regression. This study investigated the effect of imiquimod versus placebo in neoadjuvant settings.

## **Materials & Methods:**

We performed a prospective, randomized, multicentre, phase III clinical study. Patients were randomly assigned in 1:1 ratio to receive imiquimod or placebo for 4 weeks, followed by LM excision 4 weeks after the last application of imiquimod or placebo. The primary endpoint was extra-lesional excision, with a 5 mm margin from the residual pigmentation after imiquimod or vehicle.\*\* Secondary endpoints included the gain on the surface removed between the two groups; number of revision surgeries to obtain extra-lesional excisions; relapse-free time; and number of complete remissions after treatment.



#### **Results:**

A total of 283 patients participated in this study; 247 patients, 121 patients in the placebo group and 126 in the imiquimod group, accounted for the modified ITT population. The first extralesional extirpation was performed in 116 (92%) imiquimod patients and in 102 (84%) placebo patients; the difference was not significant (p = 0.0743). Regarding the surface of LM, imiquimod reduced the LM surface (4.6 cm² to 3.1 cm²) significantly (p<0.001) more compared to the placebo (3.9 cm² to 4.1 cm²). Patients in the imiquimod group had significantly less revision surgery and more complete remission. The recurrence rate was similar in the 2 groups.

# **Conclusion:**

Imiguimod reduces the lentigo maligna surface after one month of treatment, without a higher risk of

intralesional excision and with a positive aesthetic outcome.

## Continued Improvement of Artificial Intelligence in Identifying Skin Cancer

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# **Introduction & Objectives:**

Recent advances in artificial intelligence (AI) have demonstrated the potential to improve the accuracy of skin cancer detection. Automated skin cancer detection would increase accessibility to a rapid diagnostic opinion. Ultimately, the development of AI technologies and their adoption by clinicians have the potential to enhance patient care. We present data from the deployment of AI technology in the assessment of patients referred with suspected skin cancer by their Primary care physician (GP) to a large teaching hospital trust in the UK. We demonstrate the improvement in the sensitivity of the detection of skin cancers with continued improvement of the algorithm, learning from previously collected data.

#### **Materials & Methods:**

#### **Pathway**

The referral pathways were developed as a collaboration between University Hospital Birmingham NHS Foundation Trust (UHB) and Skin Analytics, a company delivering AI-powered teledermatology services. The AI medical device, DERM, uses convolutional neural networks and was upgraded twice since May 2020 and initially operated as class 1 medical device before securing UKCA Class IIa certification in 2022. These upgrades were due to improvements in the AI training technique and the machine learning datasets.

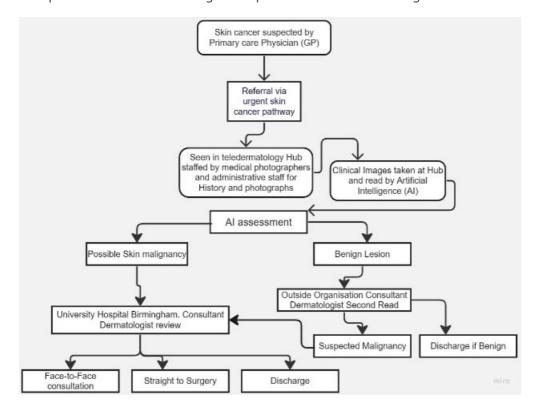


Figure 1: Secondary Care pathway

#### **Results:**

Table 1: AI Performance by Version % (n/N), Confidence intervals in square brackets.

	Al Version 1	Al Version 2	Al Version 3
	(20 Apr 2020	(15 Jul 2021 to 21	(22 Apr 2022 to
	to 14 Jul	Apr	5 Jan
	2021)	2022)	2023)
Lesion Population with	confirmed outc	omes	
Melanoma sensitivity	85.9%	97.1%	100%
	(195/227)	(135/139)	(59/59)
	[80.8-89.8%]	[92.8-98.9%]	[93.9-100%]
All skin cancer sensitivity	83.8%	98.5%	99.5%
	(903/1078)	(743/754)	(189/190)*
	[81.4-85.8%]	[97.4-99.2%]	[97.1-99.9%]
Pre-malignant sensitivity			92.5% (541/585) [90.1-94.3%]
Benign lesion specificity	79.7%	49.4%	75.3%
	(2879/3614)	(1408/2853)	(1856/2465)
	[78.3-80.9%]	[47.5-51.2%]	[73.6-77%]
Case Population – Tele Assessment	dermatology hu	b including those ex	cluded from Al
Al Discharge rate. (All cases are also assessed by a dermatologist as a safety net)	43.0%	19.5%	30.4%
	(3534/8223)	(14127226)	(2103/6907)
Safety net Dermatologist overturn rate of Al Discharges	45.6% (1612/3534)	36.5% (515/1412)	37.5% (789/2103)
Overturn rate to cancer diagnosis by safety net Dermatologist	10.9% (175/1612)	2.1% (11/515)	0.1% (1/789)*

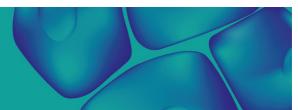
<sup>\*1</sup> X Basal cell carcinoma diagnosis as benign

We present the data of 22,356 patients assessed over 2.6 years. This demonstrates the latest version of AI software is highly sensitive in detecting all skin cancers (99.5%), pre-cancers (92.5%), and melanoma (100%), with improved sensitivity over time. This is attributable to improvements in the AI training technique and the learning datasets with newer versions of the algorithm, which involved using datasets that linked clinical images with confirmed histologic diagnoses with each version of the AI. A single cancer diagnosis was missed out of 190 cancers by the AI in the latest version: a basal cell carcinoma identified at the second read by the safety net dermatologist. There was also a high specificity in identifying benign lesions (75.3%) in the latest version of the algorithm. The slight drop in specificity for benign lesions compared to Version 1 is a potential trade-off for increased sensitivity for malignant lesions. The data also showed that the rate of overturn of the diagnosis from benign to skin cancer was 0.1%, which was a significant improvement from version 1 of the software. The latest version of the AI has avoided over 2000 face-to-face appointments in secondary care.

# **Conclusion:**

In 2017 it was demonstrated that AI could determine if skin lesions were likely to be malignant, and since then various technologies have been deployed for this purpose.

The quality of the outputs of AI algorithms is however highly dependent on the data upon which the algorithm was trained and validated. The role of AI in dermatology and the most appropriate pathway are debated. Widespread deployment will only be rightly achieved following approval by the medical regulators in individual countries. Further research may allow the deployment of AI as a triage tool. Our service demonstrates continued and significant improvement of AI software with training. We feel that continued improvement of the algorithm, along with advances in camera technology, appropriately deployed with clinical oversight will change the way skin lesions are assessed in the future.



Line-field confocal optical coherence tomography for basal cell carcinoma: preliminary results of a prospective study on diagnostic performance

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**Introduction & Objectives:** Line-field confocal optical coherence tomography (LC-OCT) is an innovative non-invasive imaging technique. Previous LC-OCT studies described morphologic criteria of basal cell carcinoma (BCC) and suggested that this technique facilitates BCC diagnosis and subtype discrimination.1-3 Available data about LC-OCT diagnostic performance in the field of BCC are derived from retrospective evaluations. The objective of the present analysis was to report parameters of LC-OCT diagnostic performance for BCC (sensitivity, specificity, accuracy) derived from a prospective study performed at patients' bedside.

**Materials & Methods:** Lesions clinically equivocal for BCC were prospectively included. Clinical, dermoscopic and LC-OCT diagnoses were obtained at patients' bedside by a single observer expert in LC-OCT imaging prior to surgical excision. Discordances between LC-OCT and histopathological diagnoses were reviewed by 2 different pathologists and by a third dermatopathologists in certain cases.

**Results:** A total of 214 lesions were included belonging to 119 patients [60 (50.4%) females; median age 66.4 (32.4-89.4) years; 97 (82.35%) with skin type I-II].

For the differentiation of BCC from BCC-imitators the following diagnostic performance was found: sensitivity 98.2% (clinical examination), 97.5% (dermoscopy), 98.2% (LC-OCT); specificity 17.6% (clinic), 37.3% (dermoscopy), 90.2 % (LC-OCT); accuracy 79 % (clinic), 83.2% (dermoscopy), 96.3% (LC-OCT). Therefore, LC-OCT increased the diagnostic accuracy of the clinical examination by 17.3% and of dermoscopy by 13.1%.

For the discrimination of superficial BCC (sBCC) from other BCC subtypes the following diagnostic performance was found: sensitivity 78.8% (clinic), 60.8% (dermoscopy), 70.6% (LC-OCT); specificity 73.0% (clinic), 84.4% (dermoscopy), 97.3% (LC-OCT); accuracy 74.8% (clinic), 75.5% (dermoscopy), 89.0% (LC-OCT). Therefore, LC-OCT increased the diagnostic accuracy of the clinical examination by 14.2% and of dermoscopy by 13.5%.

**Conclusion:** This prospective study confirmed that the diagnostic performance for BCC can be increased by LC-OCT compared to clinical/dermoscopic examination alone, both in terms of BCC differentiation from clinical imitators and in terms of BCC subtype discrimination. Our data encourages the inclusion of LC-OCT in the diagnostic process and management of BCC.

## Comparative retrospective study of topical therapy in patients with Mycosis Fungoides.

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# **Introduction & Objectives:**

Mycosis fungoides (MF) is the most common cutaneous T-cell lymphoma. The treatment for early-stage disease consists primarily of skin-directed therapies (SDTs), including phototherapy, steroids and topical chemotherapy. However, few studies exist evaluating and comparing treatment outcomes of SDTs. Therefore, the choice among SDTs may disproportionately depend on an individual dermatologist's experience. The aim of our study is to interpret the clinical evidence and assess the effectiveness of topical therapies for early-stage MF.

#### Materials & Methods:

We performed a retrospective study of real-world data of 90 patients with early-stage MF (IA, IB, IIA) treated with topical corticosteroids, narrow-band UVB phototherapy, PUVA phototherapy or chlormethine gel, between January 2019 and December 2021.

## **Results:**

52 males and 38 females were included in our analysis. The mean age (SD) was 56,36 (16,89). Eighty patients received the topical agent as 1st line treatment and 10 as 2nd line. The last category included patients who were systemic treatment naive and in complete remission at least 2 years before treatment with the evaluated agent. The most common stage was T1AN0M0 (51,7%). Patients with T1 disease were younger compared to those with T2 (53 vs 62 years respectively).

32 patients were treated with topical corticosteroids (36,7%), followed by 25 patients treated with UVB-NB therapy (30%). The majority of patients treated with PUVA were classified as stage T2. The mean number (SD) of phototherapy sessions was 25 (10,52), however, patients with T1 disease had fewer sessions compared to T2 (18 vs 25,5 respectively/ p=0,005).

Complete response to treatment was observed in 40 patients (53,3%). Ninety five percent of patients treated with topical corticosteroids (n=21), 53,8% of those treated with PUVA (n=7) and 61,5% of those treated with UVB-NB (n=8) showed no relapse during follow-up period. However, in patients treated with chlormethine gel, relapses were common (n=10, 62,5%), (p<0,001). Nineteen out of 90 patients (21.1%), were switched to another topical therapy: 47,4% of patients treated with chlormethine gel (n=9), 26,3% of patients treated with PUVA (n=5) and 21,1% of those who underwent UVB-NB (n=4) and one patient (5,3%) treated with corticosteroid (p<0,001).

#### **Conclusion:**

This is the first national survey reviewing topical treatment for early-stage MF. Traditional therapies appear to be more efficient and well tolerated, as opposed to the newer in Europe region chlormethine gel, which showed several side effects (burning sensation, irritant contact dermatitis etc.). However, it must be taken into account that the high cost of treatment for chlormethine gel may lead to selection bias towards more severe disease. Randomized controlled studies are necessary in this field of dermatology in order to make a reliable conclusion.

Assessment of clinical efficacy of 5- aminolevulinic acid encapsulated in polyamidoamine dendrimers in the treatment of precancerous conditions with the help of photodynamic therapy.

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# **Introduction & Objectives:**

Photodynamic therapy (PDT) is an effective procedure widely used for treating precancerous conditions such as actinic keratosis (AK). PDT mechanism of action involves the administration of photosensitizer, with subsequent irradiation with light of the appropriate wavelength. One of the most used photosensitizers is topically applied 5-aminolevulinic acid (ALA). The efficacy of ALA is limited mainly due to its hydrophilicity. Thus, the optimal tissue accumulation of ALA remains a clinical problem. Using a macromolecular carrier based on polyamidoamine dendrimer may help improve the percutaneous permeability and selectivity regarding precancerous cells of ALA while maintaining low toxicity. The aim of this study was to develop a new galenic preparation and clinical evaluation of the effectiveness of a formulation containing ALA encapsulated in a polyamidoamine dendrimer (ALA@PAMAM) carrier in PTD in a group of patients with AK.

#### **Materials & Methods:**

Forty patients with AK have been selected for the study. All skin lesions were evaluated according to the clinical criteria of AK based on the AKASI scale as well as using dermatoscopy and reflectance confocal microscopy (RCM). A total of 277 AK lesions were assessed. The new galenic preparation containing the ALA@PAMAM encapsulate was applied externally under occlusion to the affected areas for 3 hours and then washed off. Wood's lamp examination was used to trace brick-red fluorescence. Afterwards, the patients were irradiated with red light with a length of 630 nm and a total dose of 37 J/cm2. The study included a series of 4 treatments at 4-week intervals. The obtained results were compared with a control group of 17 patients treated with a traditional preparation of ALA in the same therapy regimen.

# **Results:**

A total of 36 of 40 patients completed the study and were eligible for statistical analysis. Clinical improvement in the AKASI index was observed in both groups. The mean reduction in AKASI was slightly higher in the control group. However, both cohorts showed statistically and clinically significant improvement (p<0.001). After four treatments of PDT in the group using ALA@PAMAM, an average reduction of skin lesions was 56%. In the control group - 83%. However, the preparation of ALA@PAMAM resulted in a higher percentage of complete resolution of skin lesions (AKASI100 - 19% vs 11% of patients in the respective groups) (p<0.001). Clinical improvement was also confirmed by videodermatoscopy and RCM. Patients better tolerated the tested preparation of ALA@PAMAM. In the cohort that used ALA@PAMAM preparation, the pain intensity (measured with the 10-point numerical pain scale) was several times lower after each procedure (p<0.001).

#### **Conclusion:**

ALA@PAMAM encapsulate developed in our department seems to be an effective photosensitizer in the treatment of precancerous skin conditions using PDT. In addition, its use allowed for a significant reduction of pain, which is a common side effect of PDT.

Degradation of type III and IV collagen associates with outcome when measured in serum from patients with metastatic melanoma treated with immune checkpoint inhibitors

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# **Introduction & Objectives:**

Predicting immune checkpoint inhibitor (ICI) efficacy is essential for patients with metastatic melanoma. Emerging evidence suggests a key role of collagens and their degradation products in regulating anti-tumor immunity, and response to ICIs. Blood-based collagen biomarkers reflecting tissue turnover is preferred over biopsies and can be applied as biomarkers for melanoma. In this study, we investigated if degradation products of type III collagen (interstitial matrix) and type IV collagen (basement membrane) were associated with survival outcomes when measured in serum from patients with melanoma treated with ICIs.

# **Materials & Methods:**

Matrix metalloproteinase (MMP) degraded type III (C3M) and type IV collagen (C4M) were measured by ELISAs in pre-treatment serum from two cohorts of metastatic melanoma patients treated with anti-PD-1 monotherapy (n=35) or with anti-PD-1/anti-CTLA-4 combination therapy (n=22). The association between dichotomized (Q4 vs Q1-Q3) C3M and C4M levels and overall survival (OS) was assessed by Kaplan-Meier analysis.

## **Results:**

Metastatic melanoma patients treated with anti-PD-1 monotherapy had significantly shorter OS if they had high (Q4) C3M (p=0.001) or high C4M levels (p=0.0002) compared with low levels. The median overall survival was not reached in biomarker-low patients while it was 509 days and 352 days for C3M and C4M, respectively, in biomarker-high patients. A similar trend was seen in the melanoma patients receiving anti-PD-1/anti-CTLA-4 combination therapy. The median overall survival was 649 days in biomarker-low patients while it was 208 days in biomarker-high patients for C3M and C4M (log-rank, p=0.134).

#### **Conclusion:**

Blood-based biomarkers of collagen remodeling of the interstitial matrix and basement membrane (C3M and C4M) were associated with poor survival outcomes in two cohorts of metastatic melanoma patients treated with anti-PD-1 monotherapy or with anti-PD-1/anti-CTLA-4 combination therapy. These findings support the link between extracellular matrix remodeling components and poor response to ICIs.

Prognostic significance of sentinel lymph node biopsy in elderly with cutaneous melanoma: Systematic review and Meta-analysis.

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# **Introduction & Objectives:**

Western population shows an aging trend. It has been observed that elderly patients have a lower incidence of sentinel node involvement, even with melanomas with a more aggressive phenotype. Diagnostic performance following SLNB, indicate that the presence of sentinel lymph node is less frequent in patients aged  $\geq$  75 years. We decided to perform a new systematic review to further investigate if elderly patients with melanoma and positive SLNB could have a worse prognosis than the aged with melanoma and negative SLNB.

#### **Materials & Methods:**

The systematic review was conducted following the PRISMA guidelines and registered in PROSPERO. The authors searched the Cochrane Database, EMBASE, PubMed and WOS. Eligible studies for the systematic review were clinical trials, observational population-, clinical-, or hospital-based cohort studies and case-control studies that compared prognosis outcomes for aged, 60 years and older, with melanoma and positive SLNB, versus those aged with melanoma and negative SLNB. Meta-analysis was carried out using the R software program, applying the *meta* package.

#### **Results:**

Six reports were identified to meet the inclusion criteria for the systematic review and meta-analysis. All studies were retrospective non-randomised cohorts that included elderly patients with cutaneous melanoma and SLNB. The results obtained in this systematic review show a statistically significant influence of SLNB on disease-specific survival (HR=2.87; 95% CI=1.73;4.74), but also suggest that a positive result negatively impacts disease-free survival (HR=3.41; 95% CI=0.96;12.11). No data are available to conclude the influence of SLNB on overall survival.

#### Conclusion:

This meta-analysis summarized the available literature related to the role of SLNB in elderly patients with melanoma and shows that a positive SLNB does not imply differences in OS, but does have a significant influence on DSS and suggests an unfavorable impact on DFS.

Chalazodermal mycosis fungoides: an extremely rare variant.

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#### Introduction

Chalazodermal mycosis fungoides (MF) is a very rare subtype of cutaneous T-cell lymphoma, it is a variant of MF clinically characterized by flaccid plaques or tumors (loss of skin elasticity) with a predominance in the axillary and inguinal folds. Its anatomical and clinical features remain poorly understood due to its rarity.

We report the only case of chalazodermal MF hospitalized in our department during the last 10 years.

#### Observation

A 79-year-old patient with a history of prostate adenoma presented for 5 years diffuse pruritic erythematous-squamous lesions.

Examination revealed pruritic infiltrated erythematous- squamous plaques on the trunk, limbs and external genital organs with progressive skin relaxation predominating in the axillary and inguinal folds.

Histological and immunohistochemical examination revealed a CD3+/CD4+/CD8- T lymphocytic infiltrate made up of small, atypical epidermal and dermal cells, leading to the conclusion of Mycosis Fungoides. After anatomical and clinical correlation, the diagnosis was chalazodermal MF.

The patient's work-up was without abnormalities and the patient was classified as T2bN0M0B0, Stage IB. The treatment was topical corticosteroids combined with phototherapy.

#### Discussion

Chalazodermal mycosis fungoides is an extremely rare variant mainly located in the axillary and inguinal folds.

Clinically, the initial lesions are classic erythematous-squamous lesions of MF that become atrophic and distended due to extreme elastolysis.

Histologically and immunohistochemically, it is characterized by a dense and diffuse dermal infiltrate of small to medium CD3+/CD4+/CD8- T cells, numerous histiocytes and multinucleated giant cells with elastophagocytosis and lymphophagocytosis.

The final diagnosis is based on the clinical presentation. Although chalazodermal MF is an indolent disease, cases have been described of association with other lymphomas including Hodgkin's lymphoma, which requires a long-term follow-up.

## Mycosis fongoïdes arising in a case of Hodgkin's lymphoma

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# **Introduction & Objectives:**

Mycosis fungoid MF is the most common type of primary cutaneous lymphoma. Patients with MF have an increased risk of developing a second tumor including Hodgkin lymphoma (HL). More frequently, MF precedes the occurrence of Hodgkin lymphoma.

We report an unusual case of mycosis fungoid in a patient with previous Hodgkin lymphoma.

# **Case report:**

A 35-year-old patient who had Hodgkin lymphoma in 2016 was confirmed on inguinal lymph node biopsy with the presence of Reed -Sternberg cells. The patient had received polychemotherapy with complete remission. Six years later, the patient developed a pruriginous erythroderma; a skin biopsy\*\* revealed a dense lymphoid infiltrate. Immunohistochemical staining revealed strong positivity and expression of lymphoid cells to anti-CD20, anti CD8, and minimal expression of lymphoid cells to anti-CD4.On the basis of histopathology, a diagnosis of mycosis fungoid was made. There was no blood involvement (normal blood smear and flow cytometry), no visceral involvement or clinical lymph node involvement, or radiological lymph node involvement. The patient was then classified as erythrodermic mycosis fungoides stage T4NxM0B0 or III A. The patient was treated with methotrexate injection 25 mg per week.

#### **Discussion:**

Patients with MF have an increased incidence of a second malignancy, including Hodgkin's lymphoma occurring most often after a prolonged course of MF. On the other hand, patients with Hodgkin's lymphoma are also known to be at higher risk for second malignancies. There are more frequent reports of Hodgkin lymphoma following a previous diagnosis of MF than vice versa.

The first case of mycosis fungoides occurring after Hodgkin's lymphoma was reported in 1984 by Caya et al, of a 57-year-old man who was diagnosed with Hodgkin's lymphoma one year before the development of mycosis fungoides. Another similar case was reported by Tomomitsu et al, of a 75-year-old patient diagnosed with mycosis fungoides thirteen years after the diagnosis of Hodgkin's lymphoma.

The occurrence of mycosis fungoides and Hodgkin's lymphoma in the same patients should lead to the discussion of the differential diagnosis with a relapse of the previously known lymphoma and the occurrence of new lymphoma and the prognostic significance of a secondary lymphoma and finally a possible common clonal origin of the diseases. This coexistence could be explained by genetic predisposition, an underlying viral infection. In addition, the mutagenic effects of cytostatic drugs are supposed to be involved in the pathogenesis and the altered immunity of the tumor pathology.

#### **Conclusion:**

It is important to keep in mind the occurrence of secondary lymphomas such as mycosis fungoides in patients with Hodgkin lymphoma.

## The natural course of malignant melanoma- A case report.

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# **Introduction & Objectives:**

The natural course of cutaneous melanoma (CM) depends on tumor thickness, presence of ulceration and/or regression, mitoses, gender, and localization, and is determined by its metastatic spread.

There are three main metastatic pathways, and CM metastasis develops as satellite or in-transit metastasis, as regional lymph node metastasis, or as distant metastasis at the time of primary recurrence. About 50% of all CM patients with tumor progression first develop regional lymph node metastases. In the other 50%, the first metastases are satellite or in-transit metastases (about 20%), or immediately distant metastases (about 30%).

#### **Results:**

In October 2022, an 86-year-old man was referred to our outpatient department because of multiple nodular lesions on his left lower leg. There were 28 nodular lesions, all around 5 mm in diameter, the biggest 9x7 mm. Lesions were pink-colored, elastic, and painless. A dermoscopy of those nodules revealed pink lesions with irregular vessels and a few brownish blotches at the periphery.

Two years before, in May 2020, he excised superficial spreading melanoma (thickness 2.39 mm, 4 mitoses per square mm) on his left knee. Despite multiple counseling sessions with different physicians, the patient steadfastly refused the excision of the tumor and rejected any further examinations or possible treatment. In July 2021, he was diagnosed with second melanoma or melanoma metastasis (nodular melanoma, thickness 4.21 mm). Again, our patient refused any further examinations or treatment.

## **Conclusion:**

We had an opportunity to observe an extraordinary case of an untreated cutaneous melanoma on the left lower leg of an 86-year-old male with a local progression of the disease. This natural course of the disease showed the importance of early surgical intervention and re-excision.

Lower socioeconomic status and lack of concern about general health are common in people who present with giant tumors or advanced, metastatic disease. Because early recognition is associated with better prognosis of malignant melanoma patients, improvement of knowledge and understanding of disease in patients is of main interest to public health.

# Evaluating the perception of Mycosis Fungoides patients about their disease before and after educating them

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# **Introduction & Objectives:**

Patient-held beliefs are important for disease management and few studies have evaluated illness perception of Mycosis Fungoides (MF) patients. Here, we aimed to determine the effect of educating MF patients on their perception of their disease. \*\*

#### **Materials & Methods:**

Patients with diagnosed MF were asked to fill the Illness Perception Questionnaire-Revised (IPQ-R) once before education and once 3 months later.

#### **Results:**

Fifty-five patients, 41 men and 14 women, with a mean age of  $45.5 \pm 13.9$  years were enrolled. Regarding the main etiologic factor, most patients cited anxiety (91%). After education, the most significant changed belief on disease etiology was immune system dysfunction and the change was twenty-six percent which was observed more in patients with higher educational levels, shorter disease duration, and lower MF stages. Regarding the most prevalent clinical manifestations, the majority of patients mentioned erythema (86%). After education, the greatest change in symptom perception was related to lymphadenopathy (32%) which was significantly associated with less disease duration and those treated with phototherapy. Before education, the mean perception score about the disease chronicity was  $23.67 \pm 3.549$  that increased to  $27.71 \pm 1.66$  (p-value <0.001). This change was more observed in men (p-value=0.03), those with less disease duration, and those treated with phototherapy.

# **Conclusion:**

Generally, MF patients hold favorable perspectives about their disease and educating them positively improves their illness perception. Patients with higher educational levels and lower stages of the disease showed more significant changes in various aspects of illness perception. Hence, early education is recommended in patients with lower educational levels.

## Cryosurgery vs. curettage for intraepidermal carcinoma: a randomized controlled trial

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# **Introduction & Objectives:**

Cryotherapy is a standard destructive treatment method for Intraepidermal carcinoma (IEC) above the knee. Curettage is a simple, non-aggressive, and cheap treatment method commonly used on benign skin lesions. However, few studies have assessed curettage alone for treatment of IEC.\*\* The objectives of this study were to (1) compare the effectiveness of cryotherapy (standard method) to curettage (experimental method) for treatment of BD with regards to overall clearance rate at 1-year follow-up, and (2) investigate whether the time to wound healing differed between the treatment groups.

# **Materials & Methods:**

In this randomized and controlled, non-inferiority trial, patients with histopathologically verified IEC were recruited from Sahlgrenska University Hospital (Gothenburg, Sweden). Inclusion criteria were; patients aged > 18 years with one or more IECs with a diameter of 5-20 mm, suitable for destructive treatment and located above the knee. Included lesions were randomized to treatment with either cryotherapy or curettage. Wound healing was assessed by a nurse after 4-6 weeks and through self-report forms. Overall clearance rate was assessed by a dermatologist after one year.

#### **Results:**

In total, 183 lesions in 147 patients with 93 lesions randomized to cryotherapy and 90 to curettage were included in the study. Eighty-eight of the lesions in the cryosurgery group (94.6%) and 71 in the curettage group (78.9%) showed an overall clearance at the 1-year follow-up visit, P = 0.002. The non-inferiority analysis was inconclusive. Lesions treated with curettage showed both significantly shorter self-reported wound healing times (mean time 3.1 vs 4.8 weeks, P < 0.001) and a significantly larger proportion of healed wounds at the follow-up after 4-6 weeks.

## **Conclusion:**

Cryosurgery and curettage both result in high clearance rates for treatment of IEC, but cryosurgery is significantly more effective. Furthermore, there was a significant difference in wound healing times in favor of curettage. Nevertheless, longer follow-up is needed to draw further conclusions.

## Pyogenic granuloma-like Kaposi sarcoma as the initial presentation of HIV

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**Introduction & Objectives:** Kaposi sarcoma (KS) is a low-grade angioproliferative tumor with a wide spectrum of clinical and histological features. Pyogenic granuloma-like Kaposi sarcoma (PGLKS) is an uncommon variant of Kaposi sarcoma (KS), which mimics benign pyogenic granuloma both clinically and histologically. Few cases of PGLKS have been described in the literature so far. Most reported patients with were men, older than 60 years and without HIV. We report a case of single PGLKS as the first manifestation of HIV infection.

**Results:** We present a 35-year-old male patient, Fitzpatrick skin type IV, born in Brazil, with no relevant personal or family history. Referred to the Dermatology clinic due to an asymptomatic pediculated erythematous-violet nodule located on the left hip, measuring approximately 2cm in diameter, with 3 months of progression. The main differential diagnosis considered were pyogenic granuloma, amelanotic melanoma, and Kaposi's sarcoma. Histopathological examination revealed a polypoid atypical vascular lesion, with spindle cell proliferation typically seen in KS, which was positive for human herpesvirus 8 (HHV-8) by immunohistochemistry, confirming the diagnosis of KS. Laboratory evaluation revealed positive serology for HIV-1. The patient had a negative HIV serology in 2017 and did not present any other symptoms suggestive of opportunistic disease. A chest, abdomen, and pelvic CT scan was performed, which did not reveal distant metastasis.

**Conclusion:** PGLKS is a rare entity with shared histological features of pyogenic granuloma and Kaposi sarcoma. In a HIV-positive individual, KS is an acquired immune deficiency syndrome (AIDS)-defining illness. AIDS-associated KS (AIDS-KS) commonly arises in the setting of low CD4 count and typically manifests as a disseminated disease, unlike the patient reported, who presented with a single PGLKS. It is important to consider KS when encountering a PG-like lesion.

Reasons of Sonidegib discontinuation in patients with locally advanced basal cell carcinoma: a real world analysis from the french registry CARADERM

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**Introduction & Objectives:** # Sonidegib, a systemic hedgehog pathway inhibitor (HHI) approved in Europe as a first-line treatment for adult patients with locally advanced basal cell carcinoma (laBCC), proved to be efficient at 200mg/d with an objective response rate (ORR) by investigator review of 74.2% and well tolerated in a phase 2 pivotal trial (BOLT study) with the possibility for an alternate day dosing.\*\* Few real-life data on the causes of Sonidegib discontinuation in patients with laBCC are available. Here, we present real-life rates and causes of discontinuation for Sonidegib.

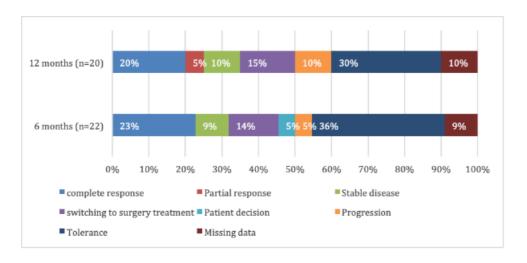
**Materials & Methods:** # Caraderm is a French national multidisciplinary prospective observational registry (NCT03210935) which enrols rare skin cancer patients from 37 centres, including laBCC patients since 2015. Data from patients treated with Sonidegib in the first line up to 6 and 12 months were analyzed in June 2022.

## **Results:**

We extracted data from 109 adults with IaBCC who received Sonidegib 200mg/d. Discontinuation rates for Sonidegib were 46% (22/48) and 64% (20/31) at 6 and 12 months of treatment, respectively. Discontinuation rates for clinical benefit (complete, partial response with or without surgery or stable disease) were 46% and 50% at 6 and 12 months of treatment, respectively. Adverse events were causes of discontinuation for 36% and 30% of patients at 6 and 12 months of treatment, respectively. This difference could be explained by the fact that patients with a longer duration of treatment were able to better tolerate adverse events in the early phase of treatment. Progression was 5% and 10 % at 6 and 12 months of treatment respectively (Figure). Patients stopping treatment due to adverse events have the possibility to restart Sonidegib at recurrence.

**Conclusion:** # This study showed that drug discontinuation was more related to clinical benefit of Sonidegib rather than due to adverse events, emphasizing the value of this drug as an efficacious and well tolerated first-line systemic treatment for laBCC.

Figure. Reasons of discontinuation among patients with laBCC by duration of treatment with Sonidegib in 1st line



## Superficial spreading melanoma and the risk of metastases: A case report

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## Superficial spreading melanoma and the risk of metastases: A case report

# **Introduction & Objectives:**

Superficial spreading melanoma (SSM) is the most common type melanoma. Whilst it is well known that malignant cells stay in the epidermis for a prolonged period when compared with other forms of melanoma, the proportion of SSM that become invasive is unknown. SSM is often associated with lesions of a lower mitotic index (<10mm2) and median time to metastases is reported to be around 28 months. Routine imaging surveillance after primary melanoma excision is recommended by many international bodies for patients with high risk or Stage IV melanoma, however the use of imaging for Stages II-III is less well described. This case reports highlights an example of how routine imaging surveillance could be of benefit.

#### **Results:**

A 74-year-old female presented with a mole on her left posterior leg that has been changing size, shape and colour for one year, with associated itching and bleeding. Examination showed a 2cm x 1.4cm circumferential irregularly pigmented mole with a flat periphery, nodular centre and abnormal colour distribution. The lesion was excised showing Breslow thickness of 2.9mm, ulceration and mitotic index of 17mm2. Diagnosis of Stage IIB superficial spreading melanoma was made. 6 months later the patient presented to emergency department with shortness of breath and multiple subcutaneous nodules on her abdomen. CT scan showed extensive bilateral nodular changes in the lungs, new lesions in the liver, skin and bones, and enlarged retroperitoneal lymph nodes indicating widespread metastases. British Association of Dermatologists currently recommend CT surveillance to be considered for Stage IIIB to C and resected Stage IV cancers whereas National Comprehensive Cancer Network recommends routine imaging for Stage IIB to IV cancers. Arguments surrounding the specificity and sensitivity for detecting early metastases and whether early metastases detection allows for improved survival could provide an explanation for the contrasting opinions. A case-based approach by a multi-disciplinary team should be taken when selecting patients for routine imaging surveillance. Perhaps a further defined scoring system could be beneficial for categorising stages II-III melanoma and their risk of metastases. Further research should be performed to investigate the use of mitotic index as a prognostic indicator for developing early metastases in effort to develop more precise guidelines to improve patient survival. \*\*

## Fibrosarcomatous transformation of dermatofibrossarcoma protuberans in a young patient

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#### Fibrosarcomatous transformation of dermatofibrossarcoma protuberans in a young patient

#### **Introduction & Objectives:**

Dermatofibrosarcoma protuberans (DFSP) is a rare dermal based sarcoma tumor, locally aggressive and with a highly infiltrative growth. The fibrosarcomatous transformation (DFSP-FS) is observed in 10-20% of the cases and has a relevant prognostic impact, highlighting the importance of its diagnosis. We report a case of DFSP-FS of the thigh in a young patient.

## **Results:**

Male, 29 years old, reports that a nodule, on a site of previous trauma on the thigh, presented progressive growth in the past month. At exam, a nodule of fibrous consistency was palpated, with well-defined limits, on the left thigh. The diagnostic hypothesis were dermatofibrosarcoma protuberans, angiofibroma and foreign body reaction. Ultrasonography showed a hypogenic nodule with central and superficial vascularization, measuring 2.96 x 1.85 x 3.15 centimeters, over the muscle, without invading it. A punch biopsy exhibited diffuse positivity of CD34 and morphological findings compatible with DFSP. In the two months while the patient was waiting for the surgery, the lesion presented significant growth. The patient underwent Mohs micrographic surgery, with lateral margins negative at the first stage. The central deep fragment was focally positive, however, since the muscular tissue was reached, it was decided not to deepen the margins. At histology, debulk material showed areas of loss of the storiform arrangement, mitotic index of up to 21 mitotic figures per magnification field (400x), Ki67 proliferative index of up to 30%, focal tumoral necrosis and areas with loss of expression of CD34. The findings supported the diagnosis of DFSP-FS. The patient is on joint follow-up with Orthopedics and will repeat magnetic resonance after the inflammatory post operative process is minimized for treatment planning.

#### **Conclusion:**

Ordinary DFSP is composed of a uniform cluster of cells organized in a storiform pattern. The nuclei have low pleomorphism and mitotic figures are infrequent. Immunoexpression of CD34 is characteristic. Local invasion is observed as tentacle-like projections on the subcutaneous tissue. Involvement of fascia, muscles and periosteum are considered late events. DFSP-FS is characterized by a modification on the architecture into a fascicular disposition with increased cellularity, numerous atypical cells, augmented mitotic rate and focal or complete loss of CD34 expression. It is correlated with higher rates of local recurrence and metastasis (less than 5% on DFSP and 13.4% on DFSP-FS), reinforcing the importance of adequate treatment and follow up. The standard treatment for DFSP-FS is local excision with margins larger than 2 cm and control of surgical margins. Metastasis is frequently preceded by local recurrence. Radiation should be considered if wide resection is not possible. Systemic treatment with Imatinib (PDGFR inhibitor) was shown to be effective in locally advanced, irresectable or disseminated DFSP-

FS with translocation of chromosomes 17 and 22.

Ordinary dermatofibrosarcoma protuberans	Dermatofibrosarcoma protuberans sarcomatous change	
Storiform pattern	Fascicular disposition	
Low pleomorphism	Increased cellularity	
Infrequent mitotic figures	Augmented mitotic rate	
CD34 expression is typical	Focal or complete loss of CD34 expression	

**Table 1.** Morphological and immunohistochemical characteristics of ordinary DFSP and its sarcomatous change.

#### Basal cell carcinoma of the eyelids and periorbital region in a Tunisan population

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# **Introduction & Objectives:**

Basal cell carcinoma (BCC) is the most common eyelid malignancy; however, orbital invasion by periocular BCC is rare, and management remains challenging. We tend to review the clinical and histopathologic features, treatment, and outcomes of eyelid basal cell carcinomas.

#### **Materials & Methods:**

The clinical records and histopathologic specimens of 172 patients with eyelid basal cell carcinomas were reviewed and analyzed retrospectively. The main outcome measures are patient demographics, clinical characteristics, lesion size, duration of lesion, histologic subtypes, presence of orbital invasion, treatment modalities, recurrence rate, and prognostic features.

#### **Results:**

All patients underwent surgery. The most common histologic subtype was nodular. Nearly one-third (5%) of the patients were previously recurrent. Orbital and perineural invasion rates were 7% and 10%, respectively. Recurrent basal cell carcinomas were larger, with longer duration of lesion and a higher rate of orbital and perineural invasion. Perineural invasion was most frequent in morpheaform and basosquamous subtypes. Peritumorous inflammation differed between subtypes and was highest in the superficial subtype. The recurrence rate was 7.5% in total.

#### Conclusion:

In this large case series, adverse prognostic factors associated with secondary orbital invasion are previous recurrences, aggressive histologic subtypes, longer duration of lesion, larger lesion size, and the presence of perineural invasion.

## Risk factors for cutaneous T-cell lymphomas

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# **Introduction & Objectives:**

Primary cutaneous lymphomas (PCL) are a lymphocyte proliferation with a cutaneous starting point, without lymph node, bone marrow, or visceral involvement at the time of diagnosis. PCL T-cell lymphomas are the most common type, with epidermotropic PCL being the predominant entity, including mycosis fungoides with an incidence of 0.36/105 individuals and Sézary syndrome with an estimated incidence of 30 to 40 new cases per year in the USA. The aim of our study is to evaluate possible risk factors (RF) that could be involved in PCL T.

#### Materials & Methods:

This is a descriptive retrospective study including patients followed for cutaneous T-cell lymphoma at the Dermatology department of the CHU Mohamed VI in Oujda between 2014 and 2021

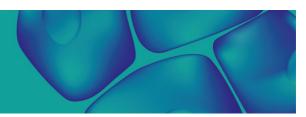
# **Results:**

A total of 22 patients were included, with a mean age of symptom onset of 39 years (9-86) and a male predominance (male/female sex ratio: 1.4). A family history of cutaneous lymphoma was found in 2 patients, and 45% of the patients had a low socioeconomic status, 36% had a moderate status, and 19% had a high status. Regarding profession, 5 patients (22%) were farmers with exposure to pesticides, 1 patient was a painter with exposure to paint and solvents, 1 patient worked in a glass factory, and 1 patient was a bricklayer with prolonged exposure to cement, bricks, and ceramics. The geographic distribution of patients revealed 68% of patients from Oujda, 18% from the Rif region, and 14% from Figuig. Regular alcohol consumption was found in 27% of the patients, and 27% were smokers with an average of 35 pack-years. Two female patients had a history of atopic dermatitis, and 2 patients had a risk factor for infection with hepatotropic viruses (tattoo, abscess). Prolonged sun exposure was found in 31% of the patients. All patients were of Caucasian race, with 90% having phototype 4 and 10% having phototype 5. The calculation of BMI revealed overweight in 40% of the patients and obesity in 14% of the patients.

## Conclusion:

Data from the literature on the epidemiology of epidermotropic PCL are extremely limited. Their incidence clearly tends to increase with age, with some pediatric cases described. The racial distribution shows an excess in the Black population and lower figures in Asians, with a clear predominance in males. The potential role of RF such as tobacco, alcohol, exposure to chemicals, or sun has been suspected, but these are fragmented data from studies with small sample sizes. Among the conditions that could promote the onset of mycosis fungoides, psoriasis is one, but not atopy or solid cancers. No clear association has been established with an environmental or occupational chemical factor or with radiation. Work in agriculture, wood, glass, painting, pottery and ceramics, and the paper and pulp industry has emerged as possible avenues. Finally, some viruses have been suspected of playing a direct or adjuvant role (CMV, EBV, HTLV-1).

Epidermotropic lymphomas are a rare disease, stable in incidence. A prospective study in other regions is essential. Certain factors are suspected of being involved, but epidemiological investigations are very limited and do not allow for a strong hypothesis to emerge.



# THREE SYNCHRONOUS PRIMARY MELANOMAS - THE IMPORTANCE OF A COMPREHENSIVE SKIN EVALUATION

Matheus Alves Pacheco\*, Fernanda E Lima, Ariel Rosa, Vanessa Maciel, Juliana Ikino, Ricardo Schmitz, Ana Paula Bald, Mackerley De Brito, Athos Martini

# **Introduction & Objectives:**

Melanoma originates from the malignant transformation of melanocytes and is one of the most aggressive skin malignancies with a high potential for metastasis. Patients with melanoma have a tenfold increased risk of developing new lesions, but the diagnosis of multiple simultaneous primary tumors, known as Synchronous Multiple Primary Melanomas (SMPMs), is a rare occurrence. The objective of this report is to highlight the significance of a thorough skin evaluation in detecting SMPMs.

## **Materials & Methods:**

This is a case report of a patient who presented to the dermatology service with irregular and asymptomatic melanocytic macules on the left anterior chest, left lumbar region, and right posterior paravertebral area, which had been present for four years. All lesions exhibited irregular network, pseudopods, and white scar-like areas. Histological confirmation revealed extensive superficial spreading melanoma "in situ" for all lesions.

#### **Results:**

SMPMs account for only 1.2-8.6% of melanoma cases, with major risk factors including the presence of dysplastic nevus and a family history of the disease. Although studies have shown controversial findings regarding the prognosis of SMPMs, melanoma remains a serious malignancy. Therefore, the identification of synchronous lesions is crucial when diagnosing a primary melanoma, even though the occurrence of SMPMs is rare.

#### **Conclusion:**

This case report emphasizes the importance of conducting a comprehensive skin evaluation in patients diagnosed with primary melanoma. The detection of synchronous primary melanomas, although rare, can significantly impact patient management and prognosis. Clinicians should remain vigilant and perform thorough skin examinations to identify additional lesions in patients with

primary melanoma, particularly those with risk factors such as dysplastic nevi and a family history of the disease.

## 3D Mapping of BCC with Multi-Spectral Optocoustic Tomography

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# **Introduction & Objectives:**

Basal cell carcinoma (BCC) is common in Singapore and has an increasing prevalence both in Singapore and worldwide. Currently, surgery is mainly by margins, which can result in large scars or inadequate clearing of tumor. MOHs surgery is preferred in high risk areas but is technically difficult, needing special expertise and as such, is offered only in specialized centres. Recent advances in technology have allowed various non-invasive skin imaging tools to be developed in aiding real-time diagnosis of both benign and malignant skin tumours, but the in-vivo mapping of skin cancers remains a challenge.

Multispectral optoacoustic tomography (MSOT) is an emerging volumetric imaging tool, which can be used to differentiate tissue chromophores and exogenous contrast agents, based on differences in their spectral signatures. Unlike current optical imaging techniques, MSOT can be used for high-resolution imaging of functional and molecular contrast at centimeter scale depth. In this study, we sought to explore if MSOT imaging using three-dimensional handheld scanners on 21 can accurately map out the tumor margins of patients with BCC before surgery.

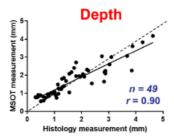
#### **Materials & Methods:**

This is a prospective study carried out over 12 months at National Skin centre, Singapore. Patients with BCC are imaged with MSOT before surgery to map out the tumor 3 dimensionally. The size of the tumor measured by imaging is then correlated with the actual size of tumor upon excision.

#### **Results:**

A total of 49 patients with BCC were enrolled into the study. MSOT imaging is able to distinguish BCC (and ther oxygenation parameters) from normal skin based on endogenous contrast. The intraclass correlation coefficient (ICC) was utilized to compare tumor dimension measurements between *in vivo* MSOT and *ex vivo* histology of excised tumors, showing good correlation in all cases (ICC > 0.8). Furthermore, real-time 3D imaging was able to provide information on lesion morphology and its underlying neovasculature, which can be important indicators of the tumor's aggressiveness. Figure 1 below shows the accuracy of MSOT on mapping of BCC

# **Histology-MSOT Acuity Correlations - 2022**



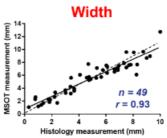
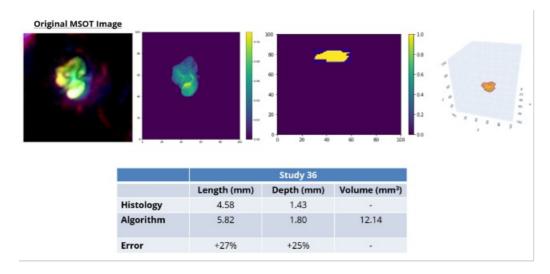


Figure 2 shows MSOT imaging of a BCC with histology correlation



#### **Conclusion:**

Our results demonstrated that volumetric MSOT can be exploited for accurate and noninvasive diagnosis of morphology and oxygenation profiles of skin tumors with good histological correlation, which in turn can be used to guide BCC excisions with higher accuracy, improved clearance and lower relapse rates.

## Esophagic metastases in a patient with mycosis fungoides

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# **Introduction & Objectives:**

Mycosis fungoides (MF) is the most common cutaneous T lymphoma, accounting for almost half of all primary cutaneous lymphomas. In initial stages it usually has an indolent course, being infrequent extracutaneous involvement; however, in advanced stages there is a considerable risk of systemic involvement. The most commonly affected organs are, in descending frequency, lymph nodes/peripheral blood, liver, spleen, lungs, bone marrow, and gastrointestinal tract.

#### **Materials & Methods:**

We report a clinical case of MF

#### **Results:**

We present a 69-year-old male with no history of interest. Evaluated years ago in another dermatology clinic due to pruritic erythematous macules, with inconclusive biopsy. Subsequently, he consulted our Department for presenting a tumor lesion in the right knee with a histopathological study for MF T-Helper phenotype, stage IIB. Treatment with radiotherapy and later bexarotene was established; despite which the disease progressed with new tumor lesions in the thorax and extremities. A new histopathological study of a new tumor lesion is compatible with MF with large cell transformation, showing supraclavicular adenopathies in the staging CT scan. A short time later, he presented dysphagia, and gastroscopy observed a tumor lesion in the distal third of the esophagus, with increased metabolism on PET/CT and a histological study confirming metastatic involvement with transformation to a large CD30+ cell. He was referred to Hematology and they decided to start systemic treatment with brentuximab, cyclophosphamide, doxorubicin, prednisone and subsequent consolidation with autotransplantation if complete remission was achieved.

#### **Conclusion:**

We present this case due to the infrequent extracutaneous involvement: tumor stages increase the probability of systemic dissemination, although esophageal involvement is exceptional. Follow-up adapted to the tumor stage is required for early detection of metastases.

## Plaque Variant Trichoblastoma - Case Series and Review of the Literature

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# **Introduction & Objectives:**

Trichoblastoma is a rare, benign adnexal neoplasm of the hair germ composed of follicular germinative cells surrounded by a dense stroma. Plaque variant trichoblastoma is a rare, infiltrative, poorly defined variant of trichoblastoma first described in 1995. Herein, we describe four patients who presented with 11 plaque variant trichoblastomas on the head and neck. Furthermore, we discuss the biologic and clinical significance of the tumor's proposed aggressive features, as well as its suitability for treatment with Mohs micrographic surgery (MMS).

#### **Materials & Methods:**

We identified four patients from our dermatology clinic spanning 11 years (2011-2022) that were diagnosed with 11 plaque variant trichoblastoma (Table 1). Two dermatopathologists reviewed paraffin embedded and hematoxylin and eosin-stained sections, along with immunohistochemical analysis including CD10, CD34, Bcl-2 and Ber-EP4 staining.

#### Results:

Histopathologic features were similar for all tumors. Nests of dermal basaloid cells without clear peripheral palisading and infrequent mitoses were present; mucinous stroma was absent and follicular germinative centers were seen inside the tumor islands. The neoplastic islands were surrounded with compact eosinophilic stroma. Tumor cells were negative or patchy positive for Ber-EP4, and Bcl-2 staining was primarily localized at the periphery of tumor islands. CD10 and CD34 staining revealed a diffuse stromal pattern without labeling tumor parenchyma. CYLD and PTCH genetic testing was negative in the patient tested. All tumors were treated with MMS.

The majority of tumors were removed in one stage; however, the number of stages ranged from one to three. The deepest levels of tumor extensions were seen in the lower subcutis. The defect sizes ranged from  $11 \times 8$  mm to  $40 \times 25$  mm. There were no tumor recurrences during the postoperative follow up period, which ranged from 1-6 years.

#### **Conclusion:**

We highlight the deeply infiltrative growth, poorly defined margins, histologic similarity to basal cell carcinoma (BCC), and larger defects after surgical removal that exist with multi facial plaque variant trichoblastomas. Dermatologic surgeons should be aware of the deeply infiltrative nature of this benign tumor, especially given the possibility of misdiagnosis as BCC (Table 2). While small nodular trichoblastomas are typically treated using simple excision, MMS may be a more effective approach for plaque variant trichoblastomas, especially lesions larger than 1 cm, given their propensity for infiltrative growth. A greater understanding of the biological behavior, histopathologic features of trichoblastoma variants is necessary to definitively determine appropriate treatment recommendations. Further research may focus on the aggressive behavior of plaque variant trichoblastoma, the

genetic stimulus responsible for its growth, and the mutations that may result in a more infiltrative and indolent growth pattern.

Table 1: Case details

Patient	Sex/Age	Tumor	Location	Treatment	Defect (mm)	Stages number
1	M/17	ТВ	L posterior scalp	Mohs	40x35	3/triple rotational flap
		ТВ	R posterior scalp	Mohs	17x12	1/triple rotational
		ТВ	Mid vertex	Mohs	26x24	2/rotational flap
		ТВ	Posterior neck	Mohs	20x15	1/CLC
2	F/59	ТВ	L brow	Mohs	52x45	3/plastic surgery referral
		ТВ	L preauricular cheek	Mohs	49x30	2/rhombic flap
		ТВ	L NL fold	Mohs	13x12	1/rotational flap
		ТВ	R forehead	Mohs	14x13	1/ H plasty
		ТВ	R upper lip	Mohs	16x13	1/rotational flap
3	F/35	ТВ	R nasal dorsum	Mohs	11x8	2/bilobed flap
4	F/66	ТВ	L medial cheek	Mohs	31x13	3/CLC

Key: M=male, F=female, L=left, R=right, NL=nasolabial, CLC=complex layer closure

Table 2: Histopathological and immunohistochemical differences between trichoblastoma and BCC

	Trichoblastoma	всс
Origination	Mid-lower dermis - adnexal	Epidermis
Connection with epidermis	-	+
Components	Stromal & Epithelial	Epithelial
Peripheral palisading of basaloid cell nests	-	+
Cleft between neoplasm & stroma	-	+
Stromal condensation & pilar differentiation	+	-
Inflammatory infiltrate	-	+
Bel-2	+ Peripheral tumor island staining	+ Diffuse staining
Ber-EP4	+/- Patchy staining	+ Diffuse
CD10	+ Diffuse stroma	- Stroma, + epithelium
CD34	+ Stroma	- Stroma, - epithelium

Actinic Keratosis, early transformation to squamous cell carcinoma in Egyptian population: Clinical, Dermoscopy and Immunohistochemical correlations

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Actinic Keratosis, early transformation to squamous cell carcinoma in Egyptian population: Clinical, Dermoscopy and Immunohistochemical correlations

## **Introduction & Objectives:**

Actinic keratosis (AK) is dysplastic proliferation of keratinocyte which presents as macules, papules or hyperkeratotic plaques with an erythematous background that occur on photo exposed areas. A new clinical classification, called the 'actinic keratosis area and severity index' (AKASI), has recently been proposed for objective assessment of AK severity of the head/face based on parameters such as erythema, thickness, and distribution. Total scores ranged from 0 (no AK) to 18 (AK of the severest possible degree). Several dermoscopic patterns for the detection of AK have been described: gray structures, scales, and rhomboidal lines for pigmented AK. In nonpigmented AK, linear wavy vessels, follicular plugs surrounded by a pink-red pseudonetwork, and scaling have been described. Claudin-1 is one of the main tight junction proteins, which is crucial for formation of complete tight junctions. According to previous studies, claudin-1 expression decreases with increasing pathological grade in actinic keratosis and may be a marker of high-risk actinic keratosis. Aim: Is to evaluate dermoscopic features of AK and correlate it with histopathology and with early detection of malignant transformation using claudin-1 immunohistochemistry for histopathological confirmation.

# **Materials & Methods:**

This analytical cross-sectional study will be conducted on 47 patients, this group of patients is divided into 2 subgroups, the classic AK group, and the early malignant transformation to SCC group. The study includes 10 healthy control group to control the stain of claudin-1 in the classic AK group and the early malignant transformation to SCC group. A-Dermatological examination, to diagnose actinic keratosis and its subtypes including keratotic, verrucous, pigmented, atrophic, and lichenoid forms. B- photo will be taken for the selected lesion using camera of iPhone 11 (12MP) made in China at 10 cm distance. C-Dermoscopic examination, to confirm diagnosis of actinic keratosis using Derma lite DL4 mixed polarized and non-polarized light with magnification x10 + 12 x10 of the camera. D- Histopathological evaluation of actinic keratosis: 4mm punch biopsy will be fixed in 10% formalin, embedded in paraffin, and sectioned into 5-m sections for: • Routine H&E staining. • Immunohistochemical analyses of claudin-1: Immunohistochemistry will be performed with tissue sections using an autoimmuno stainer, the antibodies used is anti-claudin-1.

#### **Results:**

High incidence of malignant transformation (73%) of patients with evident clinical findings and grade 3 by dermoscopy which is detected by in situ polymorphism and high tissue claudin-1 compared to 47% in grade 2 and 22% in grade -1

# **Conclusion:**

Actinic keratosis is potential for malignant transformation which can early be detected by dermoscopy and tissue

claudin1

## Persistence of lesions in a case of Ferguson Smith Syndrome

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<sup>1</sup>Saudi Arabia, dermatology, Khamis Mushayt, Saudi Arabia

**Introduction & Objectives: CASE REPRT** 

Materials & Methods: A 48 year male presented with multiple (around 40) pruritic well defined dome shaped nodules with central keratotic plug over the upper extremities. The lesions persisted for 3 years with new lesions developing and no spontaneous resolution of any individual lesion. There was no family history and was not associated with any malignancy. Based on clinical and histopathological findings, the diagnosis of multiple Keratoacanthoma of Ferguson-Smith type was made.

Results: Keratoacanthoma of Ferguson-Smith type, also known as multiple self-healing squamous epitheliomas (MSHSE), is the most common form of multiple Kerathoacanthomas. It is inherited as autosomal dominant but denovo mutations are possible. It presents as multiple few to hundred lesions mainly over the face and extremities. Each lesion starts as a reddish macule, becomes papular, and then grows rapidly into an erythematous nodule with central keratotic plug. They evolve and then disappear rapidly within a few months, leaving atrophic and shallow scars. We report our case due to persistence of lesions for almost 3 years and no spontaneous resolution of any lesion.

Conclusion: We report our case due to persistence of lesions for almost 3 years and no spontaneous resolution of any lesion.

## Photodynamic therapy in the treatmnet of Bowen's disease: a real-life experience

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**Introduction & Objectives:** Bowen's disease (BD) represents the *in situ* form of cutaneous squamous cell carcinoma (cSCC); it presents as an erythematous, well defined, slow-growing macula. Although it has an excellent prognosis, 3-8% of lesions progress to invasive cSCC, with higher risk in older and/or immunocompromised patients. Treatment of BD is therefore always necessary, and photodynamic therapy (PDT) is a first-line treatment option.

**Materials & Methods:** 22 patients (54.5% male, 45.5% female), with a mean age of 76.8 years (43-93 years), for a total of 23 BD lesions, all histologically confirmed, were treated with 2 sessions of MAL-PDT one week apart, using red light (630 nm) at an intensity of 37 J/cm2. None of the treated lesions received previous treatment. After the first course of MAL-PDT, all 23 lesions were re-evaluated every 3 months.

Results: Of the 22 patients included, 5 (22.7%) were immunocompromised (2 being treated with Ruxolitinib for myeloproliferative disorders, 3 renal transplant recipients). 12/23 lesions (52.1%) were located in the head-neck district, 8/23 (34.8%) in the lower limbs, 2/23 (8.7%) in the upper limbs, and 1/23 (4.4%) in the trunk. The mean lesion size (measured on the major axis) was 17.1 mm, ranging from a minimum of 6 mm to a maximum of 35 mm. The mean follow-up period was 12.6 months (4-25 months). Of the 23 lesions evaluated, 19/23 (82.6%) showed complete clinical resolution from the first re-evaluation, maintained throughout the entire follow-up period, 2/23 (8.7%) presented recurrence, and 2/23 (8.7%) progressed to invasive cSCC. Treatment was well tolerated by all patients, with no major adverse effects and excellent cosmetic outcome in cases of complete resolution. The main risk factors for progression to cSCC was the size of the lesion and the immunodepression status of the patient. Both patients who developed cSCC were immunodepressed (one being treated with Ruxolitinib, the other a 4-year kidney transplant recipient); the former had 13-mm lesion localized in the face, the latter had 35-mm lesion localized in the right lower limb. On average, the time to recurrence or progression to cSCC of the MAL-PDT-treated BD was between 3-6 months; in our experience, the two lesions that progressed to cSCC were diagnosed at the first follow-up after MAL-PDT (3 months), while the two lesions relapsed at the second follow-up (6 months) and were subsequently successfully retreated. Both lesions progressed to cSCC underwent surgical excision, with complete healing.

**Conclusion:** Photodynamic therapy is a safe and effective option in the treatment of Bowen's disease, particularly for lesions located in areas where surgery would be difficult or invasive, especially in elderly patients and those with multiple comorbidities. PDT is also generally well tolerated and provides an excellent cosmetic result. Periodic follow-up of treated lesions is essential, with particular emphasis on large lesions (>30 mm) and for elderly and/or immunocompromised patients.

## Aesthetics and functional results after reconstruction of nasal ala defects with nasolabial flap. Case of series.

Maria Dolores Benedicto Maldonado<sup>1</sup>, Ignacio Castaño Uhagon<sup>1</sup>, Pilar Luque Varela<sup>1</sup>, Jorge Alonso Suárez Pérez<sup>1</sup>, Enrique Herrera Acosta<sup>1</sup>

<sup>1</sup>Hospital Universitario Virgen de la Victoria, Dermatology, Málaga, Spain

## **Introduction & Objectives:**

The nose is the most common facial location for skin cancer, and basal cell carcinoma is the predominant malignancy among all skin cancers. A thorough examination is needed to achieve complete tumor resection and to reconstruct the defect with an optimal functional and aesthetic result.

Many surgical techniques have been described to repair major nasal defects but the nasolabial flap of the superior pedicle offers satisfactory functional and aesthetic results in only one surgery.

#### **Materials & Methods:**

10 cases of nasolabial flap of superior pedicle are presented. The patients had a basal cell carcinoma that led to a major defect after surgical removal.

Prior to the tumoral extirpation, the flap design was painted on the skin. Betadin, as antiseptic and local anesthesia, with Lidocaine 5% and adrenaline diluted in saline, were used before any incision. Tumor resection was performed with Mohs surgery, in some patients including cartilage and nasal mucosa in the tissue removed. No grafts were used to cover the defects. After the flap incision the dissection was performed in the subcutaneous layer. When the flap was free and only connected through the pedicle a 90 degrees turn, helped with the erine, was performed in the final position. When the entire nasal ala was removed the distal part of the flap was folded back to reconstruct the nostril. In the remaining cases to avoid nasal ala collapse, a subcutaneous stitch was made with absorbable thread 3/0 between the internal surface of the flap and the base of the defect. The flap was fixed in its final position, starting from the most distal flap part, using silk thread 4/0 or monofilament thread 4/0. Skin wound was disinfected with betadine and covered with a dressing.

All patients received antibiotics, cefuroxime 500 mg 1 tablet every 12 h during 10 days. The stitches were removed 10 days after the surgery.

All patients were evaluated by two different dermatologists

#### **Results:**

In the posterior checkups none of the patients had a surgical wound infection or another complication. Only one patient had nasal ala collapse. Good esthetic results were achieved.

## **Conclusion:**

Nasal ala reconstruction can be challenging owing to its anatomical and functional characteristics.

When a major nasal defect is present, several reconstruction options are available. Some authors recommend the use of grafts to avoid collapse, although this increases the risk of infection and necrosis.

One flap proposed to cover large defects is the forehead-skin flap, achieving functionality and aesthetics in nasal surgery. However, it has some inconveniences, such as leading to a major scar in the middle of the forehead and the need for two surgical approaches.

With the nasolabial flap with superior pedicle and subcutaneous stitch, nasal ala function remains. There is a lower risk of infection and strange body reaction than graft use in other procedures. After suturing, a large part of the scar remains hidden in the nasolabial and nasogenian folds. There is also low risk of damaging important anatomical structures because of the flap face location. For these reasons, this flap can be positioned as an option in nasal ala or major nose defect reconstruction, which is technically easy to perform, using only one surgical time with optimal aesthetics and functional results.

#### Steroid-refractory checkpoint inhibitor-induced autoimmune hepatitis responding to cyclosporine

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<sup>1</sup>Charité – Universitätsmedizin Berlin, corporate member of Freie Universität Berlin and HumboldtUniversität zu Berlin, Department of Dermatology, Venereology and Allergology, Berlin, Germany

## **Introduction & Objectives:**

Immune checkpoint inhibition with the combination of ipilimumab and nivolumab has revolutionized the treatment of advanced melanoma. Associated immunotherapy toxicity can affect all organ systems and may present as hepatitis, gastritis, hypophysitis, or myocarditis. We present a case of immune checkpoint inhibitor-induced, steroid-refractory hepatotoxicity that responded to cyclosporine.

#### **Materials & Methods:**

A 38-year-old man with stage IV melanoma presented with autoimmune hepatitis CTCAE grade III three weeks after the first cycle of intravenous combination therapy with ipilimumab 3 mg/kg and nivolumab 1 mg/kg q28. Liver function tests showed highly elevated transaminases with aspartate aminotransferase (AST) > 450 U/L and alanine aminotransferase (ALT) > 890 U/L, as well as high levels of gamma glutamyl transferase (GGT) > 190 U/L and alkaline phosphatase (AP) > 140 U/L. Bilirubin levels appeared normal. In addition, the patient reported a history of hepatitis C infection with no detectable active viral load at that time. Other viral diagnostics were negative for hepatitis A and B as well as cytomegalovirus. IgG antibodies to Epstein-Barr virus (EBV) were detected indicating a history of EBV infection.

#### **Results:**

We initiated high-dose intravenous systemic corticosteroids (140 mg  $\triangleq$  2 mg/kg prednisolone per day) with an initial decrease in transaminases. After prednisolone was gradually tapered to 100 mg per day, liver enzymes remained stable at high levels, with ALT 10 times above the upper limit of normal (ULN) and AST approximately 5 to 6 times above the ULN. We decided to add mycophenolate mofetil, which was administered at an initial dose of 2 g per day. However, liver function tests remained elevated, so the mycophenolate mofetil regimen was changed to cyclosporine 150 mg twice daily in addition to high-dose prednisolone 140 mg daily.

With this treatment, liver enzymes decreased and nearly normalized 3 weeks after starting cyclosporine. The prednisolone dose was tapered over 3 weeks and cyclosporine was also discontinued after 3 weeks.

#### Conclusion:

Steroid-refractory hepatitis may present a therapeutic dilemma for the clinician due to the potential liver toxicity of the otherwise potent TNF-alpha inhibitor infliximab. Mycophenolate mofetil is often suggested as a second-line therapy, but its effect can be delayed by several weeks.

Calcineurin inhibitors have shown good responses in individual cases/case series. Cyclosporine is a readily available and rapidly acting treatment option and may be beneficial in severe treatment-resistant checkpoint-inhibitor-induced hepatitis.

Laboratory values:

	March 2023	April 2023	May 2023
	06	23	05
ALT (U/L)	36	61	899
AST (U/L)	38	47	459
GGT (U/L)	50	56	199
AP (U/L)			141
Total Bilirubin (mg/dL)	0.39	0.46	0.67

06.03.2023: 1.5 weeks before therapy with combined Ipilimumab and Nivolumab.

23.03.2023: 1 week after therapy with combined Ipilimumab and Nivolumab.

14.04.2023: Start of mycophenolate mofetil 2g per day.

19.04.2023: Start of cyclosporine 150 mg two times per day.

#### Breslow density as a new prognostic factor in melanoma

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## **Introduction & Objectives:**

The Breslow index (BI) is considered the most important prognostic factor in patients with invasive cutaneous melanoma and the basis of the American Joint Committee on Cancer (AJCC) staging system. But there are other clinical and histopathological parameters that also influence the prognosis of melanoma.

Regarding the histological parameters, it has been suggested that other indices could be relevant, such as the calculated tumor area, the tumor volume or the Breslow density (DB). DB is defined as the percentage of the dermis occupied by invasive melanoma cells. The justification for this approach is to improve the estimation of the prognosis in cases of melanomas with the same BI.

#### **Materials & Methods:**

A retrospective observational study in a cohort of 106 patients with invasive melanoma was conducted. Univariate and multivariate regression analysis was performed. Our aim was to evaluate the role of BD as predictor of patients' survival and assess its prognostic value in relation to overall survival, disease-free survival, melanoma specific survival and metastasis-free survival.

#### **Results and Conclusion:**

Our results support DB as a useful and reproducible morphological marker with prognostic value in estimating melanoma patients' survival.

#### Are we good enough in recognizing scalp lesions?

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## **Introduction & Objectives:**

Angiosarcomas (AS) are rare and highly aggressive malignant tumors that arise from the endothelial cells of vascular or lymphoid structures. These tumors are rare and account for less than 1% of all head and neck malignancies and less than 2% of soft tissue sarcomas. Because of their origin, they can arise at any anatomic site, but in more than 60% of cases, they are found in the head and neck region of the elderly, predominantly male population. This explains why this type of malignancy is also called senile angiosarcoma. Although most cutaneous angiosarcomas (cAS) occur spontaneously, risk factors include radiation, chemical exposure, and chronic lymphedema associated with Stewart-Treves syndrome. In its early stages, cAS may present as a benign lesion, such as an enlarged bruise, nodular or plaque-like lesion, or ulceration that does not heal. It may also be misdiagnosed as a deep infection caused by bacteria or fungi.

#### **Results:**

We report a case of a 77-year-old woman who presented with a tumor 5 cm in diameter in the central part of the occipital region. The lesion occurred after a minor head injury in May 2022. For several months, the patient was treated as kerion celsi with local and systemic antifungal therapy. In October 2022, she was referred to our Department because of the enlargement of the lesion. Physical examination revealed enlarged lymph nodes in the left cervical region and a palpable mass in the left occipital area. Other than that, the patient was in good general condition. Her past medical history was significant for arterial hypertension, hypothyroidism and osteoporosis. The patient had not previously undergone radiotherapy. A biopsy of the lesion was performed, which revealed a grade 3 angiosarcoma with vimentin, podoplanin, and CD31 positive tumor cells and metastases to left supraclavical lymph nodes. The patient was presented to the multidisciplinary skin tumor team and underwent paclitaxel chemotherapy a few weeks later. At the March 2023 follow-up visit, the lesion was much smaller and approximately 2 cm in diameter. The patient continues to undergo chemotherapy, which she tolerates well.

#### **Conclusion:**

The goal of our case report is to raise awareness of angiosarcoma as an extremely important differential diagnosis of scalp lesions in elderly patients. Especially when we know that with increasing life expectancy, the incidence of cAS is increasing and the prognosis is still very poor despite various therapeutic options.

#### CD8+ Primary cutaneous anaplastic large cell lymphoma showing regression after incisional skin biopsy

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#### **Introduction & Objectives:**

Primary cutaneous anaplastic large cell lymphoma (PCALCL) is a rare lymphoma with an excellent prognosis, as indicated by a 10-year survival rate of about 90%. Notably, complete or partial spontaneous regression is reported to occur in 20% to 25%. However, recurrence is common after spontaneous regression, and complete remission without therapeutic intervention is uncommon. The most frequently mentioned factors triggering spontaneous regression of malignancies are known to be surgical trauma, infection, and vaccination.

#### **Materials & Methods:**

A 25-year-old man presented with solitary erythematous ulcerative mass on the right buttock for 3 weeks. The patient had no medical history, and there was no systemic symptom including fever, weight loss, and night sweats.

#### **Results:**

Histopathologic examination revealed diffuse infiltration of atypical lymphoid cells with large irregular nuclei with abundant mitoses. Immunohistochemically, atypical lymphoid cells were positive for CD3, CD4, CD8, and CD30, while negative for CD20, CD138, and ALK-1. The proliferation index Ki-67 was positive in 40% of cells. Positron emission tomography/computed tomography showed no systemic involvement other than skin lesion, and peripheral blood smear revealed no atypical lymphocytes. With the clinical and histopathological findings, he was diagnosed as PCALCL. After the first incisional biopsy, clinical regression was observed within 3 weeks. After 6 weeks from the initial incisional biopsy, excisional biopsy was performed on the same region. Excisional biopsy revealed perivascular infiltration of mature small lymphocytes. There was no histological feature of lymphoma. After additional excisional biopsy, no recurrence or any symptom of systemic disease was observed during 9 month of follow-up period.

#### **Conclusion:**

The immunophenotype of PCALCL is characteristic in that the neoplastic cells are CD30+, and in most cases, tumor cells express a T-cell helper CD4+ immunophenotype. The characteristic feature of our case is that the tumor cells expressed both CD4 and CD8. PCALCL with a CD8+ phenotype has rarely been described, which presents a particularly difficult diagnostic and management challenge, given the difficulty in distinguishing it histologically from other cytotoxic lymphomas. In our case, clinical remission occurred just 3 weeks after the first incisional biopsy, and this regression was confirmed histologically by following excisional biopsy from the same region. Herein, we report a case of PCALCL that exhibits the CD4+/CD8+ double positive phenotype and shows regression after incisional skin biopsy.

#### Role of mast cells in syringoma: correlation between clinical and histologic features

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#### **Introduction & Objectives:**

Syringoma is a common benign adnexal neoplasm that is believed to represent adenoma of acrosyringium; however, its pathophysiology is poorly understood. Histopathologically, stromal fibrosis is common in addition to circumscribed epithelial cells forming ductules, nests, cysts and cords. No satisfactory treatment exists for this condition, and treatment is frequently complicated by recurrence, scarring and dyspigmentation.

## Materials & Methods:

To identify the cause of stromal fibrosis, we analyzed 49 syringoma samples obtained from 47 patients and analyzed their clinical and microscopical features using immunohistochemical staining with CD117(c-kit) and estrogen receptor (ER)- $\alpha$ .

#### **Results:**

Female-to-male ratio was 4.2:1, median age at diagnosis was 42 years (range, 21-80), and median onset age was 28.5 years (range, 5-74). Among the clinical variants, all 49 samples were of localized type, with periorbital (67.3%) lesions being most common, followed by face (18.4%), vulva (8.2%), axilla (4.1%) and forearm (2.0%). Acanthosis of epidermis overlying the syringoma was seen in 83.7%, basal hyperpigmentation in 83.7%, and stromal fibrosis in 100%. Immunohistochemical staining with CD117 measured the density of mast cells in syringoma tissue from the periorbital skin, face, vulva, and axilla/ forearm, and showed statistical differences depending on location, with 25.8, 25.1, 17.1, and 14.9 mast cells per high-power field, respectively (p<0.01). Mast cell density showed a statistically significant correlation with basal pigmentation (r=0.338, p=0.02) and ER- $\alpha$  (p=0.03). Epidermal thickness was correlated with age (r=-0.564, p<0.01) and tumor thickness (r=0.652, p<0.01). Tumor thickness in the periorbital skin, face, vulva, and axillae/forearm were 765.8, 979.2, 1398.8, and 688.5  $\mu$ m, respectively.

### **Conclusion:**

The results of this study support the role of mast cells in inducing stromal fibrosis and epidermal hyperpigmentation in syringomas, as well as their association with frequent sites of syringoma development. Similar to dermatofibroma, epidermal induction by syringoma might be working, as evidenced by the association of tumor thickness and overlying epidermal acanthosis. Correlation of ER- $\alpha$  and mast cells could also explain the tumor's predominance in women. The results of this study also explain the improvement of syringoma by topical adelmirol and oral tranilast, both of which are mast cell downregulators. Further study is warranted to identify the role of mast cells in the pathogenesis of syringoma.

#### Complete spontaneous regression of an atypical fibroxanthoma

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## **Introduction & Objectives:**

Atypical fibroxanthoma (AFX) is an uncommon mesenchymal cutaneous neoplasm, characterized by fibrohistiocytic proliferation. It typically presents as a rapidly growing solitary red or pink papule or nodule on the head or neck, and commonly affects elderly patients with a history of sun damage. Surgical excision of the tumor with clear margins is currently the recommended treatment approach for AFX. Although it is a locally invasive tumor, it has a favorable prognosis, with 20-year survival rate exceeding 97%.

#### Materials & Methods:

A 76-year-old man with a medical history of hypertension, left pneumonectomy for lung adenocarcinoma, and radical cystoprostatectomy for bladder neoplasia, currently disease-free, was referred to our center due to a rapidly growing lesion on the right temple that had appeared two months prior. Physical examination revealed a 18x15mm diameter tumor with vascular appearance, violaceous coloration, and an ulcerated surface covered by a crust. An incisional biopsy revealed an AFX, characterized by dermal proliferation of pleomorphic spindle cells arranged in a vaguely storiform pattern, displaying large and vesicular nuclei with numerous mitotic figures, some of which atypical, and accompanied by multinucleated giant cells and polygonal cells with abundant and eosinophilic cytoplasm. The lesion showed no tumor necrosis or vascular invasion. Immunohistochemical studies demonstrated expression of the atypical cells for CD10 and CD99, but negative for cytokeratin, S-100, desmin, and CD34. One month later, the lesion had significantly decreased in size, showing a non-ulcerated violaceous nodule. At the time of surgery (one month after the last consultation), only a linear violaceous macule remained over the scar, with complete regression of the previous tumor. Complete excision was proceeded, and histological examination revealed a reactive fibrous nodule with chronic nonspecific inflammatory changes and abundant hemosiderin deposits. A CT scan of the head and neck showed no evidence of disease. The patient remained free of cutaneous disease, but died five years later due to lung neoplasm metastasis.

#### **Conclusion:**

Regression is a common occurrence in skin lesions of melanocytic, epidermal and lymphoid origin, and has also been documented in neuroendocrine tumors like Merkell cell carcinoma. However, this phenomenon is exceptionally rare in mesenchymal tumors. The mechanism of regression appears to be mediated by a T-cell inflammatory response and apoptosis, but its regulation is not yet fully understood. In melanoma, regression is associated with a lower incidence of sentinel lymph node positivity and is regarded as a positive prognostic factor. Similarly, in Merkel cell carcinoma, regression is associated with a favorable prognosis. Although only one case of complete regression in AFX has been reported in the literature, further studies are necessary to determine the prognosis in such cases.

# Unveiling the Unfamiliar: A Case Report of Primary Cutaneous Senile EBV-Related Diffuse Large B-Cell Lymphoma

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## **Introduction & Objectives:**

Lymphomas caused by EBV usually occur in immunosuppressed patients, but in rare cases, they can occur in patients with no known immunosuppression. Primary Cutaneous Senile EBV-Related Diffuse Large B-Cell Lymphoma (PcSEDLBCL) is one such rare form of lymphoma that is not entirely understood. In this case report, we present a patient with PcSEDLBCL in which the only immunosuppression factor identified was age.

#### **Materials & Methods:**

This clinical case report presents a retrospective analysis of a single patient diagnosed with PcSEDLBCL in a tertiary care hospital. The study adhered to ethical guidelines and obtained informed consent from the patient for publication of the case details.

#### **Results:**

A 79-year-old man was observed in a dermatology appointment for non-painful violaceous nodules that were progressively worsening in number and size over the previous 8 months. The patient had no fever, night sweats or weight loss and had no personal history of HIV, transplant or immunosuppressive medication. A biopsy of a nodule on the lower limb showed a dense non-epidermotropic infiltrate composed of large lymphocytes with morphological features consistent with a predominant population of centroblasts and immunoblasts.

Immunohistochemistry revealed positivity for CD20 and CD79A, suggesting a B cell lymphoma, and there was also positivity for EBV (EBER by in situ hybridization) and CD30. Bone marrow biopsy revealed a second T-cell Lymphoma with no signs of B-cell Lymphoma involvement. Physical examination was also relevant for bilateral inguinal adenopathy and left axillary adenopathy. A biopsy of an inguinal lymph node also showed T-cell Lymphoma without B-cell Lymphoma involvement.

The patient was diagnosed with Primary Cutaneous Senile EBV-Related Diffuse Large B-Cell Lymphoma (PcSEDLBCL) with synchronous systemic Non-Hodgkin T-Lymphoma and was treated with R-CHOP chemotherapy. The treatment was successful in resolving the skin lesions, but the patient continues to be monitored for residual mediastinal lymphadenopathy.

#### **Conclusion:**

This case highlights the importance of considering age as a risk factor for EBV-associated lymphomas. The patient had no other known risk factors for lymphoma, and the only immunosuppression factor identified was age. The biopsy of the nodule on the lower limb revealed a diffuse large B-cell lymphoma that was positive for CD30 and EBV, features that are typically seen in of PcSEDLBCL. Remarkable features of this case include the absence of extracutaneous involvement by the B-cell lymphoma and the synchronous diagnosis of a systemic non-Hodgkin T-cell lymphoma involving the lymph nodes and bone marrow without concomitant infiltration by neoplastic B-cells in these locations. The patient was treated with R-CHOP chemotherapy, which was successful in resolving the skin lesions, but the patient continues to be monitored for lymphadenopathy.

# Recruitment Results from the IMAGE Trial: Estimating the Proportion of Australians Eligible for Melanoma Surveillance Photography

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## **Introduction & Objectives:**

The IMAGE trial compares the use of melanoma surveillance photography (MSP) to clinical monitoring without MSP in high-risk patients to determine if MSP improves outcomes and is cost-effective. Patients were recruited via cancer registries and direct referral to obtain a representative sample of people who would be able to access MSP, if subsidised by the Australian Government.

#### Aim:

To estimate the proportion of high-risk population from registry-based referrals who might be eligible for subsidised MSP and predict future use.

### **Materials & Methods:**

From November 2021 to May 2022, the Victorian Cancer Registry (VCR) screened records of patients aged 18-75 years, diagnosed with their first cutaneous melanoma within the preceding 6 months and living within 100 km of a study site. A letter was sent to the patient's doctor, who could opt their patient out of a direct approach. Unless opted out, patients were sent a letter to seek consent for sharing their details with the nearest study site: Bendigo Health (BH), Bass Coast Health (BCH), or Skin Health Institute (SHI). Study sites contacted patients to assess eligibility based on criteria such as prior use of total body photography, number of naevi, high risk of melanoma determined by a validated risk tool and residing in Australia for the next 3 years.

From September 2022 to February 2023, The Cancer Alliance Queensland (CAQ) screened the Queensland Cancer Register (QCR) records of patients aged 18-75 years who had a diagnosis of cutaneous melanoma within the preceding two years. History of previous melanoma was not an exclusion criterion; all other criteria were as described above. Reminder letters were sent to non-responders after three weeks. Skin Repair Skin Cancer Clinic Townsville (Skin Repair Townsville, SRT), and the Diamantina Institute at the University of Queensland (UQ) contacted patients to assess eligibility for recruitment.

## **Results:**

The VCR sent approach letters to doctors of 899 cases, after which 67 patients (7%) were opted out by their

doctor. 356 patients (40%) provided consent to be contacted by trial sites. Of those, due to capacity and Covid limitations, SHI successfully contacted 155/316, BCH 11/11 and BH 29/29 of referred patients. A total of 48 patients contacted (25%) were enrolled in the trial; 4/11(36%) at BCH, 21/29 (72%) at BH, and 23/155 (15%) patients at SHI.

CAQ sent letters to doctors of 375 randomly selected Queensland residents from the QCR. The patient's doctor opted out 5 patients (1%). 167 patients (45%) provided consent to be contacted by trial sites; 127 (76%) to UQ and 40 (24%) to SRT. Of these, 65 patients (39%) were enrolled in the trial (50 from QCR and 15 from SRT).

In total, 113 of 322 (35%, 95% CI [30%, 41%]) potentially eligible patients contacted by sites were recruited to the IMAGE trial via the registry referral process. The most common reason for ineligibility was low naevus count. Across both states, 113 of 1274 patients approached by state registries were enrolled. Considering patients not contacted due to Covid as being effectively censored and using a Kaplan-Meier approach, this results in an estimated proportion of 13%, 95% CI [11%, 15%]

#### **Conclusion:**

Approximately 10 – 15% of patients aged 18-75 with recent melanoma diagnoses would be eligible for subsidized MSP, which translates to 1200 – 1300 patients per year in Australia based on 2022 projected incidence [1]. However, this proportion could be higher as some patients may prefer subsidised MSP outside of a clinical trial.

#### A Challenging Diagnosis: Plantar Pseudomyogenic Hemangioendothelioma

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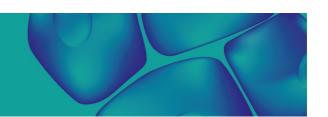
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**Introduction & Objectives:** Pseudomyogenic hemangioendothelioma (PHE) is a rare neoplasm that primarily affects young adults and typically presents as a painful, rapidly growing lesion. Herein, we report a case of plantar PHE that is challenging to diagnose clinically and histopathologically. This article aims to increase awareness among clinicians about the process of diagnosing PHE.

**Materials & Methods:** A 48-year-old female presented with a rapidly growing painful plaque on the plantar aspect of her right foot. The lesion had initially emerged as a small papule and rapidly turned into a well-circumscribed, firm papulonodular elevation with a size of 2 cm x 3 cm within three weeks. The plaque was not fixed to the underlying tissue. She had been diagnosed with herpes zoster and administered systemic antiviral and antibacterial treatments, which did not achieve any relief.\*\*

**Results:** A skin biopsy was obtained considering preliminary diagnoses of post-zoster hypertrophic scar, neuroma, leiomyoma, and granulomatous reaction. Histopathological examination revealed "Infiltration of neoplastic cells with wide cytoplasm, occasionally spindled and sometimes epithelioid morphology in the epidermis and dermis. Few areas are showing foamy islands, spindled and epithelioid morphology extending from superficial dermis to deep subcutaneous tissue. Vesicular nuclei with prominent nucleoli, abundant eosinophilic cytoplasm, atypical cell infiltration with rare mitoses and dyskeratosis. Along with perineural invasion, accompanied by neutrophilic and lymphocytic inflammatory infiltrate." The patient underwent surgical excision of the lesion with wide margins. Lymph node ultrasonography(USG), magnetic resonance imaging(MRI), positron emission tomography-computed tomography(PET-CT) showed no metastatic lesion before-surgery and two months after-surgery. The patient is still lesion free and her pain's relieved after a 6-month follow-up.\*\*

**Conclusion:** This case highlights the importance of considering pseudomyogenic hemangioendothelioma (PHE) in the differential diagnosis of soft tissue tumors, even in unusual locations such as the foot and rapidly growing, painful papulonodular lesions. It also emphasizes the importance of further research is needed to understand the etiology and optimal treatment options for this rare neoplasm.



#### The effect of AI assistance on human skin cancer diagnosis: a systematic review and meta-analysis

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**Introduction & Objectives:** Diagnostic tools based on artificial intelligence (AI) have rapidly emerged for skin cancer diagnosis, showcasing a level of diagnostic accuracy in image recognition tasks on par or better than dermatologists. However, there is limited evidence regarding the impact of AI assistance on diagnostic decisions made by medical professionals. This study aims to investigate the effect of AI assistance on the diagnostic accuracy of skin cancer diagnosis.

**Materials & Methods:** We performed a systematic review and meta-analysis of peer-reviewed papers published between January 1, 2017, and November 8, 2022, obtained from PubMed, Embase, IEE Xplore, Scopus, and conference proceedings. The inclusion criteria encompassed studies that compared the diagnostic performance of medical professionals with and without deep-learning based AI assistance for at least one type of skin cancer. Summary estimates of sensitivity and specificity of diagnostic accuracy with versus without AI assistance were computed using the bivariate random effects model. This study is registered with PROSPERO (CRD42023391560).

**Results:** Among the 2,983 studies initially identified, ten studies were deemed eligible for inclusion in the meta-analysis. The pooled sensitivity of medical professionals without AI assistance was 74·8% (95% CI 68·6-80·1), with a specificity of 81·5% (95% CI 73·9-87·3). However, when medical professionals were aided by AI, the overall sensitivity and specificity increased to 81·1% (95% CI 74·4-86·5) and 86·1% (95% CI 79·2-90·9), respectively.

**Conclusion:** Our findings indicate that AI assistance may positively impact the diagnostic accuracy of medical professionals in skin cancer diagnosis. Nonetheless, considering that most studies were conducted in experimental settings with varying designs, further investigation is warranted to evaluate the effect of AI assistance in real-world clinical settings.

# Ulcerative presentation of leukemia cutis in a patient with therapy-related pre-B-cell acute lymphoblastic leukemia: A case report

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# Ulcerative presentation of leukemia cutis in a patient with therapy-related pre-B-cell Acute Lymphoblastic Leukemia: A case report

## **Introduction & Objectives:**

Leukemia cutis (LC) is a rare extramedullary manifestation of leukemia and is usually associated with an advanced course of the disease. It is exceptionally seen in acute lymphoblastic leukemia (ALL), representing only 1-3% of all cases.

#### **Materials & Methods:**

We report the first case of an ulcerative presentation of LC due to therapy-related precursor B-cell ALL.

#### **Results:**

An 18-year-old woman who was referred to us for presenting involvement of the left labia majora, with swelling, induration, and the presence of a 1.5 x 1.5 cm ulcer with well-defined regular borders and the presence of fibrin in 80% of the wound bed. The ulcer was painless and had been present for 2 weeks. Her laboratory analyses showed leukocytosis, neutropenia, lymphocytosis, anemia, and thrombocytopenia, and the peripheral blood smear revealed 35% blasts. Her medical history included the diagnosis of Ewing's sarcoma IV in March 2022. She received treatment with 8 cycles of the VDC/IE regimen and 5 sessions of radiotherapy, having the last one in November 2022. A biopsy was taken with the clinical suspicion of leukemia infiltration versus Ewing's sarcoma metastasis. The biopsy revealed infiltration by pre-B ALL (PAX 5+, CD79a +, TDT +). The biopsy and bone marrow aspirate confirmed the diagnosis. FISH study for translocation 9:22 was negative, and cytogenetic testing revealed a complex karyotype with del(5) (q31q33), del(17)(p11.2). The patient received induction with CALGB 10403. However, she presented multiple complications associated with chemotherapy and her underlying disease, and she died on day 20 after the start of induction.

LC is extremely infrequent, mostly affecting patients with acute myeloid leukemia (10-15%) and chronic lymphocytic leukemia (4-20%). Cutaneous infiltration in patients with ALL is exceptionally rare, representing 1-3% of all cases, most of which are reported as deriving from T-cell lineage ALL.

There is little information available on the subject, with only 14 cases (Table 1) of LC pre-B ALL reported in the literature. Although the clinical findings of LC vary widely, it is most often described as asymptomatic, dome-shaped erythemato-violaceous papules, nodules or plaques, and less commonly as macules, erythroderma or ulcers, among others.

This case is of special interest because, to our knowledge, it is the first case of LC pre-B ALL secondary to chemotherapy that presented as a genital ulcer. Patients with therapy-related ALL (t-ALL) represent 3-9% of all adult ALL. Unlike *de novo* ALL, patients with t-ALL have a high proportion of poor-risk cytogenetic features (MLL

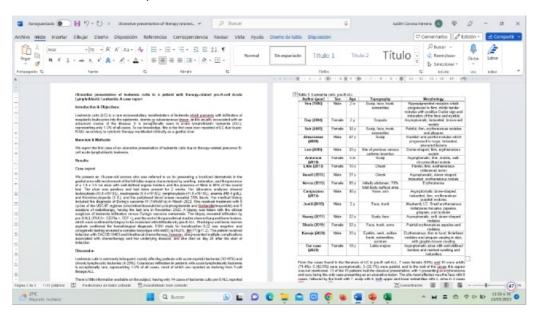
rearrangement), which are associated with lower overall survival compared to patients with de novo ALL.

## **Conclusion:**

It is important to be aware that patients with a history of chemotherapy or radiation therapy may develop t-LLA. When there are skin lesions present, it is crucial to distinguish between a secondary (new) neoplasm versus a recurrence of a known primary, as the treatment and prognosis will differ greatly.

Cutaneous manifestations of leukemia can be very polymorphic and may mimic a great number of dermatological conditions, making the diagnosis of LC challenging; therefore, it is critical to always consider ulcers among the ample range of possible presentations.

Table 1. Leukemia cutis pre-B ALL



#### Coexpression of CD4 and CD8 T-cell phenotype in hypopigmented mycosis fungoides

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## **Introduction & Objectives:**

Mycosis fungoides (MF) is the most common subtype of cutaneous T-cell lymphoma, but with potential involvement of lymph nodes, blood, and viscera. Hypopigmented mycosis fungoides (HMF) is a rare clinical variant of MF, which presents with hypopigmented macules or patches predominantly on non-sun-exposed areas that are commonly pruriginous. MF normally presents a T-helper cell immunophenotype with a CD4+/CD8-profile. However, it is reported a cytotoxic CD8+ phenotype in less than 5% of cases.

#### Materials & Methods:

We communicate the case of a 29-year-old male who presented with a 14-year history of gradual skin hypopigmentation and occasional pruritus, with no previous treatment received. During physical examination were observed generalized and symmetrically distributed predominantly in trunk and proximal region of extremities, multiple round-to-oval hypopigmented patches, with faintly scales on the surface, diffuse borders, and some slightly erythematous hypopigmented plaques.

#### **Results:**

Skin biopsy showed acanthosis and focal epidermotropism in the epidermis with superficial perivascular infiltrate of atypical lymphocytes in dermis.

Immunohistochemical staining showed neoplastic T cells positive for CD3+, CD4+ and CD8+. Peripheral blood cell count was normal. No lymphadenopathy or internal organ involvement was detected. Based on these findings, a diagnosis of CD4+/CD8+ hypopigmented mycosis fungoides stage IB was made.

#### **Conclusion:**

MF has mature CD3+, CD4+, CD8- T-cell phenotype in most cases. Double positive CD4+/CD8+ phenotype is extremely rare, only reported in less than 4% of cases in contrast to typical CD4+/CD8- phenotype seen in the more than 79%. Additionally, it is observed that HMF presents a predominantly CD4-/CD8+ immunophenotype in 94.74% of cases. Also, It is detected that patients with coexpression of CD4 and CD8 had a slightly lower rate of progressive disease compared to patients with conventional CD4+/CD8- phenotype (10.0% vs 27.8%), accomplishing that progression is better for CD4+/CD8+ cases.

In conclusion, double positive CD4+/CD8+ phenotype in HMF is very unusual. So far, there is no specific MF clinical presentation for the immunophenotype variants. Likewise, more studies are needed to strength any association.

#### Factors affecting the course and outcome of benign dystrophic diseases of the vulva

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**Introduction & Objectives:** Dystrophic diseases of the vulva (DDV) include an extensive group of diseases of the female external genitalia, which are based on the processes of collagen disorganization. The pathogenetic mechanism of the development of various stages of neoplasia is more often induced by hormonal changes that occur in menopausal and postmenopausal periods. This, to a certain extent, determines the fact that vulvar cancer occurs in women of relatively advanced age. Accordingly, the lack of timely treatment and prevention of neurodystrophic processes of the genitals is also an important factor that can lead to vulvar cancer. In this regard, the purpose of our work was to study some clinical, anamnestic, microbiological features in patients with dystrophic diseases of the vulva.

**Materials & Methods:** The study of social and medical factors influencing the possible causes of DDV and adherence to therapy was assessed on the basis of anonymous questionnaire data. According to specially developed questionnaires, compiled to solve a scientific and practical task, 88 women with DDV were tested at the age of 18 to 68 years. For analysis, 30 main indicators (features) were selected, which were coded according to the scale-point system. At the same time, microbiological and PCR testing of women for infections of the urogenital tract was carried out.

**Results:** The high frequency of domestic stress (67.0%) could be dictated by the presence of DDV due to increased anxiety and suspiciousness, just as emotional stress itself could contribute to the formation of the disease. These conditions also contribute to low adherence to treatment and the formation of a "vicious circle" when the mutual influence of the peripheral process on the central nervous system is fixed and vice versa. The results of microscopic examination of the genital tract discharge showed that among the examined patients, 54 (61.4%) had fungi of the genus Candida, 25 (28.4%) had signs of bacterial vaginosis (Gardnerella vaginalis). Ureaplasma Urealyticum was detected from 29 (32.9%) out of 88 examined persons. Other bacterial pathogens were also detected: in 13 (14.8%) cases, Staphylococcus epidermidis was isolated, in 39 (44.3%) - Enterobacter, in 7 (7.9%) - Streptococcus haemolyticus, in 2 (2.3%) - Streptococcus saprophyticus and in 3 (3.4%) - Staphylococcus aureus. When examining scrapings of urogenital tract (UGT) separated by PCR diagnostics for the presence of viruses, it was revealed that among 88 patients, in 11 (12.5%) cases, Herpes Simplex Virus type II (HSV-II) was detected, in 14 (15.9%) - Herpes Simplex Virus type I (HSV I), in (13.6%) - Cytomegalovirus (CMV), in 21 (23.8%) - Human Papillomavirus (HPV) 16/18, in 3 (3.4%) - HPV 31/33, in 2 (2.3%) cases - Chl. trachomatis, in 3 (3.4%) Myc. Genitalium. In general, in 61.4% of patients with dystrophic diseases of the vulva, concomitant pathogenic and conditionally pathogenic microflora was detected in the lesions.

**Conclusion:** Thus, the direct involvement of STIs in the development of genital neoplasms has not yet been proven, however, there are a number of works, including ours, indicating an increased incidence of some STIs in dystrophy and the initial stages of dysplasia of the vulva, vagina, and cervix. The mechanism of influence of STIs on the formation of vulvar dystrophy can be both direct and indirect.

## Pandemic-associated delayed melanoma diagnosis in Europe: Modelling of years of life lost and economic costs

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## **Introduction & Objectives:**

The most recent pandemic resulted in delayed access to medical care. Governmental decisions to restrict access to healthcare specialists, staff shortages, and individuals' fear of a COVID-19 infection resulted in an interruption of routine medical care. We investigated the premature mortality and economic costs that resulted by estimating the total burden of delayed melanoma diagnosis for Europe.

#### **Materials & Methods:**

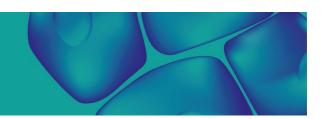
We used a dual modelling approach by developing an estimation of melanoma upstaging rates in AJCC stages based on published data and then verifying it with peri-pandemic real-world data from two European centers. Years of life lost (YLL) were calculated and were, together with cost data, used for financial estimations. Data from different European cancer registries included patient-based direct and indirect cost data, country-level economic indicators, melanoma incidence, and population rates per country.

#### **Results:**

For Europe, estimates for YLL due to the pandemic-associated delay in melanoma diagnosis in Europe are 111,464 (range of 50,137 to 282,023 years) and estimated total additional costs are 6.89 billion Euro (range of 2.3 to 13.1 billion Euro). These costs account for 0.33% (range of 0.11% to 0.63%) of the European health expenditure. We identified indirect treatment costs as the main cost driver, accounting for 94% of the total costs.

#### **Conclusion:**

This modelling study emphasizes the importance of early cancer detection during, but not limited to, the COVID pandemic. In addition to the obviously devastating personal effects of a delayed melanoma diagnosis, our work sheds light on the additional economic and public health consequences and highlights the need to also include indirect economic costs into future decision-making processes.



#### Polymorphic cutaneous post-transplant lymphoproliferative disorder in a lung transplant patient

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#### Polymorphic cutaneous post-transplant lymphoproliferative disorder in a lung transplant patient

**Introduction & Objectives**: Post-transplant lymphoproliferative disorders (PTLD are lymphoid and plasmacytic proliferations that can occur in individuals who have received solid organ or allogeneic hematopoietic cell transplants, due to the immunosuppression and decreased T cell immune surveillance. In most affected patients, PTLD is caused by the proliferation of Epstein-Barr virus-infected B cells and can present as a wide range of clinical manifestations, from benign lymphoid hyperplasia to aggressive lymphomas.

**Materials & Methods**: We present the case of a 69-year-old man who underwent a lung transplant in 2020 for idiopathic pulmonary fibrosis. He sought medical attention due to the appearance of a plaque on his left knee about three months prior to the visit. The physical examination revealed an erythematous violaceous plaque with indurated hyperkeratotic nodules that were painless and mildly pruritic.

**Results**: A skin biopsy was performed on one of the nodules which showed a mixed polymorphic infiltration with a plasmacytic and B lymphocytic component (CD20+, CD79a+) associated with a T-type lymphocytic component (CD3+). There were also some areas of necrosis and scattered Reed-Stemberg type cells (CD30+). Evaluation using in situ hybridization methods with RNA probe (EBER) highlighted the presence of EBV in many lymphoid elements, while the molecular investigation revealed a clonal rearrangement for the immunoglobulin heavy chains. Based on the morphological, immunohistochemical, and molecular characteristics (EBER mRNA), a diagnosis of EBV-related PTLD was made.

**Conclusions**: Polymorphic PTLD (P-PTLD) is characterized by the presence of a monoclonal infiltrate of B lymphocytes in all stages of maturation, which subverts and destroys the architecture of the affected tissue but does not fully meet the diagnostic criteria for lymphoma. Immunophenotypically, B lymphocytes show monoclonal rearrangement of immunoglobulin genes, and EBV is usually evident within tumor cells by in situ hybridization. P-PTLD can occur at any time after transplantation, and reducing immunosuppression is the main therapeutic strategy. Patients who do not respond to this treatment may require more aggressive therapeutic options, such as immunotherapy with monoclonal antibodies (rituximab), chemotherapy, or a combination of both.

In conclusion, despite its rarity, PTLD should be considered in the differential diagnosis of late-onset skin complications in solid organ transplant recipients.

Seeing Beyond the Surface: Dermoscopic Clues for the Diagnosis of Cutaneous Angiosarcoma in Different Body Sites

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## **Introduction & Objectives:**

Angiosarcomas are rare, aggressive tumours associated with a high risk of recurrence and metastasis and, therefore, severe with very high mortality. Cutaneous angiosarcoma (CA) can pose diagnostic challenges due to its subtle clinical presentation. Dermoscopy has emerged as a helpful tool to aid in diagnosing it. CA commonly occurs in older people, typically in the head and neck region, particularly on the scalp. However, it can also arise in other body sites. We present a case series of four patients with CA in four different body sites: scalp, breast region, shoulder, and tongue. We describe detailed clinical and dermoscopic features of each case, where diagnoses were confirmed histopathologically, but dermoscopy aided the diagnosis by highlighting the characteristic colour gradations variable red (light and dark) to purple or purple to bluish, patterns and structures specific for each body side.

#### Conclusion:

Our case series can guide clinicians toward a correct suspicion, facilitate early detection and appropriate management of this rare tumour. The limited literature on dermoscopy of CA highlights the need for further research in this field and the importance of documenting these cases to improve understanding and aid in diagnosis.

#### AngioImmunoblastic T CELL LYMPHOMA

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## **Introduction & Objectives:**

Angioimmunoblastic T-cell lymphoma (AITL) is a mature T-cell lymphoma characterized by a sudden onset of fever, night sweats, weight loss, lymphadenopathy, hepatosplenomegaly, leucocytosis, immune disease, pleural effusion, ascites, and edema. Cutaneous manifestations include maculopapular, urticarial, vesicular and nodular lesions and tumors. Histopathology findings are subtle. Immunohistochemistry of lymphnode is essential for diagnosis.

#### Materials & Methods:

We present a case report of A 67 year old who presented to us with Varied cutaneous morphological lesions nodular lesion, maculopapular, purpuric lesion, vesicular and urticarial lesions, along with Axilary lymphadenopathy.

Skin Biopsy findings were subtle. Complete blood count showed eosinophilic neutrophilic leucocytosis and anemia. Ultrasound abdomen and pelvis was normal. Computed Tomography scan of the neck showed enlarged adenoids, tonsils & multiple enlarged bilateral cervical, left axillary

and upper mediastinal lymph nodes.

Immunohistochemistry and Axillary lymph node biopsy was done which confirmed the diagnosis of Angioimmunoblastic T Cell Lymphoma.

## **Results:**

This is a rare presentation angioimmunoblastic T cell Lymphoma in a male elderly patient who presented with 4 different cutaneous morphologies and axillary lymphadenopathy

## **Conclusion:**

This case is being presented to make dermatologists aware of this rare and unusual lymphoma which presents with varied cutaneous manifestations and subtle histological findings which frequently pose a diagnostic challenge in clinical practice. Complete investigations including histopathological evaluation, lymph node biopsy and immunohistochemistry are essential for diagnosis and staging.

## Complete response to immunotherapy in recurrent unresectable desmoplastic melanoma: A report of two cases

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#### **Introduction:**

Desmoplastic Melanoma (DM) is a rare variant of melanoma characterized histologically by the presence of a dense fibrotic matrix and amelanotic spindle-shaped melanocytes. Clinically, it presents as an indurated skin-colored nodule affecting areas with abundant sun damage. Unlike conventional melanoma, it has a high mutation rate in genes such as NF1 but not in BRAF. Immunohistochemically, it shows a higher positivity for PD-L1. DM often presents with a higher Breslow index at diagnosis compared to other melanomas, increased neurotropism, and higher rates of local recurrence. The initial management of localized DM is surgical. The role of sentinel lymph node biopsy is controversial due to the lower risk of lymphatic spread.

For the treatment of metastatic or locally advanced DM, first-line immunotherapy (IT) with pembrolizumab is the treatment of choice, with response rates of up to 70% in patients.

## **Case report:**

We present two cases of recurrent DM, not suitable for surgery, located on the nasal wing in a 27-year-old woman and on the ear helix in a 68-year-old male, who have shown a complete clinical and radiological response to IT treatment. It is noteworthy that both cases showed an early response without associated adverse effects.

## **Conclusion:**

While IT is established as the first-line treatment for advanced stages, its role in localized DM, where it is reserved for off-label use only, is not well established. There is a growing interest in current clinical trials and recent publications to extend the benefits of IT to early stages of DM as neoadjuvant therapy. Considering the predilection of DM for aesthetically or functionally critical areas such as the head and neck, where adequate margins cannot always be achieved surgically, we believe it is important to gather more evidence in clinical practice regarding IT in unresectable localized DM.

Expression of angiogenic and lymphangiogenic genes in primary cutaneous melanoma. Relationship with angiolymphatic invasion mour and with disease-free survival.

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## **Introduction & Objectives:**

Melanoma is one of the most common cancers in the world. In 2023, an estimated 97,610 new cases will be diagnosed, and 7,990 individuals will die from the disease in the US, according to the American Cancer Society. Two main routes for tumor progression are angiogenesis and lymphangiogenesis. These routes may be triggered by angiolymphatic invasion (ALI). The aim of the study is to establish if there is any expression profile of the main genes involved in angiogenesis/lymphangiogenesis that correlates with the presence of ALI in primary tumour or with prognosis in patients with melanoma.

#### **Materials & Methods:**

This series includes 1) patients showing morphological detected ALI in the primary cutaneous MM sample followed by the Melanoma Unit in our Centre from 2002 to 2017, and 2) a group of consecutive patients attending their follow-up at the Melanoma Unit who accepted to be recruited for the study. We assessed gene expression (using qPCR) of VEGFR2 (a relevant biomarker of angiogenesis) and LYVE-1 (a main biomarker of lymphangiogenesis) in 80 FFPE melanoma samples (63 without ALI and 17 with ALI) in order to identify a molecular signature that correlates with the presence of ALI in routine morphological study of the primary tumour, the occurrence of tumour progression and the disease-free survival. A post-transcriptional analysis of both protein 's expression by an immunofluorescence assay was performed in tumour samples to complete gene expression study. In addition, three SNPs in the *VEGFR-2* gene were genotyped in 237 MM blood DNA samples by qPCR using TaqMan probes: rs7692791, rs1870377, rs2305948. In other tumours, these SNPS are related to DFS. The study was approved by the local Ethics Committee.

## **Results:**

Age, Breslow index, anatomo-pathological ulceration (APU), and positive *LYVE-1* gene expression are independent factors for the presence of ALI (OR=4.28; 95%CI=1.21-14.96; p=0.024), A significant correlation was found for *LYVE-1* and ALI, qualitatively (p=0.017) and quantitatively (p=0.005). An increased expression of protein LIVE-1 in ALI samples supported these results (p=0.032). *VEGFR2* gene expression was lower in patients who showed disease progression (OR=0.256; 95% C.I.=0.098-0.672; p=0.005). Accordingly, protein VEGFR2 postranscripcional expression was also decreased (p=0.016) in samples corresponding to this group of patients. DFS curves showed a significant difference (p=0.023) for patients with positive *VEGFR2* expression (126.86 months; 95% C.I: 99,17-154,55) compared to those without *VEGFR2* expression (73.29 months; 95% C.I: 45.25-101.32). No significant influence on DFS was detected for expression of LYVE-1 gene. Cox regression analysis considering Breslow index, APU, and baseline staging suggested that *VEGFR2* expression has a protective role (HR=0.728; 95% C.I=0.552-0.962; p=0.025) on disease progression. No significant association was found between any of the studied SNPs of

*VEGFR2* and either DFS nor progression rate. As expected, Breslow index, APU, and baseline clinical stage were independent markers for disease progression.

## **Conclusion:**

In patients with melanoma: 1) *LYVE-1* gene expression is closely related to the presence of ALI in routine morphological study of the primary tumour; the relationship with the development of metastases in MM deserves further studies. 2) Low expression of *VEGFR2* was associated with disease progression and the expression of *VEGFR2* correlates with an increased DFS.

## A case of association of cutaneous centrofollicular B lymphoma and anaplastic lymphoma of the lymph nodes

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## **Introduction & Objectives:**

Primary cutaneous centrofollicular B-cell lymphoma is a low-grade B-cell lymphoma whose lesions are fixed erythematous papules or nodules, usually multiple, although often grouped in a restricted cutaneous territory, preferentially affecting the cephalic extremity and the trunk.

Anaplastic large cell lymphoma is a rare T-cell lymphoma. There are two types of anaplastic lymphoma: -Primitive cutaneous anaplastic lymphoma and primary systemic anaplastic lymphoma which affects the lymph nodes and several organs.

We present a case of association of a cutaneous centrofollicular B lymphoma and a lymph node anaplastic lymphoma in the same patient.

#### **Materials & Methods:**

This is a case report

The patient was a 51-year-old chronic smoker who presented with a nodular mass of the back that had been evolving for 6 months in the context of apyrexia, without any other associated signs. The clinical examination found a rounded nodule of 10 cm in diameter on the back, erythematoviolet in color, surmounted by fine telangiectasias, warm to palpation, painless, infiltrated, fixed in relation to the superficial and deep plane. No palpable cervical, axillary or inguinal adenopathies.

The biopsy of the mass was compatible with a centrofollicular lymphoma of primary appearance with positive anti-CD20, anti-Bcl 2, and anti-Bcl 6 antibodies on immunohistochemistry. Anti-CD3 and anti-CD5 antibodies were negative.

Ultrasound scanning of the lymph nodes individualized multiple adenopathies in the right axillary fossa with a roughly rounded shape. The lymph node biopsy showed a large cell malignant tumor proliferation, with immunohistochemistry consistent with a lymph node localization of ALK-negative anaplastic lymphoma. Anti-CD20, anti-CD3, anti-ALK, and anti-CK antibodies were negative, with a moderate nuclear expression of 70% of the infiltrating carcinoma cells of the anti-Ri67 antibody.

Thoracoabdomino-pelvic scan noted no secondary thoracic, abdominal, or pelvic localization. The patient was referred to hematology for medical management with R-CHOP combination therapy of rituximab, cyclophosphamide, doxorubicin, vincristine and prednisone.

## Results:

The association of cutaneous centrofollicular B lymphoma and anaplastic lymphoma in the same patient is rare. The diagnosis is based on anatomopathological and immunohistochemical studies.

It is important to perform an extension workup and to propose, in case of a single lesion, radiotherapy or surgical

excision.

Chemotherapy is proposed to treat anaplastic large cell lymphoma based on the R-CHOP protocol.

In our case, the patient received a polychiomitherapy with a progressive regression of the tumor from the second treatment.

## **Conclusion:**

The association between different types of lymphoma in the same patient remains a possibility that should not be ignored.

# Significance of HLA-DR in differentiating erythrodermic cutaneous T-cell lymphoma from benign erythroderma in flow cytometry

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## **Introduction & Objectives:**

Erythroderma is a striking clinical condition that can stem from a variety of illnesses. Differentiating erythrodermic cutaneous T-cell lymphoma (E-CTCL) from erythrodermic inflammatory dermatoses (EID) is quite challenging, because of their clinical resemblance. EID is always caused by inflammatory disorders, including drug eruption, eosinophilic dermatoses (ED), eczema, and so on. As skin biopsy lacks sensitivity in diagnosing E-CTCL, flow cytometry is an adjunct tool for CTCL diagnosis. Here, we retrospectively reviewed flow cytometric results of 73 erythroderma patients, with the aim of identifying immunological features that diagnose E-CTCL and differentiate it from EID patients.

#### **Materials & Methods:**

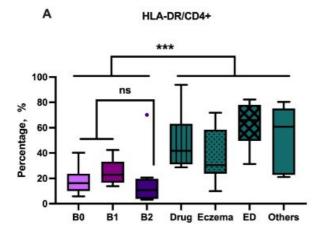
This cohort study reviewed flow cytometric results of 73 erythroderma patients (34 E-CTCL, 39 EID) from a single institution. The peripheral blood samples were collected, prepared, and analysed by a standard red blood cell lysis method. The flow cytometry panel tested white blood cell markers (CD45), T-cell markers (CD2, CD3, CD4, CD5, CD7, CD8, CD26, CD45RA, CD45RO, TCR $\alpha\beta$ , and TCR $\gamma\delta$ ), B-cell markers (CD19), T-cell activation markers (CD25 and HLA-DR), and Th-cell differentiation markers (CXCR3, CCR4 and CCR6). We analyzed data in SPSS version 23, considering two-sided statistical significance with P < 0.05.

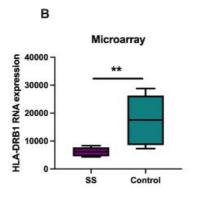
## Results:

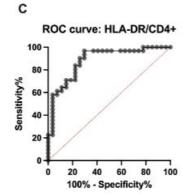
Within the lymphocyte gate, 25.9% (7/27) of E-CTCL patients showed exclusive CD4+CD7-/LC  $\geq$  40% (P = 0.009, specificity: 100%). However, the two groups showed no significant difference in CD4+CD26-/LC  $\geq$  30% (sensitivity: 37.0%, specificity: 77.4%, P = 0.228). Moreover, HLA-DR, an activation marker of lymphocytes, was significantly higher in EID patients' CD4+ T cells (median: 49.80%, IQR: 30.50%-70.00%) than in those of E-CTCL patients (median: 16.40%, IQR: 10.60%-26.20%) (P = 0.000, Figure A). In addition, using B0-1 stage E-CTCL as a comparator, the percentage of HLA-DR on CD4+ T cells showed a tendency to decrease in the B2 stage, although the *P* value was not significant (B0-1: n=19, median: 18.70%, IQR: 14.30%-31.90%; B2: n=8, median: 10.68%, IQR: 3.75%-19.6%; P = 0.098, Figure A). The mRNA expression level of HLA-DRB1 was significantly lower in CD4+ T cells of SS than that of healthy controls (SS: n=6, median: 6177, IQR: 4515-7725; Control: n=8, median: 17503, IQR: 8563-26285; P = 0.005, Figure B). Furthermore, HLA-DR+/CD4+ T cells percentage distinguished E-CTCL from EID, with 20.85% as the threshold (sensitivity: 96.77%, specificity: 70.37%, P = 0.000, AUC: 0.882, Figure C).

#### **Conclusion:**

To conclude, the peripheral CD4+ T cells of E-CTCL patients show reduced T-cell activation marker HLA-DR expression, indicating an abnormal immunophenotype of tumor cells or an altered host immune milieu. HLA-DR may be a useful adjunct in the differential diagnosis of E-CTCL from EID. However, validations by independent cohorts with large sample sizes are warranted.







Cut-off value: ≤20.85 AUC: 0.882 P value: 0.000

#### The Effect of Gold and Silver Nanoparticles on Metastatic Melanoma Cell Line

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## **Introduction & Objectives:**

Nanoparticles are considered promising agents due to their biocompatibility and ability to deliver drugs. Gold nanoparticles have been extensively studied and have demonstrated potential applications in photothermal and photodynamic therapy, drug delivery, immunology, and molecular imaging. Silver nanoparticles have been tested for inhibitory effect of tumor growth in various types of cancer, including melanoma. The study aims to evaluate the antiproliferative effects of gold and silver nanoparticles phytoreduced with polyphenols from *Viburnum opulus* fruits on human metastatic melanoma line cells and the mechanisms involved.

#### **Materials & Methods:**

Both nanoparticles were characterized by UV–Vis, Fourier-transform infrared spectroscopy, and transmission electron microscopy. The biological effects were evaluated on human metastatic melanoma cell line (A375) in terms of viability, oxidative stress, inflammation and cell death mechanisms, compared to a normal human endothelial cell line obtained from the umbilical vein (HUVECs). For quantification of inflammation, IL-6 was measured and for apoptosis evaluation, the caspases 3, 8, and 9 were determined. *In vitro* toxicity of both nanoparticles was assessed through cell viability tests and by measurement of malondialdehyde as a marker of lipid peroxidation.

## **Results:**

The study found that *Viburnum opulus* fruit extract can be used as a green, cost-effective, and eco-friendly method for producing gold (AuVO) and silver nanoparticles (AgVO) with toxicity at high doses. Both nanoparticles induced oxidative stress and reduced IL-6, and caspases 3, 8 and 9 levels on normal cells while on tumor cells the effects depended on the type of nanoparticles. Thus, AgVO decreased lipid peroxidation in A375 melanoma cells and diminished the caspase-3 in parallel with increasing of caspase-8 and 9 levels. AuVO maintained high levels of IL-6 on tumor cells and increased caspase 8 activity.

#### **Conclusion:**

Although AuVO decreased cell viability and induced inflammation and apoptosis in melanoma cells, they were not able to definitively induce cell death in metastatic melanoma. AgVO partially activated extrinsic apoptotic mechanisms and ensured their protection through the antioxidant and anti-inflammatory effect. The results obtained are promising, but require further extensive studies to evaluate their properties *in vitro* and *in vivo* for using them in melanoma treatment.

#### Brentuximab in the treatment of Sézary Syndrome: a clinical case

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## **Introduction & Objectives:**

Advanced cutaneous T-cell lymphoma (CTCL), such as Sézary Syndrome (SS) has a poor prognosis, with limited therapeutic options. Apart from allogenic stem cell transplantation, there is no curative treatment available. Brentuximab vedotin is an anti-CD30 monoclonal antibody approved for refractory CD30+ CTCL, with promising results, but data on its efficacy in SS is limited.

#### Materials & Methods/Results:

#### Case Report

A 57-year-old man was referred due to a generalized erythematous rash with 3 year-evolution. He reported rapid worsening, with the appearance of ulcers, unbearable pruritus, and progressive weight loss. He denied fever or nocturnal sweating. On physical examination, the patient was erythrodermic, with multiple, scattered, ulcerated tumors and palpable axillary and inguinal adenopathies. Skin biopsy showed lymphoproliferative disease with expression of CD3, CD4 and CD30 and a cervico-thoraco-abdomino-pelvic CT demonstrated generalized adenopathies, without visceral involvement. In the peripheral blood, immunophenotyping revealed the presence of Sézary cells greater than 1000 cells/microL. With these findings, the diagnosis of SS was made. The patient started treatment with oral methotrexate (30mg/week) and extracorporeal photopheresis (20 sessions), with progression of the disease, with new tumor lesions appearing, the largest extending from the right iliac fossa to the root of the ipsilateral thigh, with ulceration reaching the muscular plane. Fifteen sessions of localized radiotherapy were performed with little improvement. The case was discussed by a multidisciplinary board, with dermatology and hematology, and it was decided to start treatment with brentuximab in June 2021, at the time, still an off-label treatment in Europe. The patient had an excellent response, with resolution of erythroderma, pruritus control and regression of most tumor lesions in the first 3 months. Unfortunately, after 9-months, the treatment failed, with development of erythroderma and new tumoral lesions. At this point, treatment with mogamulizumab was considered, but the patient's condition deteriorated rapidly, and he died one month later.

## **Conclusion:**

Treatment options for SS are very limited and associated with low responses. Brentuximab was approved in Europe, in December 2021, to the treatment of CD30+ CTLC, after at least one previous systemic treatment. In clinical trials, it has shown to be more effective than bexarotene and methotrexate, with longer progression-free survival time, but with no improvement in overall survival. However, because patients with high Sézary cell counts were excluded from clinical trials, data on its efficacy in SS is still limited. In a small series, brentuximab\*\* demonstrated some efficacy in refractory SS cases, with a 38% response rate and a median duration of response of 5.5 months. Interestingly, the response was not associated with the CD30 cellular expression rate. Additionally, brentuximab has a low incidence of toxic effects, being usually well-tolerated. The presented case reinforces the role of brentuximab as a promising and safe alternative in the treatment of SS.

Tumour burden reduction in patients with locally advanced basal cell carcinoma who responded to sonidegib 200 mg within 9 months of initiating treatment: Results of the 42-month BOLT study

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## **Introduction & Objectives:**

Sonidegib, a Hedgehog pathway inhibitor, is approved for the treatment of locally advanced basal cell carcinoma (laBCC) not amenable to curative surgery or radiation. The pivotal 42-month BOLT study demonstrated sustained efficacy and manageable safety of sonidegib. This analysis presents the effect of sonidegib 200 mg daily on tumour burden in patients with laBCC, categorised by time to first response within 9 months of starting treatment.

#### **Materials & Methods:**

The BOLT study was a double-blind, randomised, Phase 2 study. Change from baseline (CFB) in tumour size was assessed by colour photography and magnetic resonance imaging (MRI) per central and investigator review. Tumour response was defined as a >10 mm unidirectional decrease. Safety assessments included adverse event (AE) monitoring.

## **Results:**

Overall, 66 patients with laBCC received sonidegib 200 mg daily. Among patients who responded to treatment within 9 months, most responded within the first 6 months (colour photography, central [83.0%] and investigator [96.4%] review; MRI, central [85.2%] and investigator [100%] review).

For patients who responded to treatment between 3 to 6 months, the mean percent (standard deviation [SD]) CFB in tumour size reduction assessed by colour photography at Week 17 was -43.7% (35.6) and -48.6% (42.8) per central and investigator review, respectively. The mean percent (SD) CFB in tumour size at Week 33 for patients who responded to treatment within 6 to 9 months, was -56.5% (32.0) and -23.2% (1.0) per central and investigator review, respectively. For patients who responded to treatment between 3 to 6 months, the mean percent (SD) CFB in tumour size at Week 17 when assessed by MRI was -42.5% (22.9) and -48.2% (34.5) per central and investigator review, respectively, and -58.0% (11.2) for a response within 6 to 9 months at Week 33, per central review. No patients were classified as responders to treatment between 6 to 9 months by MRI per investigator review. Most AEs were Grades 1/2 in severity with the most common AEs including muscle spasms (54%), alopecia (49%), and dysgeusia (44%).

## **Conclusion:**

Patients with laBCC who responded in  $\leq$ 6 months to sonidegib treatment demonstrated the largest reduction in tumour burden.

Duration of response to sonidegib 200 mg daily treatment per best overall response in patients with locally advanced basal cell carcinoma: Results of the 42-month BOLT study

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## **Introduction & Objectives:**

Sonidegib, a Hedgehog pathway inhibitor, is approved for the treatment of adult patients with locally advanced basal cell carcinoma (laBCC) not amenable to curative surgery or radiation therapy. The pivotal BOLT study demonstrated sustained efficacy of sonidegib through 42 months. This analysis presents the duration of response (DOR) based on the best overall response to treatment with sonidegib 200 mg daily.

#### **Materials & Methods:**

The BOLT study was a double-blind, randomised, Phase 2 study. Patients were randomised in a 1:2 ratio to receive sonidegib 200 or 800 mg orally once daily, respectively. Tumours were assessed by colour photography and magnetic resonance imaging (MRI) per central and investigator review. Treatment response was classified as either complete response (CR), partial response (PR), or stable disease. Adverse events (AEs) were evaluated.

## **Results:**

Overall, mean follow-up was 25.4 months in patients with laBCC (n = 194). Among patients with laBCC who received sonidegib 200 mg daily (n = 66), CR or PR was achieved by 42.9% and 80.3% of patients (colour photography) and 74.3% and 58.8% of patients (MRI) per central and investigator review, respectively.

The median (95% confidence interval [CI]) DOR for patients who achieved CR, assessed by colour photography per central (n = 4) and investigator (n = 22) review at 42 months, was 21.0 (15.1, not estimable [NE]) and 23.0 (14.8, 28.1) months, respectively. Patients achieving PR had a similar median (95% CI) DOR of 24.5 (7.4, NE) and 20.2 (11.1, NE) months per central (n = 11) and investigator (n = 27) review, respectively. For MRI assessments, the median (95% CI) DOR for patients who achieved CR at 42 months was 28.5 (14.8, NE) and 18.4 (14.8, 24.3) months per central (n = 9) and investigator (n = 12) review, respectively. Median (95% CI) DOR for patients who achieved PR when assessed by MRI per central review (n = 17) was 16.6 (10.2, 20.2) months. Sonidegib was generally well tolerated and most AEs were Grades 1/2 in severity.

### **Conclusion:**

Patients with IaBCC who responded to sonidegib treatment (CR or PR) reported a robust and sustained DOR.

## An unusual cutaneous presentation of Erdheim-Chester disease with Langerhans cell histiocytosis like features

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## A rare cutaneous presentation of Erdheim-Chester disease

## **Introduction & Objectives:**

Erdheim-Chester disease (ECD) is a rare non-Langerhans cell histiocytic (LCH) disease. Most patients present with multifocal osteosclerotic lesions of the long bones with characteristic foamy histiocytes on histology without infiltration of textraskeletal tissues. Cutaneous presentations of ECH are varied and the rarity of this condition is also seen in the limited case reports. Here, we present a patient with ECD with LCH-like cutaneous features. We also summarise the cutaneous manifestations of ECD in reported literature.

#### **Materials & Methods:**

#### **Results:**

A 70-year-old lady with known dyslipidaemia and diabetes mellitus presented with a 3-year history of persistent pruritic, erosive, pustular intertriginous eruption with hard subcutaneous nodules in the bilateral axillae and lateral breasts. An initial skin scrape was positive for Candida albicans, but her symptoms progressed despite topical antimycotic treatment.

Concurrently, the patient was being evaluated for recent-onset leg oedema. Investigations were significant for macrocytic anaemia, elevated erythrocyte sedimentation rate, hypoalbuminaemia, complete central diabetes insipidus, a large pericardial effusion and the presence of multiple hypermetabolic lesions on a positron emission tomography-computed tomography scan. These hypermetabolic areas involved truncal and axillary subcutaneous fat, visceral fat around the anterior mediastinum, small bowel and retroperitoneum, lesions in the appendicular skeleton and cervical lymph nodes. A bone marrow aspirate was negative for clonal B cell or aberrant expression among T cells. Magnetic resonance imaging of the pituitary was normal.

A skin biopsy of the left inframammary subcutaneous nodule revealed two components. First, a diffuse dermal infiltrate extending to the subcutis, comprised of foamy macrophages, Touton giant cells. These were CD68-positive, CD1a-negative, S100-negative. Second, a separate population of Langerhans cells was seen in the papillary dermis, which were CD1a-positive, S100-positive. No malignant features were seen. Skin somatic tumour panel analysis was positive for BRAF V600E mutation.

The patient was diagnosed with ECD and commenced on treatment with interferon-alpha. In ECD, the commonest cutaneous sign is xanthelasma, while uncommon cutaneous manifestations include erythematous brown patches, plaques or nodules on the trunk and limbs, or erythroderma. Conversely, an erosive intertriginous eruption is most characteristic of LCH. Despite her atypical cutaneous manifestations, the patient's systemic features of appendicular and retroperitoneal infiltrates together with her skin histology were more in keeping with ECD, and mixed histiocytosis was unlikely given the lack of lytic craniofacial bony involvement or pulmonary nodulocystic changes of LCH. The Langerhans cell component on skin histology was deemed an incidental reactive population.

## **Conclusion:**

Cutaneous presentations of ECD are only seen in up to 25% of patients with ECD, as compared to LCH, where the skin is commonly involved. Here, we review the known cutaneous presentations of patients with ECD and highlight the importance of revisiting the diagnosis in patients who fail to respond to treatment. Additionally, patients with cutaneous features of LCH in the setting of systemic features of ECD require careful evaluation to exclude mixed histiocytosis.

# Molecular mapping of the tumor microenvironment in primary cutaneous melanoma using spatial transcriptomics at a subcellular resolution

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## **Introduction & Objectives:**

Melanoma initiation, progression and metastasis are influenced by the tumor microenvironment (TME). Recent developments in spatial transcriptomics have made it possible to study the tumor microenvironment in various types of cancer, on a transcriptomic level at great depth. This yielded insight in spatial tumor heterogeneity as well as the interactions between tumor cells and neighboring immune- and stromal cells. We aim to understand early molecular changes during cancer initiation of cutaneous melanoma.

#### **Materials & Methods:**

We performed untargeted spatial transcriptomics on primary human melanoma, at a resolution of  $0.5 \mu m$ , to study the behavior of tumor cells and their interactions with neighboring immune and stromal cells at a subcellular resolution.

#### **Results:**

In a preliminary experiment with two independent primary melanoma samples, we were able to spatially map healthy skin structures like the epidermis, dermis and subcutaneous regions as well as tumor areas and infiltrating immune cells. By comparing the local transcriptomes of benign- and intermediate malignant melanocytes to neighboring infiltrative, malignant melanocytes, we gained insight in the gene programs used during invasion and malignant transformation.

#### **Conclusion:**

In summary, we perform high-throughput, spatial analyses of primary human melanoma within its tissue context on a transcriptomic level in order to obtain deeper understanding of tumor phenotypes.

## Linking primary and secondary care: A service evaluation of photo-triage for electronic skin cancer referrals

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## **Introduction & Objectives:**

Across the UK, skin cancer services are struggling to keep up with increasing demand. In response, we implemented a Trust-wide electronic red-flag skin cancer photo-triage referral service in June 2022. Referrals require the attachment of a body map and 3 images of the lesion including dermoscopy. Triage outcomes include a choice of a red flag face-to-face review, downgrading to urgent, directing straight to surgery, to plastic surgery or discharge.

We have embarked on evaluating this service. Our aims were:

To identify engagement from primary care.

To investigate the suitability and quality of photo-triage referrals and the impact on red flag outcomes.

To gauge patient satisfaction with this service.

## **Materials & Methods:**

A total of 252 photo-triage referrals received between June 2022 and April 2023 were reviewed, from 98 referring general practitioners (GPs) in 36 GP practices. Data extracted included referral and image quality, triage outcomes and service engagement.

We conducted retrospective structured interviews with a random cohort of 10 patients who experienced the service within 3 months prior, to gauge patient satisfaction.

## Results:

Results demonstrated an increase in photo-triage referrals and GP engagement. 70% (n=177) of referrals were triaged to face-to-face review, 16% (n=40) straight to surgery and 2% (n=4) to plastic surgery. 6 referrals were downgraded to urgent whilst 10% (n=25) were discharged with written advice. (Figure 1)

In analysis of referral quality, 35% (n=88) of referrals included substandard images and 15% (n=35) failed to include dermoscopy. Images often lacked ruler measurements (39%) or patient identifier (12%). Over time some improvement in referral quality has been demonstrated (Figure 2) which we postulate is related to increasing GP confidence in use of the photo-triage system and feedback in triage outcome.

14% (n=25) of all referrals were true red-flags. A generous proportion of referrals (30%, n=75) were triaged to a more appropriate outcome rather than face-to-face review. This allowed 17% (n=44) of patients to achieve definitive treatment of their skin lesion swiftly by being direct straight to surgery within dermatology or to plastic surgery.

All patients interviewed were satisfied by the photo-triage service, particularly its speed and efficiency.

#### **Conclusion:**

Dermatology photo-triage has been successfully introduced with increasing engagement in primary care. It has streamlined red-flag referral management by optimising dermatology service capacity whilst ensuring input from a dermatologist for any suspicious lesions. Notably, patients have expressed satisfaction with this service.

We plan to explore further areas including user feedback from GPs to highlight areas of improvement. This may open up new avenues such as the introduction of dermatology educational programmes in primary care and broadening use of photo-triage to include less urgent referrals such as for basal cell carcinoma.

Figure 1: Proportion of various outcomes of all red flag photo-triage referrals.

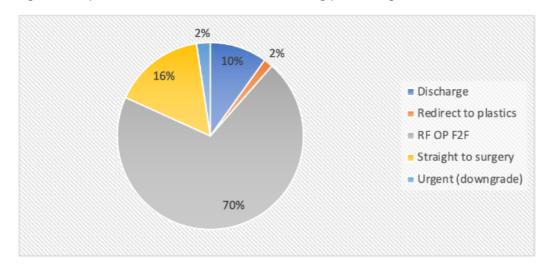
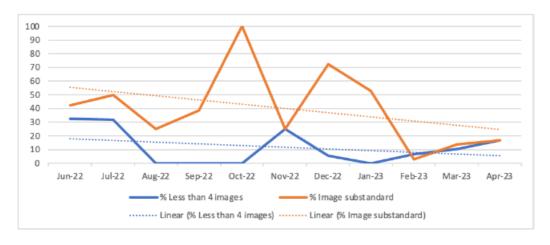


Figure 2: Change in quality of photo-triage referrals over time, quantified through number and standard of images included.



#### Use of sun protection in patients with melanoma- before and after diagnosis

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## **Introduction & Objectives:**

Among the known risk factors for melanoma is ultraviolet radiation, which is considered one of the main modifiable factors. Despite this, studies indicate that photoprotection is not a frequent habit, even among those who have had the neoplasm. The objective is to evaluate the use of photoprotection in patients with melanoma, before and after diagnosis.

#### **Materials & Methods:**

Observational, cross-sectional, and descriptive study, with in-person patient analysis between 2018 and 2019 and application of a standard questionnaire regarding photoprotection habits before and after the diagnosis of the first melanoma.

#### **Results:**

82 patients were evaluated, with the majority not using photoprotection before the diagnosis of melanoma [82.9% (68/82)]. After diagnosis, most patients started using photoprotection, but only 35.8% (29/82) use it daily, and approximately half only when they will be directly exposed to the sun. However, almost all patients [93.8% (76/82)] state that they know that the sun is related to the genesis of skin cancer, and 79.27% (65/82) advise their relatives on sun exposure care. The main reason why patients do not use photoprotection is that they find it uncomfortable.

It is known that ultraviolet radiation is associated with the genesis of melanoma in various situations, and patients diagnosed with this neoplasm have a 9-fold higher risk of developing a second melanoma, which justifies the emphasis on photoprotection measures. However, the majority of patients do not use photoprotection daily, even though they are aware of the relationship with skin cancer genesis.

#### **Conclusion:**

Adherence to photoprotection increases after the diagnosis of the first melanoma, but not adequately, and not due to ignorance of the risk.

Cutaneous Melanoma in the setting of Nevus of Ota and Universal Vitiligo induced by Nivolumab/Ipilimumab: A case report.

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# Cutaneous Melanoma in the setting of Nevus of Ota and Universal Vitiligo induced by Nivolumab/Ipilimumab: A case report

**Introduction & Objectives:** The Nevus of Ota, a harmless pigmentation disorder, is more common in Asian women. Although rare, there is a risk of it developing into malignant melanoma, which is its most serious complication. Adjuvant immunotherapy has greatly enhanced the overall survival and progression-free survival rates for melanoma. However, it can cause various immune-related side effects, which become more frequent and severe with higher doses. In this case report, we discuss the instance of a Nevus of Ota transforming into malignant melanoma, accompanied by systemic adverse effects resulting from adjuvant immunotherapy.

**Materials & Methods:** A 22-year-old Mexican male sought a dermatology consultation for a Oculodermal Melanocytosis ulceration (Nevus of Ota type II). An incisional biopsy of the lesion revealed nodular melanoma. A PET-CT scan indicated hypermetabolism in the left malar region and cervical lymph nodes, suggestive of metastasis. Consequently, the patient underwent a wide local excision that involved enucleation of the left eye, partial maxillectomy, and dissection of lymph nodes in the left side of the neck. Reconstruction was carried out using an anterolateral free flap from the thigh.

Subsequently, the patient developed a disseminated dermatosis characterized by hypopigmented patches on the hands, feet, trunk, and upper extremities. Prior to this, he had been receiving Nivolumab / Ipilimumab therapy as adjuvant immunotherapy for three months. Three weeks after starting the immunotherapy, the patient noticed the appearance of the first hypochromic patch on his right lower extremity, along with poliosis. Despite this, the patient did not experience any other adverse effects, so the immunotherapy was continued for an additional five months. During this time, vitiligo progressed, affecting the eyebrows, eyelashes, lips, and hair, resulting in universal depigmentation. The patient's skin type also changed from phototype IV to phototype I.

At the sixth cycle of treatment, the patient developed symptoms of hypophysitis, adrenal insufficiency, and hypothyroidism, leading to the suspension of Ipilimumab. The patient continued with two more cycles of Nivolumab but decided to discontinue the treatment thereafter. Currently, the patient is being monitored with imaging studies (PET-CT) and has shown no evidence of recurrence after 1 year and 10 months.

**Results:** It is crucial not to overlook surveillance in cases of congenital melanocytosis, as it has the potential to progress into melanoma. Although adjuvant immunotherapy has enhanced the overall survival of melanoma patients, the full spectrum of potential adverse effects has not been fully documented.

Considering the significant toxicity experienced by our patient, the decision was made to discontinue the immunotherapy and continue monitoring his condition closely. Reporting these adverse effects will contribute to improving the selection and administration of immunotherapy, with the goal of minimizing such occurrences.

**Conclusion:** With the advancements in oncodermatology, targeted therapies have become increasingly prevalent. Adopting a multidisciplinary approach, healthcare professionals from different specialties can contribute their expertise to ensure optimal management and decision-making regarding the use of targeted therapies in

oncoder matology.

## Association of polymorphisms in the MC1R gene with phenotypic data and risk of second sporadic melanoma in a cohort of 402 individuals

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## **Introduction & Objectives:**

Certain polymorphisms in the melanocortin receptor 1 (MC1R) gene have been linked to the development of cutaneous melanoma. However, the influence of these variants in successive primary melanomas has not been studied.

The first aim of this study is to assess whether there are phenotypic differences between individuals with high-risk polymorphisms in the MC1R gene compared to individuals without such variants. In addition, we aim to study whether there is a possible relationship between these polymorphisms and the development of sporadic second melanomas.

#### **Materials & Methods:**

A prospective single-centre longitudinal study based on follow-up data from 402 patients diagnosed with cutaneous melanoma was conducted. The MC1R gene was sequenced in all subjects. High-risk variants were defined as those previously associated with melanoma (V60L, V92M, I155T, R160W, R163Q and D294H). First, proportions of certain phenotypic characteristics were compared between subjects with and without high-risk polymorphisms. In second analysis the proportion of patients with high-risk variants in MC1R in the subpopulation of subjects with second sporadic melanoma was studied.

## **Results:**

253 (63 %) patients had at least one predisposing variant in MC1R. In multivariate analysis, these individuals had a higher proportion of red/blond hair, multiple primary melanomas and first melanoma diagnosis under the age of 60 years. Second primary melanomas were detected in 28 (3.8 %) subjects. Having more than 25 melanocytic nevi, having a phototype I or II; and carrying at least one predisposing MC1R variant were risk factors significantly associated with the development of second primary melanomas

#### **Conclusion:**

Similar to what has been described, certain MC1R variants may influence individual phenotype as well as susceptibility to sunburn. In line with previous studies, in our study, carriers of risk variants had their first melanoma earlier. In contrast to previous studies, a significant association between MC1R and multiple melanomas was detected, although its possible influence is limited.

To sum up, the presence of certain polymorphisms in the MC1R gene could determine clinical and histological differences between patients with cutaneous melanoma. Furthermore, these variants could represent a risk factor for second primary melanoma, although further studies are needed.

#### The Influence of Obesity on Melanoma and Sentinel Lymph Node Diagnosis

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## **Introduction & Objectives:**

While obesity is a known independent risk factor in the development of melanoma, there is no consensus on its influence on melanoma prognosis. The aim of our study was to understand the influence of obesity on melanoma features and melanoma main predictors, including the risk of metastasis in sentinel lymph nodes at the time of diagnose.

#### Materials & Methods:

In a monocentric retrospective study, data was collected from patients who underwent sentinel lymph node (SLN) biopsy for melanoma between 2013 and 2018 in a high-volume center for skin malignancy care in Germany. Patients were divided into groups according to their body mass index (BMI). The association between BMI and melanoma features, as well as the risk factors for metastases in SLN were examined.

## Results:

Of the 1001 patients, 336 had normal weight (BMI < 25), 402 were overweight (BMI > = 25 and <30), 173 obese (BMI > = 30 and <35) and 90 extremely obese (BMI > = 35). Overweightness and obesity were associated with higher tumor thicknesses at time of diagnosis. Ulceration was not influenced by the patient's weight. Metastases in sentinel lymph node was almost twice more likely in extremely obese patients than in normal weight patients. Independent risk factors for metastases in SLN in our study were tumor thickness, ulceration, and BMI > 35.

## **Conclusion:**

This is the first study to show higher metastases rates in high-BMI patients with melanoma, raising important questions regarding the screening and treatment of this specific patient population.

## Assessment of the knowledge of students of the last years of medical university studies on pigmented nevi

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## Assessment of the knowledge of students of the last years of medical university studies on pigmented nevi and melanoma

**Introduction & Objectives:** Melanocytic nevi are one of the most common skin lesions. Their diversity may cause diagnostic difficulties for novice graduates of the medical sciences and health sciences sector. Having knowledge about atypical melanocytic nevi and melanoma seems to be of particular importance in the context of the constantly growing number of cases of this malignant neoplasm.

The aim of the study was to assess the knowledge of final year students of medical schools on pigmented moles and melanoma, as well as to compare the level of knowledge between representatives of particular faculties.

**Materials & Methods:** The study group consisted of 123 students of medicine, physiotherapy, nursing and cosmetology. An original questionnaire was used, consisting of eleven questions about pigmented moles and the same number of questions about melanoma. Statistical analysis was performed using the Shapiro-Wilk test, the Mann-Whitney U test and the Kruskal-Wallis test.

**Results:** Over 90% of students participating in the study can identify a pigmented mole, but only 28.5% of the respondents have encountered campaigns promoting mole examination, despite the extensive campaign in the public space. At the same time, 87% and 62.6% of the respondents declared that the subject of melanoma and pigmented moles, respectively, was discussed during their studies. It is alarming that nearly 40% of the respondents do not know the ABCDE rule, and over 20% claim that the key method of dealing with pigmented moles is their laser removal. The vast majority of respondents know the factors that increase the risk of melanoma. Statistically significant differences (p < 0.001) in the level of knowledge about pigmented moles and melanoma were found between students of particular fields of study. Physiotherapy students had the highest knowledge index, while nursing students had the lowest.

**Conclusion:** In general, students have a broad knowledge of skin melanoma. It seems reasonable to supplement the information on the need for regular examination of pigmented nevi and basic morphological features indicating their atypia. Future doctors and nurses, as professions that have particular trust from patients, should systematically deepen their knowledge of issues in the field of pigmented moles and melanoma, which can significantly increase the detection rate of early forms of cancer.

#### Safe use of tocilizumab in rheumatic patients with Kaposi's sarcoma

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## **Introduction & Objectives:**

Viral reactivation is a frequent adverse event of immunosuppressive agents, that can be very severe in patients with a history of human herpes virus type 8 (HHV8)-related disease, including Kaposi's sarcoma (KS) and multicentric Castelman disease.

#### **Materials & Methods:**

We report two cases of rheumatic patients who developed or worsened classic KS during anti-TNF- $\alpha$  or steroid therapies and who were subsequently safely treated for their rheumatic conditions with tocilizumab, a monoclonal antibody directed against interleukin-6 receptor.

## **Results:**

Patient 1: A 68-year-old man with rheumatoid arthritis developed KS nodules on his right sole 3 months after the initiation of infliximab at a dose of 3 mg/kg every 6 weeks. The 18-FDG-PET showed multiple cutaneous lesions without lymph node or visceral involvement. Infliximab was discontinued and switched to tocilizumab (8 mg/kg, monthly), leading to the remission of rheumatoid arthritis as well as the near complete regression of skin lesions, which remained stable after 2 years of treatment.

Patient 2. An 83-year-old man with a history of paucilesional classic KS located to the inferior limbs presented with severe exacerbation of skin lesions associated with bilateral lymphedema one month after the initiation of prednisone at a dose of 1 mg/kg for giant cell arteritis (GCA). In order to limit the risk of KS recurrence, it was decided to maintain steroids at a low dose of 5 mg prednisone and to initiate tocilizumab at 8 mg/kg monthly as a steroid-sparing agent. This treatment regimen allowed a rapid remission of GCA and was associated with the complete stability of the remaining KS lesions, persistent after 6 months of treatment.

#### **Conclusion:**

In addition to the available data of the literature, our observations suggest that tocilizumab, when indicated, could be a safer alternative to steroids or anti-TNF- $\alpha$  agents for rheumatic patients with a history of KS.

#### Dermoscopy and Xeroderma pigmentosum series of 106 lesions

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## **Introduction & Objectives:**

Xeroderma pigmentosum (XP) is a rare genodermatosis with autosomal recessive inheritance characterized by a remarkable increase in the sensitivity of affected subjects to ultraviolet (UV) radiation, resulting in an increased risk of developing skin tumors. Early diagnosis of these tumors is crucial for the survival of these patients, but it is not easy, even for experienced dermatologists, due to the presence of a large number of actinic lesions (actinic lentigo, actinic keratosis, atrophy and poikiloderma). Dermoscopy increases the diagnostic accuracy of pigmented and non-pigmented skin cancers by avoiding unnecessary tumor removal in patients who often require multiple and repetitive removal of any new suspicious lesions.

#### **Materials & Methods:**

This is a monocentric, retrospective study carried out in the department of dermatology and venereology of the university hospital Moahmmed VI Oujda, including all suspicious lesions on dermoscopy having benefited from a histopathology study in patients with XP during the period from June 2014 to January 2022.

#### **Results:**

Our series included nine cases. The mean age of the patients was 18.22 (±9.46), with a female predominance, i.e. a sex ratio F/H 1.25. The average age of the first cutaneous signs was 2.33 years (6 months-7 years) and the average age of the first tumors was 7.11 years (2 years-22 years). Consanguinity was noted in 88% of cases (8/9 cases). Fifty-five percent of the cases had at least one similar case in siblings. One hundred and six suspicious lesions were collected, the clinical appearance of the lesions was papules in 49%, macules in 35%, nodules in 11%, and plaques in 9%. Dermoscopy was in favor of basal cell carcinoma (BCC) in 76% of cases, squamous cell carcinoma in 10%, melanoma in 9%, bowen's disease in 3%, actinic keratosis (AK) in 2%. The histopathological study was in favor of BCC in 59% of cases, squamous cell carcinoma in 10% of cases and melanoma in 3% of cases, bowen's disease in 3%, KA in 2% and the rest were benign lesions (seborrheic keratoses, lentigos, neavus). All patients and their families were educated on the principles of photoprotection which were often not respected.

#### **Conclusion:**

The diagnosis of cutaneous malignancies depends on several factors, including the sensitivity and specificity of dermoscopy and the experience and skill of the operator. Our study shows that dermoscopy allows an accurate diagnosis in most cases of skin cancers in patients with xeroderma pigmentosum.

Cutaneous metastasis of endometrial adenocarcinoma: An Unusual and Dramatic presentations: a report of two cases.

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## **Introduction & Objectives:**

Despite the high incidence of uterine adenocarcinoma, skin metastases from endometrial adenocarcinoma and especially cutaneous lymphangitis carcinomatosis are extremely rare and only few cases have been reported in the literature. We report two cases of endometrial adenocarcinoma presumed to have been completely resected after staging and grading, which recurred as lymphangitic carcinomatosis metastasis.

#### **Results:**

Case 1: A 71-year-old woman, with a history of left breast adenocarcinoma treated 7 years previously by mastectomy and left axillary staging, completed by adjuvant radiotherapy and chemotherapy with complete remission. She was diagnosed 1 year ago with endometrial adenocarcinoma and underwent a total abdominal hysterectomy, bilateral salpingo-oophorectomy, and pelvic and paraaortic lymph node sampling. Three months after her initial therapy, she presented with multiple painful papulo-erythematous lesions disseminated in the pubic area. The dermatological examination showed papulonodular lesions disseminated in the pubic area, creating a verrucous plaque encompassing the entire pubis, elevated and surmounted by numerous confluent papules with very obvious vulvar hypertrophy. Similar lesions were noticed in front of the left mastectomy scar. The rest of the examination revealed a decrease in vocal vibration of the right hemi thorax, diffuse bone pain with anorexia, loss of weight, and asthenia. A skin biopsy was performed and confirmed a carcinomatous lymphangitis secondary to metastases from endometrial adenocarcinoma. Because of the poor general condition and the rapid deterioration of the patient, no treatment was started. The evolution was rapidly fatal; the patient died four months after her admission.

Case 2: A 56-year-old woman, was diagnosed with FIGO Stage IIIB, adenocarcinoma of the endometrium-endometrioid type and underwent a total abdominal hysterectomy, bilateral salpingo-oophorectomy, completed by adjuvant radiotherapy and chemotherapy. There was no other known disease, and she had no problem in the routine follow-up. 15 months after her initial therapy she presented with stade II dyspnea and the appearance of an erythematous plaque located on her left thigh. On examination, the patient was apyretic, pale, asthenic, with an hemorrhagic erythematous purpuric and indurated plaque, affecting mainly the left thigh and extending down to the left knee and up to the umbilicus, associated with pruritus and marked lymphedema in the left leg. No pelvic mass was palpable. A biopsy was performed and confirmed a carcinomatous lymphangitis secondary to metastases from endometrial adenocarcinoma. Positron emission tomography scan performed as part of the extension assessment highlighted the presence of multiple pelvic iliac and lumboaortic lymphadenopathies.

#### **Conclusion:**

Cutaneous lymphangitis carcinomatosa is a rare presentation of skin metastases. It accounts for approximately 5% of all cutaneous metastases. Breast carcinoma is by far the most common primary neoplasm resulting in skin involvement while endometrial cancer uncommonly metastasizes to skin. Our two patients represents a dramatic form of skin extension of a common disease. Every cutaneous lesions in a patient with a history of cancer should

alert the clinicians to the possibility of a cutaneous metastasis and a skin biopsy should be done.

#### Cutaneous relapse of primary nasal non-Hodgkin lymphoma: A case report

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#### **Introduction & Objectives:**

Diffuse large B cell lymphoma (DLBCL) is the most common histologic subtype of non-Hodgkin lymphoma. However, it rarely presents in the intranasal cavity as the primary site. Moreover, skin as the first site of relapse is uncommon and has been infrequently mentioned in the literature. Herein, we report a case of primary nasal DLBCL that had cutaneous relapse with no skin involvement previously.

#### **Case Report:**

An 80-year-old male patient presented with a two month history of painful red lesions on the left and right cheeks. He had been diagnosed with left nasal non-Hodgkin lymphoma (NHL) of diffuse large B-cell type one year before his admission. The lymphoma was positive for CD 20, BCL6, and BCL2 and negative for CD10. Four cycles of R-CHOP (rituximab, cyclophosphamide, adriamycin, vincristine, and prednisolone) regimen were given. The patient responded to the treatment well with complete remission, assessed by computed tomography. However, 2 months after the completion of chemotherapy cycles, the patient had emerging skin lesions that cover nearly his left cheek.

Physical examination showed a large, erythematous, indurated, shiny tumour plaque covering nearly the left cheek, measuring approximatively 5\*6 cm in diameter, with a network of numerous red telangiectasias visible through the skin. Another erythematous indurated nodule localized in the right cheek. Dermoscopy revealed numerous serpentine linear telangiectasias and irregular distribution, located on a pinkish background. There were no evidences of superficial lymphadenopathy and hepatosplenomegaly.

A skin biopsy revealed a dense atypical lymphocytic infiltrate composed of round cells crushed in places. The nuclei of the tumor cells are irregularly anisocytic, hyperchromic and rather basophilic. Immunohistochemical (IHC) staining showed that these tumor cells were widely expressed for CD20, BCL-2, but negative for, CD5, CD10, BCL-6. Ki-67 proliferation index of the patient was 90%.

Laboratory data, including tumor markers, peripheral blood count, serum chemistry, urinalysis, and hepatitis virus detection were all within normal limits, except for serum lactate dehydrogenase levels (LDH 296U/L). Bone marrow biopsy was negative. CT-scan of neck-thorax-abdomen and pelvis did not show any evidence of lymphoma recurrence.

He was diagnosed as relapsed lymphoma. Due to the rapidly progressing disease, oral prednisone 1 mg/kg was included, followed by R-GemOx (rituximab, gemcitabine, oxaliplatin) chemotherapy. There was no treatment response after 4 cycles of R-GemOx; therefore, chemotherapy regimen has changed to R-DHAOx (rituximab dexamethasone cytarabine oxaliplatin). The patient is currently on R-DHAOx chemotherapy regimen.

## **Conclusion:**

Primary nasal Diffuse Large B-Cell Lymphoma (DLBCL) is an extremely rare disease. It is estimated to be at 0.2 to 2% of all cases of Non-Hodgkin Lymphomas (NHLs). Primary nasal cavity and paranasal sinus lymphoma demonstrates aggressive behavior and often relapses. Thus a patient with a history of lymphoid malignancy

(nodal or extranodal), presenting with a cutaneous plaque should be thoroughly investigated keeping in view the possibility of cutaneous relapse of the lymphoma.

#### A Squamous Cell Carcinoma Masquerading as a Sexually Transmitted Infection

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#### **Introduction & Objectives:**

Penile cancer is a rare diagnosis representing up to 10% of cancers in males which may evolve from penile intraepithelial neoplasia (PIN). The majority of lesions are found on glans (48%) and prepuce (21%), followed by coronal sulcus(6%) and shaft(< 2%). Penile squamous cell carcinoma occurs almost exclusively in uncircumcised men, the associated etiological factors include smegma and phimosis due to tight, unretractable foreskin.

#### **Materials & Methods:**

Hereby, presenting a case of a 57-year-old male with painful, well-defined, erythematous ulcerated lesions over left inguinal region and shaft of penis. Examination revealed that the ulcers were tender with bilateral palpable stony hard inguinal lymph nodes. The patient also complained of bleeding, discharge and foul order from the lesions. Additionally, the patient gave history of multiple sexual partners. But in contrast, his HIV status and VDRL was non-reactive.

#### **Results:**

Initial diagnosis was considered as an ulcero-granulomatous type of Donovanosis but crushed tissue smear came to be negative for Donovan bodies. Histopathology revealed moderately differentiated squamous cell carcinoma of the penile shaft - Grade IV, upon which patient was started on chemotherapy cycles.

#### **Conclusion:**

As Dermatologists and Venereologists, we are accustomed to seeing all genital lesions through the lens of Venereology. Genital Dermatosis, although not always, may present with a gamut of inflammatory and/or neoplastic disease. Dermatologists should be truly vigilant when it comes to chronic ulcerative conditions of the genitals.

#### A Rare Case of Cutaneous Leiomyosarcoma Mimicking Squamous Cell Carcinoma

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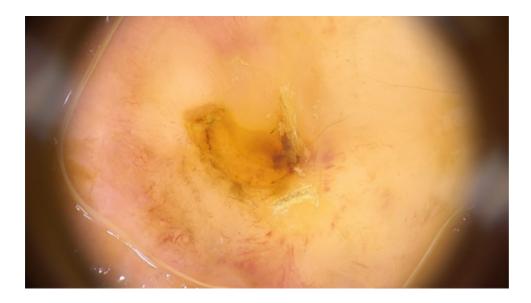
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A RARE CASE OF CUTANEOUS LEIOMYOSARCOMA MIMICKING SQUAMOUS CELL CARCINOMA

**Introduction & Objectives:** Cutaneous and subcutaneous leiomyosarcoma is a malignant smooth muscle neoplasm that is rarely seen. Dermal leiomyosarcomas are believed to originate from either arrector pili or genital smooth muscles while subcutaneous leiomyosarcomas thought to originate from vascular smooth muscle. Cutaneous and subcutaneous leiomyosarcomas classically present as a solitary, firm, skin-colored to red brown nodule or plaque. Dermal tumors range from 0.5 to 4 cm in diameter, where as subcutaneous lesions tend to be larger. Occasionally, these tumors may be painful or ulcerated. Leiomyosarcomas favor the extremities,in particular the lower leg anda re more prevelant among older adults. Wide excision crucial in order to prevent recurrence.

**Materials & Methods:** A 77-year-old male patient presented to the dermatology clinic with a complaint of a swollen bump on his scalp. There is no history of trauma or radiation exposure. In dermatological examination, for the past 2-3 years, the vertex of the hairy scalp has exhibited widespread actinic damage, characterized by the presence of yellow-brown hyperkeratotic plaques with occasional areas of erythema and atrophy. Furthermore, nodules measuring approximately 1 cm in diameter, displaying irregular borders and hyperkeratotic squamous features, are observed anteriorly and centrally to these lesions."(Picture 1) Dermoscopic examination revealed the presence of yellow keratinized areas surrounded by white structureless areas at the center, along with the observation of atypical linear vessels at the periphery, which initially raised suspicion of squamous cell carcinoma (Picture 2)





**Results:** Immunohistochemical staining demonstrated positive staining for PanCK, smooth muscle actin, caldesmon, while S-100 staining was negative. Despite the positive staining for pankeratin, the absence of p63 and CK5/6 expression, along with the presence of caldesmon staining and the observed morphological features, strongly support a diagnosis of leiomyosarcoma.

**Conclusion:** The presented case describes a challenging diagnostic scenario involving a pinkish nodular lesion on the scalp, exhibiting keratinized area and linear vascularization on dermoscopy. These dermoscopic features are typically associated with squamous cell carcinoma (SCC), a common malignancy arising from actinic damage. However, the histopathological examination unexpectedly revealed a diagnosis of leiomyosarcoma, a rare malignant tumor originating from smooth muscle cells. We prefer present a rare case of a pinkish nodular lesion on the scalp, demonstrating dermoscopic features resembling SCC but histopathologically diagnosed as leiomyosarcoma.

## Syringocystadenoma papilliferum: Case report

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#### **Introduction & Objectives:**

The syringocystadenoma papilliferum is a rare benign adnexal skin tumor of apocrine or eccrine glands. It mainly affects head, face, neck and trunk. The association with sebaceous endocrine hamartomas, follicle hamartomas and sebaceous nevus is common.

## Materials & Methods: Case report

We report the case of a 73-year-old man who is presented with a slowly increasing painless nodular lesion occurrences on healthy skin which mesures 15mm of diameter, flesh colored, non-throbbing without inflammatory halo or regional adenopathy on the concha of the left ear. Histological examination revealed a syringocystadenoma papilliferum. A scanner was performed showing thickening with infiltration of the soft tissues of the left external auditory canal. The patient underwent complete excision of the lesion. The particuliarities of our case reside in the rarety of the syringocystadenoma papilliferum, the localisation on the concha of the ear invading the external auditory canal and the onset at an advanced age.

#### Results:

The syringocystadenoma papilliferum is an extremely rare adnexal tumor. It appears at birth, during childhood, at puberty or rarely at an advanced age. It usually presents as a single prominent nodular grayish-brown lesion with a warty or smooth surface embedded in a more or less hummocky skin patch. The lesion measures between 1 and 3 cm in diameter. Three clinical types have been described: the plaque type on the scalp, the linear type on the neck or the face and the solitary nodular type on the trunk. The reported locations are: head and neck (75%), trunk (25%), extremities (5%). Other sites are rarely reported: arms, chest, breast, eyelids, armpits, scrotum, lower limb and inguinal and perineal regions and external auditory canal. Histologically, the syringocystadenoma papilliferum is characterized by epithelial proliferation connected to both exophytic and endophytic epidermis. It is made up of tubular and papillary structures lined by a double layer of epithelial cells. The tumor stroma is typically made up of a predominance of plasma cells. The epidermis is classically made up of a pseudo-epitheliomatous hyperplasia. The association with hamartomas of sebaceous or follicular endocrine origin is common.

The association with basal cell carcinoma is noted in 10% of cases. Transformation into an adenocarcinoma is exceptional.

Due to the risk of malignant degeneration, complete prophylactic surgical excision followed by detailed histological examination is advised and represents the treatment of choice. The CO2 laser represents a therapeutic option if the resection is difficult.

## **Conclusion:**

The syringocystadenoma papilliferum is a rare tumor and the concha of the ear with the external auditory canal is an unusual location. The histological examination is fundamental allowing the diagnosis of certainty, the elimination of the malignant transformation and the differential diagnosis.

#### Seborrheic Keratoses as the first sign of nasopharyngeal cancer

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#### **Introduction & Objectives:**

The sign of Leser-Trelat is considered to be a fairly rare paraneoplastic cutaneous marker of internal malignancy with the hallmark finding being an abrupt eruption of multiple seborrheic keratoses or a sudden increase in their size and number.

Usually, the sign of Leser-Trélat has been associated with adenocarcinoma, most frequently of the colon, breast, or stomach, but also of the kidney, liver, and pancreas, among others.

This case seems to be the first report of the sign of Leser-Trélat in association with an adenocarcinoma of the nasopharynx and it highlights the interest of the interrogation and the clinical examination in the orientation towards a paraneoplastic dermatosis thus allowing an early diagnosis of the neoplasia and a better prognosis.

#### **Materials & Methods:**

This is a clinical case whose diagnosis was based on clinical and dermoscopic analysis using a dermoscopy Dermlite 4 coupled with an Iphone .

#### **Results:**

A 60-year-old man was admitted to our department about the acute development of black-colored lesions which were rapidly increasing in number and size. On examination, we found multiple seborrheic keratoses on his face and scalp. Otherwise, his general physical examination and investigations were normal.

Three years later, the patient was installed a hypoacusis with nasal obstruction motivating the realization of a nasofibroscopy complete with a biopsy objectifying an undifferentiated non-keratinizing carcinoma of the cavum.

The extension assessment did not objectify distant metastases.

The patient received concomitant radiochemotherapy with good clinical and radiological control of the neoplasia associated with stability of the skin lesions after a 5-year follow-up.

### **Conclusion:**

Clinically diagnosed seborrheic keratoses are known as usual and harmless lesions. Yet, an acute appearance of these benign lesions is an alarming sign that indicates an underlying malignancy. We stress here the importance of a proper knowledge of paraneoplastic cutaneous signs that can help detect malignancies in early stages.

Microsatellite instability and loss of mismatch repair mutations in non-melanoma skin cancers and precancerous lesions in Muir Torre/Lynch syndrome: a retrospective case study

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## **Introduction & Objectives:**

DNA mismatch repair (MMR) gene mutations resulting in microsatellite instability (MSI) are associated in the pathogenesis of Muir-Torre syndrome, a variant of Lynch Syndrome (MTS/LS). It is characteristically defined by the association of at least one sebaceous skin neoplasm and/or keratoacanthoma and a visceral malignancy. The presence of cutaneous lesions plays a vital role in the early detection and preventative cancer screening of the disease, however non-melanoma skin cancers (NMSC) and their precursors are seldom reported. Objectives: To review non-sebaceous cutaneous lesions in MTS/LS to identify whether there is an association with MMR expression and their germline mutations.

#### **Materials & Methods:**

A retrospective multi-centre study between 2011-2023 of all adults with a confirmed genetic diagnosis of MTS/LS across three specialist institutions presenting with phenotypically distinct treatment resistant pre-cancerous skin lesions and/or NMSC.

#### Results:

Median age of onset of presentation of pre-cancerous/NMSC in nine individuals was 58 years with female preponderance. A total of 25 non sebaceous lesions were identified commonly occurring on the face and upper limbs. Our study histologically and immunohistochemically examined MMR expressions and MSI in 22 pre-cancerous and/or NMSC. Loss of expression were found in actinic keratoses (AK) (6/10), disseminated superficial actinic porokeratosis (DSAP) (1/2), squamous cell carcinoma (SCC) (4/7), basal cell carcinoma (BCC) (n=4/4). Additionally, we found sebaceomas with atypia (n=2/2). In all lesions the loss of MMR expression and MSI were consistent with their germline mutations. We also discovered that all lesions identified with loss of MMR proteins had normal adjacent skin with no loss expression.

## **Conclusion:**

Our observations suggest the detection of MSI, and MMR gene abnormality plays a critical role in the development of pre-cancerous and malignant cutaneous tumours other than sebaceous neoplasms in this disease. To date the diagnostic criteria for MT/LS does not include NMSC and their precursors and these have rarely been reported. We note a clinically distinct presentation of widespread erythematous scaly lesions resembling AK/DSAP, resistant to multiple treatments which are an additional recognisable clinical feature in this sub-group of patientsThis can be a powerful investigative tool as AK/ DSAP are easily identifiable, numerous and readily accessible for DNA analysis therefore may aid in screening individuals promptly. MTS/LS patients are best managed by a multi-disciplinary team with close surveillance for visceral malignancies and genetic counselling and highlights the importance to routinely monitoring for pre-cancerous and non-sebaceous skin cancers.

# Squamous cell carcinoma (SCC) and skin bleaching in subsaharan Africa: epidemiological, clinical and histopathological aspects.

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## **Introduction & Objectives:**

Cosmetic skin bleaching is a common practice among women in sub saharan africa with prevalence from 25 to 71%. The main products used were high potent corticosteroids, hydroquinone and mercury. Squamous cell carcinoma (SCC) is very rare in patients with phototype VI of Fitzpatrick. In 2000 the first case of SCC associated with cosmetic skin bleaching was reported by Addo in Accra, Ghana. Our aims were to describe epidemiological clinical and histopathological aspects of the SCC associated with cosmetic skin bleaching ocuring in black african women living in Senegal, sub saharan Africa.

## **Materials & Methods:**

We conducted a descriptive multicentric study from August 2005 to april 2023 in Senegal. We included all patients consulting for cutaneous squamous cell carcinoma associated with skin bleaching. Diagnosis was made by anatomopathology. Sociodemographic, clinical, paraclinical and therapeutic data were recorded.

#### **Results:**

A total of 37 female patients were included from Senegal. The age varied from 37 to 77 years. Topical hydroquinone and highly potent corticosteroids were the main products used over the whole body, for an average duration of 20.3 years. No pre-neoplastic skin disease was found excepted in one patient with congenital icthyosis. The clinical aspects of tumours were as follows: cauliflower-like, ulcerated and nodular. The average development time before consultation was 6.75 months. The cutaneous SCC were localized most commonly on to lichenoid lesions or exogenous ochronotic lesions on photo-exposed areas: face, neck or upper back. One patient present two squamous cell carcinoma. Histopathological examination found a well differenciated carcinoma, associated with stigma of HPV infection (Koïlocytes) and yellow-brown "banana-shaped" ochronosis deposits in 50 % of cases. Solar elastosis was seen only in one case. Two patients were infected by HIV1. One patients was diabetic.

## **Conclusion:**

We report the world's largest series of squamous cell carcinomas associated with cosmetic skin bleaching among women from subsaharan africa. The UV exposition, the immunosuppression (long term use of high potent

corticosteroids), chronic inflammation, toxicity of products (hydroquinone and mercury) and HPV infection are certainly the main associated factors. The additional factor is the destruction of melanin.

Treatment of uveal melanoma patients with gemcitabine and treosulfan: a retrospective analysis.

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#### **Introduction & Objectives:**

Uveal melanoma is a rare type of cancer with a reported aggressive oncological disease course. Tebentafusp is a relatively new licenced therapy option for HLA-A 02:01 positive advanced uveal melanoma. However, in case of disease progression or the absence of a suitable HLA-A status, chemotherapy treatment with gemcitabin and treosulfan may be feasible. Our study aims to characterize uveal melanoma patients receiving therapy with gemcitabine and treosulfan.

#### **Materials & Methods:**

This retrospective analysis includes 53 metastatic uveal melanoma patients receiving chemotherapy with gemcitabine and treosulfan at any point during their advanced disease course. For statistical analysis, descriptive statistics were used.

#### **Results:**

The mean age of patients is 63,9 years (SD 12,1); 52.8% are female and 47,2% are male. Half of the patients had a primary tumour manifestation in the right eye, and the other half had a left-sided manifestation. Overall, stage IV disease was observed after approximately 81,7 months (SD 85,3) from primary tumour diagnosis. Between stage IV diagnosis and patent's death, mean time interval was 26 months (SD 28,5). We could detect liver manifestation in 68,8% of patients when diagnosing stage IV disease. 58,4% had at least one prior therapy before gemcitabine and treosulfan initiation. Under the chemotherapeutic regime, 3,8% had dose reduction in the disease course, while 11,3% started with dose reduction. Stable disease was observed in 17% of patients with first imaging studies, progressive disease in 58,5% and 24,5% deceased before imaging. The majority (73,6%) received three therapy cycles or less. The main termination reason was disease progression. 54,7% received thereafter alternative therapy options. Main reported side effects include leukopenia and thrombocytopenia. Also, the rare adverse event of tumor lysis syndrome was observed.

## **Conclusion:**

We conclude that gemcitabine and treosulfan treatment can delay tumour progression. Adjustments to the treatment dose are necessary in case of adverse events under therapy. Further investigations are needed to show which patients benefit from initial dose reduction in the treatment.

#### Complete spontaneous regression of an atypical fibroxanthoma

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## **Introduction & Objectives:**

Atypical fibroxanthoma (AFX) is an uncommon mesenchymal cutaneous neoplasm, characterized by fibrohistiocytic proliferation. It typically presents as a rapidly growing solitary red or pink papule or nodule on the head or neck, and commonly affects elderly patients with a history of sun damage. Surgical excision of the tumor with clear margins is currently the recommended treatment approach for AFX. Although it is a locally invasive tumor, it has a favorable prognosis, with 20-year survival rate exceeding 97%.

#### Materials & Methods:

A 76-year-old man with a medical history of hypertension, left pneumonectomy for lung adenocarcinoma, and radical cystoprostatectomy for bladder neoplasia, currently disease-free, was referred to our center due to a rapidly growing lesion on the right temple that had appeared two months prior. Physical examination revealed a 18x15mm diameter tumor with vascular appearance, violaceous coloration, and an ulcerated surface covered by a crust. An incisional biopsy revealed an AFX, characterized by dermal proliferation of pleomorphic spindle cells arranged in a vaguely storiform pattern, displaying large and vesicular nuclei with numerous mitotic figures, some of which atypical, and accompanied by multinucleated giant cells and polygonal cells with abundant and eosinophilic cytoplasm. The lesion showed no tumor necrosis or vascular invasion. Immunohistochemical studies demonstrated expression of the atypical cells for CD10 and CD99, but negative for cytokeratin, S-100, desmin, and CD34

#### **Results:**

One month later, the lesion had significantly decreased in size, showing a non-ulcerated violaceous nodule. At the time of surgery (one month after the last consultation), only a linear violaceous macule remained over the scar, with complete regression of the previous tumor. Complete excision was proceeded, and histological examination revealed a reactive fibrous nodule with chronic nonspecific inflammatory changes and abundant hemosiderin deposits. A CT scan of the head and neck showed no evidence of disease. The patient remained free of cutaneous disease, but died five years later due to lung neoplasm metastasis.

## **Conclusion:**

Regression is a common occurrence in skin lesions of melanocytic, epidermal and lymphoid origin, and has also been documented in neuroendocrine tumors like Merkell cell carcinoma. However, this phenomenon is exceptionally rare in mesenchymal tumors. The mechanism of regression appears to be mediated by a Tcell inflammatory response and apoptosis, but its regulation is not yet fully understood. In melanoma, regression is associated with a lower incidence of sentinel lymph node positivity and is regarded as a positive prognostic factor. Similarly, in Merkel cell carcinoma, regression is associated with a favorable prognosis. Although only one case of complete regression in AFX has been reported in the literature, further studies are necessary to determine the prognosis in such cases.

Clinical efficacy and safety of high dose brachytherapy with non sealed 188Re (rhenium) resin in patients with locally advanced basal cell carcinoma unfit for dermatologic surgery

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## **Introduction & Objectives:**

Basal cell carcinoma (BCC) is the most common non-melanoma skin cancer. Surgery is the standard treatment, but it may be limited due to based on the location and size of the lesion. One of the main challenges in treating skin cancers is to achieve oncological radicality while minimizing local and aesthetic complications, which is particularly difficult for large lesions or those in difficult-to-reach areas. Non-surgical options include cryotherapy, topical drugs such as imiquimod and 5-fluorouracil, photodynamic therapy, laser therapy, and electronic brachytherapy. High-dose brachytherapy using a non-sealed rhenium-188 resin is a new treatment option that allows the delivery of radioactivity as close as possible to the entire surface of the lesion, ensuring an oncologically radical outcome while minimizing side effects. This study aimed to assess the clinical efficacy and safety of a single application of standardized high-dose brachytherapy using a non-sealed 188Re source in the treatment of BCCs.

#### **Materials & Methods:**

Inclusion criteria of our study were: (1) histologically proven cutaneous BCC; (2) thickness invasion not deeper than 3 mm; (3) lesion located in the scalp, face, ears, or fingers or other areas in which surgery would have been difficult to perform or too demolitive with scarce cosmetic-functional result; (4) contraindication or refusal of surgery.

## **Results:**

A total of 82 BCCs were treated with high-dose Re-188 brachytherapy, of which 20 had already been treated with other therapies and relapsed, while 63 were new diagnoses. The mean surface area was 5.9 cm² (range 1-31 cm²), the mean thickness invasion was 1.4 mm (range 0.2-3 mm) and the gross tumor volume (GTV) was 1.13cm3 (range 0.08-9.75 cm3). The mean treatment time was 84.8 min (range 21-285 min). Histopathological classification showed a total of 53 nodular lesions, 13 superficial lesions, 9 sclerodermiform lesions, 6 basosquamous lesions, and 1 adenoid cystic lesion.

24 months after Re-188 brachytherapy treatment, patients were classified as:

- complete responders if the dermoscopy did not show any suspected area of the disease persistence that may deserve a biopsy or if the biopsy resulted negative.
- non-responders in case of disease persistence at histopathological examination during the follow-up.

At 24 months after treatment, complete response was observed in 93% of the treated lesions, while 6 lesions (3 nodular and 3 sclerodermiform) recurred during the follow-up period.

#### **Conclusion:**

High-dose Re-188 brachytherapy is a non-invasive, easy to perform, and tolerable approach to treat BCC when surgery or other radiotherapy techniques are not feasible, recommended, or refused by the patient. The results of this study suggest that Re-188 resin is an effective treatment for BCCs, achieving complete response in 93% of the treated lesions.

#### Redirecting Diagnosis: Dermoscopic Findings in Folliculotropic Mycosis Fungoides

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## **Introduction & Objectives:**

#### **Materials & Methods:**

#### **Results:**

Mycosis fungoides (MF) is the most common form of cutaneous T-cell lymphoma, presenting with various clinical and histological subtypes. Folliculotropic MF (FMF) is characterized by an infiltrate of atypical folliculotropic lymphocytes. In this report, we present a case of FMF and discuss its dermoscopic findings.

A 34-year-old man with extensive alopecia sought medical attention for the suspected diagnosis of tinea capitis. He had been experiencing hair loss for a year, which had gradually worsened over time. On physical examination, a wide alopecic patch involving the crown, frontal, and temporal areas of the scalp was observed. A similar patch was seen in the occipital region. The patches had well-defined borders and exhibited erythema and scaling. Dermoscopy revealed brownish-yellow perifollicular clods with peripheral scale and central broken hairs. Comedolike openings, a white halo surrounding the hair follicles, black dots, broken dystrophic hairs, and single hairs were also observed. Testing for a fungal infection yielded negative results. Additionally, we observed multiple perifollicular keratotic spicules on the extremities. A biopsy revealed a histopathological pattern consistent with FMF. A dense lymphoid perifollicular infiltrate extending into the follicular epithelium with focal mucinosis was observed within the dermis. Immunostaining showed abundant CD3+ and CD4+ intrafollicular cells. Complementary investigations were unremarkable, indicating the absence of systemic involvement. The patient was started on topical carmustine, three times per week, and methotrexate, 15 mg/week for three months, leading to marked improvement.

FMF is a rare variant of MF characterized by its clinical polymorphism. The broad range of clinical manifestations encompasses papules, patches, plaques, and lesions with a spiky or acneiform appearance. Therefore, FMF can resemble several follicle-related skin conditions, including both infectious (e.g., tinea capitis) and noninfectious disorders (e.g., lichen spinolusus, acne vulgaris, keratosis pilaris, and alopecia areata). In this case, the presence of extensive alopecic patches with broken hairs, perifollicular keratosis, and black dots on dermoscopy initially raised suspicion for tinea capitis. However, negative fungal testing prompted further investigation. The presence of a white halo, comedo-like openings, single hairs, and yellow-brownish clods in our patient corresponded with dermoscopic features of FMF documented in the literature. Histopathological analysis further confirmed the diagnosis. Mucinosis, although present in our case, can be absent. It can also be observed in classic MF and alopecia mucinosa. FMF is generally associated with a poorer prognosis compared to classical MF, mainly due to deeper tissue infiltration, delayed diagnosis, and limited response to conventional therapy. Previous research has shown higher survival rates with aggressive combined therapies. Topical carmustine as monotherapy or with a systemic agent has yielded favorable responses in stages I-III. Our patient showed improvement with methotrexate and topical carmustine.

This case highlights the challenges in diagnosing FMF and the importance of dermoscopy. Standardized terminology is needed to improve diagnostic accuracy and facilitate effective management of this condition.

Further research is warranted.

## **Conclusion:**

## Porocarcinoma: A case series of 35 patients

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# **Introduction & Objectives:**

Porocarcinoma (PC) is a rare form of malignant and aggressive skin tumor that develops from eccrine sweat glands. It has a rapid growth and variable presentation as a firm, skin-coloured or reddish-violet papule, nodule or plaque which is ulcerated in many cases. PC is usually mistaken as a squamous cell carcinoma or a basal cell carcinoma. At the time there are no clinical guides nor consensus on PC's management.

#### **Materials & Methods:**

A retrospective descriptive study was conducted regarding the epidemiologic, clinic, histological and prognostic data of the patients diagnosed with PC from 2016 until 2022 in our hospital.

# **Results:**

35 patients with PC were included, 60% women with mean age of 80 years. Mean evolution time of the tumour was 5,94 months IC 95% (2,86-9,01) with an average size of 2,50 cm IC 95% (1,29-3,70). The most affected region was face and neck (42,86%) followed by the upper extremities (25,71%). Infiltrative pattern was found in 31,43% of tumours, high mitotic activity was present in 40%, high risk thickness in 46%, lymphovascular invasion in 3% and ulceration in 86%.

Imaging was performed in 42,86% of patients of whom a 7,65% had spread disease. Tumour relapse occurred in one patient at 17 months from surgery. In our series, specific mortality was 5,71%.

PC is a rare malignant tumour with increasing incidence due to ageing, immunosuppression and chronic UV radiation. In our series incidence was higher and tumour relapse incidence was lower than previous published series whereas PC specific mortality was consistent with the latest literature. Treatment must be surgical and Mohs Micrographic Surgery should be considered. Imaging exams must be performed since lymphatic extension is common and the follow up must be long due to late tumour relapse.

## **Conclusion:**

We present 35 cases of porocarcinoma, their clinical background, presentation and the histological data. We compare our results with previous published case series and present our management of this tumour.

## Nutraceuticals and Skin Cancer: Exploring Potential Preventive and Adjunctive Strategies

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**Introduction & Objectives:** A nutraceutical is any food-derived supplement that has a medical benefit in preventing illness and promoting health. Unhealthy life style is associated with increased risk of non-communicable diseases. Current treatment options such as chemotherapy, radiotherapy and surgery, induce unwanted side effects, compromising patient's quality of life. Therefore, there has been an increased global interest in the use of dietary supplements and traditional herbal medicines for treatment of cancer. Nutraceuticals can be classified by several criteria: by food source, mechanism of action, chemical nature and specific benefit for health. This review aims to explore the relationship between nutraceuticals and skin cancer, highlighting potential preventive strategies and their adjunctive role in conventional treatment approaches.

**Materials & Methods:** A PubMed search was performed using the common and scientific names of frequently advertised nutraceuticals along with the terms "non-melanoma skin cancer," or "basal cell carcinoma" or "squamous cell carcinoma," or "melanoma."

Results: The rates of skin cancer are continuously rising, and the estimated health care costs are mounting, which increases the need of promotion of healthy lifestyle, and scientific focusing on the role of diet and nutrition in cancer prevention. Cancer has a multifactorial etiology with causes found in genetic mutations, infection/inflammation, poor eating habits, exposure to radiation, work stress, and/or intake of toxins. UV radiation is typified as a "complete carcinogen" because it is both a mutagen and a non-specific damaging agent. UV is connected to the three most common types of skin cancer, basal cell carcinoma, squamous cell carcinoma and melanoma. UV promotes formation of photodimers in the genome and causes mutations by generating reactive oxygen species (ROS). It is becoming increasingly evident that ROS play an important role in carcinogenesis by malignant transformation of cells and perpetuating other steps of carcinoma development and spreading. Food sources used as nutraceuticals can be categorised as: dietary fibre, prebiotics, probiotics, polyunsaturated fatty acids, minerals, amino acids and peptides, carotenoids, vitamins, phytochemicals and spices. The need for alternative and less toxic therapies for skin carcinoma is clear. The role of nutraceuticals in skin cancer is: antioxidant protection, photoprotection, anti-inflammatory effect and immune modulation.\*\*

**Conclusion:** Nutraceuticals present an intriguing topic in skin cancer prevention and management. Their potential as adjunctive therapies and their ability to provide antioxidant protection, photoprotection, anti-inflammatory effects and immune modulation warrant further investigation. While the field of nutraceuticals and skin cancer is promising, a comprehensive approach that combines sun protection measures, conventional treatments, and evidence-based nutraceutical interventions is crucial for optimal skin health and cancer prevention.

# Peripheral cutaneous T-cell lymphoma, NOS: a case report

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# **Introduction & Objectives:**

Peripheral cutaneous T-cell lymphoma, NOS (PCTCL-NOS), is a rare type of non-Hodgkin lymphoma that primarily affects the skin and is generally aggressive and challenging to treat. The nomenclature NOS (not otherwise specified) refers to a heterogeneous group of cutaneous lymphomas whose characteristics do not allow it to be classified within the well-defined cutaneous lymphoma types (WHO- EORTC, 2018).

**Materials & Methods:** We describe a patient who presented with erythematous plaques, rapidly progressing to the rarest form of primary cutaneous T-Cell lymphoma, PCTCL-NOS.

#### **Results:**

A 78-year-old male with a history of Parkinson's disease, totally dependent on activities of daily living, was referred to our Dermatology department for a disseminated, grossly symmetrical dermatosis characterized by erythematous and scaly plaques with preferential involvement of the limbs and three months of evolution. The skin biopsy was compatible with eczema, but mycosis fungoides could not be excluded. Over five months, the dermatosis worsened, with dissemination to the trunk and the appearance of infiltrated erythematous plaques and nodules with central ulceration. Analytically with beta2-microglobulin 3.12 mg/dl. Immunophenotyping detected no significant phenotypic changes; the CD4/CD8 ratio was 0.4. Infectious serologies, including HTLV-1 and EBV, were negative. Body CT revealed the presence of bilateral axillary and inguinal adenopathies. Skin biopsy was diagnostic of PCTCL, NOS. The clonality study was suggestive of a monoclonal T-cell proliferation in the blood and skin. Myelogram and osteomedullary biopsy revealed no changes. Given the patient's clinical fragility in a multidisciplinary meeting, we opted for therapy aimed at symptomatic relief and containment of the disease with chlorambucil and prednisolone, with progressive clinical improvement until the 3rd cycle of treatment. Due to progressive clinical worsening, the patient was referred to Palliative Medicine. The patient died one year after the diagnosis.

## **Conclusion:**

This case illustrates the natural history of many cutaneous T-cell lymphomas, which exhibit an initial phase clinically and histologically indistinguishable from eczema. Although, rapid evolution to an aggressive primary cutaneous T-cell lymphoma, as described in our case, is not the commonly described evolutionary pattern. Treatment of PCTCL-NOS includes systemic chemotherapy, autologous bone marrow transplantation, and eventually, brentuximab vedotin or alemtuzumab. Considering the patient's characteristics and the poor prognosis associated with PCTCL-NOS, we opted for palliative treatment with a good response over three months.

# Folliculotropic Mycosis Fungoides in pediatric patients: indolent course and good prognosis related to early disease/diagnosis

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## **Introduction & Objectives**

Mycosis fungoides (MF) is the most common form of Cutaneous T-cell lymphoma (CTCL) both in adults and children. Its incidence under 20 years old is 0.3 per 1.000, with a slight predominance in males.

MF is characterized by an indolent clinical course with a slow progression over the years; clinically, it presents eczematoid and/or psoriasiform lesions, LE-like lesions and hypochromic patches.

Folliculotropic MF is the most common variant, characterized by the tropism of the lymphocytic infiltrate for hair follicles and other adnexal structures (syringotropism). The lesions commonly involve the head and neck area, with papules, plaques and/or nodules mainly involving the pilosebaceous areas. The disease, especially in its early phase, can also present in the form of acneiform lesions, alopecia, milia, and agminated, "spiky" lesions

## **Materials & Methods**

We present the case of a 12-years-old male, whose personal and family history was negative. He has been showing erythematous, slightly edematous and scaling itchy plaques for a few months, located on the face with chronic-relapsing alopecia of the eyebrows.

We performed a biopsy of the lesions. The histology was definitely compatible with the diagnosis of folliculotropic MF.

#### Results

Due to the early stage of disease, we decided to treat the patient with potent topical corticosteroids, with initial complete remission. On first relapse, the patient started PUVA treatment, with complete remission lasting more than 3 years.

## **Conclusion**

Due to the clinical polymorphism, the diagnosis of Folliculotropic MF is often made late, i.e. when the disease is in an advanced stage. The response to therapy is variable and is related to the clinical features of the lesions. The overall prognosis is not necessarily worse than that of the classical form, especially if the disease is made in its early phase. Indeed, MF in pediatric age rarely progresses to an advanced stage, even though frequent relapses occur upon discontinuation of therapy and prolonged patient follow-up is indicated.

Methotrexate-associated lymphoproliferative disorder presenting as primary cutaneous anaplastic large cell lymphoma with generalized skin lesions

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**Introduction & Objectives:** Methotrexate (MTX) is a commonly used anti-metabolite agent. Increased risk of lymphoproliferative disorders (LPD) in patients with rheumatoid arthritis (RA) has been documented with the prolonged use of immunosuppressive medications such as MTX. The majority of the MTX-associated LPD are of B-cell origin, suggesting that MTX likely affects the B cell compartment more selectively. We present the first case of MTX-associated LPD presenting as primary cutaneous anaplastic large cell lymphoma (pcALCL) with generalized skin lesions.

**Materials & Methods:** A 72-year-old Japanese man with RA on treatment with 10-year history of MTX, 10mg/week, presented with multiple indurated erythematous skin patches and nodules with central ulceration on his trunk and extremities. The lesions first developed two months before, which were resistant to initial treatment with topical corticosteroids, continued to gradually increase in number and size.

**Results:** A biopsy specimen from the left arm revealed a diffuse infiltrate of atypical large lymphoid cells with irregular shaped nuclei and many mitotic figures in the dermis. These atypical cells were positive for CD3, CD4, CD25, CD30 and T-cell intracellular antigen-1 and negative for CD8, CD15, CD20, ALK and EBV-encoded RNA in situ hybridization (EBER-ISH). Laboratory examinations—including a complete blood cell count, smear and flow cytometry of peripheral blood, serum chemistry tests, and serum antibodies for EBV and human T-cell leukemia virus type I—were normal. Whole-body 18F-FDG positron emission tomography-computed tomography (PET-CT) did not show any extracutaneous involvements.

On the basis of these findings, we diagnosed the patient as pcALCL. Subsequently, MTX was discontinued, and our carful observations were made without any treatments of skin lesions. As a result, all lesions began to decrease in size within a week and he was in complete remission within three months. At the nine months of follow-up evaluation including physical, peripheral blood and PET-CT examinations revealed that he remained in complete remission. Finally, the diagnosis assigned was MTX-associated LPD presenting as pcALCL.

**Conclusion:** Rapid regression of the skin lesions upon discontinuation of MTX supports the diagnosis of MTX-associated LPD. Although MTX-associated cutaneous T-cell related LPD has been reported, only two cases, including ours, of MTX-associated LPD presenting as pcALCL have been reported in the English literature to the best of our knowledge. In the past case, the skin lesions were localized within a unilateral leg. Therefore, the present case is the first case with generalized skin lesions. EBV involvement was evidenced in the past case as EBER-ISH positivity of the tumor cells, in which the tumor cells express CD8. Although MXT is also used for the treatment of pcALCL, it should be recognized paradoxically that MTX-associated LPD can show features of pcALCL with generalized skin lesions that are not associated with EBV. In such cases, treatment may be completed simply by discontinuing the offending agent, thus, saving the patient from unnecessary treatment.

# Primary Cutaneous Anaplastic Large Cell Lymphoma with Excellent Response to 3 cycles of Brentuximab Vedotin

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## **Introduction & Objectives:**

Most CD30+ cutaneous lymphoproliferative disorders have an indolent course; however, some cases of primary cutaneous anaplastic large cell lymphoma (pcALCL) demonstrate aggressive behavior. Treatment should be adapted according to the size and extent of tumors. Recently, brentuximab vedotin (BV) has emerged as a promising therapeutic option for adult patients with relapsed or refractory pcALCL following prior systemic therapy.

#### Materials & Methods:

We report a case of an elderly man with pcALCL resistant to radiotherapy and methotrexate successfully treated with 3 cycles of BV.

## **Results:**

An 88-year-old man patient presented to our outpatient Dermatology Department with a 5-month history of progressive painful nodules on the left arm, without systemic symptoms.

On physical examination, multiple infiltrated and ulcerated nodules with irregular borders were observed in the lower third of the left arm. Skin biopsy revealed aspects consistent with CD30-positive lymphoproliferative disease, ALK-negative. Further investigation did not reveal clinical or imaging evidence of tumoral involvement in other locations, so the diagnosis of localized pcALCL was established.

Radiotherapy was initially initiated but was associated with disease progression, including multifocality in the contralateral arm. Subsequently, methotrexate 7.5 mg/week yielded no clinical response and additional nodules appeared on the trunk and face. Treatment with BV 1.8 mg/m2 every 3 weeks was decided and after 2 administrations complete resolution of cutaneous lesions was observed. The patient developed pneumonia following the third administration and BV was suspended. After a year and a half of follow-up, the patient remains disease-free.

#### **Conclusion:**

BV, an antibody-drug conjugate directed against the CD30 protein, has shown improved response rates and prolonged progression-free survival in patients with CD30+ cutaneous lymphoproliferative disorders resistant to conventional therapies.

This case illustrates the efficacy and tolerability of BV, even with a limited number of treatment cycles, in a pcALCL patient who had previously shown resistance to radiotherapy and methotrexate.

Further studies are warranted to optimize treatment protocols, assess long-term outcomes, and evaluate the potential of BV as a first-line therapy for pcALCL.

# Sex Disparity for Patients with Cutaneous Squamous Cell Carcinoma of the Head and Neck: A Systematic Review

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# **Introduction & Objectives:**

Cutaneous squamous cell carcinoma (cSCC) is the second most common cancer worldwide and the most common cancer with metastatic potential. cSCC is known to disproportionately affect males, however mechanisms behind this disparity remain elusive. Behavioural factors such as sun protection measures and performing outdoor work have been proposed, however emerging evidence suggests higher cancer incidence, poorer treatment responses and outcomes after adjusting for known epidemiological risk factors. This systematic review and meta-analysis of proportions was designed to investigate sex disparities in patients with a diagnosis of head and neck cSCC (HNcSCC), identify gaps in our understanding of this disparity in order to better inform future research and actions by public health.

# **Materials & Methods:**

PubMed, Scopus, EMBASE, MEDLINE, Emcare and CINAHL were searched in November 2021 and June 2022 (N > 50, English, human). The exposure was head and neck cutaneous squamous cell carcinoma, and the comparator was sex (male, female). Studies which specifically examined the association between sex and HNcSCC were included. The primary outcome was the association between sex and incidence of HNcSCC. The secondary outcome was to determine factors that were reported to contribute to or support this association. Analysis was conducted by two independent researchers using RStudio with data and forest plots displaying males as a proportion of total patients with HNcSCC. Results were reported with a 95% confidence interval. A p value < 0.05 was considered statistically significant. Subgroup analyses (eyelid, ear, lips) were completed for studies with more than 50 participants with that condition.

#### **Results:**

82 studies comprising approximately 186,000 participants (67% male, 33% female) from 29 countries were included. The association of sex with overall HNcSCC was reported in 70 studies with a male predominance of 70.57% (95%  $\rm CI = 67.04-73.86\%$ , p < 0.001), with relative tumour density on the scalp being ten times higher. Poorly differentiated cSCCs were most frequently found on the scalp, face and ear for males and the cheek/chin for females. Males were also significantly more affected by cSCC of the ear (92%;  $\rm CI: 89-94$ ), lip (74%;  $\rm CI: 66-81$ ), and eyelid (56%;  $\rm CI: 51-62$ ).

## **Conclusion:**

The evidence in the literature reviewed in this paper underscores the sexual disparity in incidence and risk of metastatic progression of HNcSCC. Whilst not fully elucidated, our improved understanding of immune mechanisms in carcinogenesis over time make long-held beliefs of predominantly lifestyle factors driving a greater

burden of cSCC in males appear over-simplified. This includes an extremely high tumour mutational burden in cSCC and immunodeficiency as a risk factor for more aggressive disease (e.g. in organ transplant recipients), and more recent evidence supporting a sex-linked immune mediated mechanism, where stronger immunoediting in females may confer a protective mechanism against carcinogenesis. Improving our understanding of sex-specific mechanisms in HNcSCC will better inform the utility of biological sex as a clinical parameter influencing risk stratification and prognostication. Future molecular analyses should focus on integrative multiomic analyses to expound on molecular mechanisms driving this sexual bias in HNcSCC carcinogenesis and progression, and extrapolate these analyses to individuals of different phototypes.

## **Acquired Microcystic Lymphatic Malformation: A Rare Case**

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#### Introduction:

Microcystic lymphatic malformation (microcystic LM), previously termed lymphangioma circumscriptum is a congenital malformation of the lymphatic system with an asymptomatic cluster of varying color vesicles, size 2-4 mm, resembling a "frog spawn". Microcystic LM is a rare, slow-growing lesion. Surgery, radiotherapy, and infection can cause microcystic LM. It is not difficult to diagnose microcystic LM because it has typical clinical, dermoscopic (DS), and histopathological features. The clinical and DS features are in accordance with histopathological findings.\*\* DS structure showed light brownish to violet lacunae with pale septa, leading to hypopyon-like features. The gold standard for diagnosis is histopathological examination, with findings such as dilated lymphatic vessels in the papillary dermis with the possibility of extending up to the reticular dermis and subcutaneous tissue, with or without hyperkeratosis and acanthosis. The lymphatic lumen is filled with granular hyaline material and erythrocytes.

#### Case:

A male patient, 17 years old, presented with a cluster of translucent-purplish red vesicular papules that resemble "frog spawn" along the surgical scars at the border of the buttock and posterior left thigh since 5 years ago. The lesion is not painful or itchy. History of fibrolipoma surgery 14 years ago. The DS features showed light brownish-dark reddish lacunae with pale septae, leading to hypopyon-like features. Histopathological features showed enlargement of lymphatic vessel sacs bordered by thin lymphatic endothelial cells in the papillary dermis and proteinaceous fluid in the lumen of lymphatic vessels.

## Discussion:

A rare case of acquired microcystic LM was reported. Damage to lymphatic channels after surgery 14 years ago is suspected to be the cause of this case. The clinical and DS features are in accordance with histopathological findings.

#### Pigmented skin metastasis of breast carcinoma mimicking a basal cell carcinoma

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# **Introduction & Objectives:**

Skin metastases occur in 2% of all metastases. They mostly present as cutaneous or subcutaneous nodules. These secondary localizations can have polymorphous and confusing clinical aspects.

#### **Materials & Methods:**

We report an original case of a pigmented form of cutaneous metastasis of breast carcinoma mimicking a basal cell carcinoma .

A 46-year-old female patient with a history of invasive ductal carcinoma of the right breast (T4bN1M0) treated 13 years previously by a mastectomy and axillary lymph node dissection completed by adjuvant radiotherapy and chemotherapy, consulted for two ulcerated and pigmented skin lesions in front of the mastectomy scar evolving since 1 year. The dermoscopic examination noted a central ulceration, an atypical vascularisation, a peripheral pigmentation with brown globules and ovoid nests as well as chrysalis structures. The clinical and dermoscopic appearance was suggestive of a pigmented basal cell carcinoma.

#### **Results:**

Histopathological and immunohistochemical study of the skin biopsy was in favor of metastasis of breast carcinoma. A breast ultrasound and a mammogram of the left breast showed a nodule in the right upper external quadrant, whose histological and immunohistochemical examination confirmed the diagnosis of ductal carcinoma of the breast. The patient was referred to gynecology and oncology for management.

#### **Conclusion:**

Pigmented skin metastases of breast cancer are a rare and uncommon entity. The first description was reported by Azzopardi and Eusebi in 1977. Subsequent publications described cases of pigmented skin metastases of a breast primary mimicking a melanoma. The pigmented character of the metastasis was explained by various hypotheses, including the release of melanin from the damaged epidermis following tumor invasion and phagocytosis by melanophages. In our observation, the clinical and dermoscopic appearance was in favor of a pigmented basal cell carcinoma. To our knowledge, no similar description has been reported in the literature.

The originality of our observation lies in two facts:

- 1 / The puzzling clinical and dermoscopic appearance, mimicking a pigmented BCC.
- 2/ The cutaneous metastasis revealed a breast carcinoma occurring in the contralateral breast, 13 years after the first one.

#### Multiple primary melanomaa: not all are the same

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# **Introduction & Objectives:**

Patients with multiple melanomas are estimated to account for 4-5% of melanoma patients, with an average of 2.5 melanomas per patient. Seventy percent of second melanomas are diagnosed within two years of the first diagnosis.

The divergent pathway model of melanoma was described in 2003 and there is growing support for the hypothesis that there are different types of melanomas, divided according to their genetic profile and their association with ultraviolet rays: 1) associated with chronic sun damage, usually lentiginous such as lentigo maligna (LM) and desmoplastic melanoma, and 2) associated with intermittent sun damage, multiple nevi and a greater genetic component, usually superficial spreading melanomas (SSM).

#### **Materials & Methods:**

We present two patients with multiple melanomas as examples of each of the two main pathways of melanoma development. As well as the main associated risk factors and their characteristics by confocal microscopy.

## **Results:**

The first case is a 60-year-old woman with significant photodamage and an history of radiation exposure. She has had 23 melanomas (17 LM, 5 SSM and 1 dermal infiltration by melanoma) and 25 basal cell carcinomas. She exemplifies the chronic sun exposure pathway, presenting with both LM and basal cell carcinoma.

The second case is a 47-year-old red-haired male with CDKN2A mutation and melanocortin 1 gene polymorphisms. He has had 45 melanomas (43 SSM and 2 LM). He exemplifies the familial melanoma pathway associated with germline mutations in specific melanoma-associated genes. The melanomas are mainly superficial spreading with a tendency for rapid vertical growth.

## **Conclusion:**

We present two patients with multiple melanomas, different in terms of risk factors, predominant type of melanoma and follow-up needs. Confocal microscopy allows us to characterise pigmented lesions. It is useful to distinguish melanomas in early stages, especially in high-risk patients during follow-up, adding morphological information on the biology of the lesions.

Patients' emotional experiences and lifestyle changes following a diagnosis of skin cancer: a qualitative study comparing melanoma and squamous cell carcinoma

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# **Introduction & Objectives:**

The incidence of skin cancer has been increasing in recent years. Despite advances in the early diagnosis and treatment, the emotional impact of skin cancer on patients is poorly understood. The aims of this qualitative study are to explore the experiences and fears of patients diagnosed with melanoma and squamous cell carcinoma (SCC) and how these change over time.

#### **Materials & Methods:**

Participants were recruited from patients diagnosed with melanoma and SCC attending the dermatology department of the Hospital Universitario Virgen de las Nieves. Semi-structured interviews were conducted between September 2022 and January 2023. Interviews were recorded, transcribed and thematically analysed.

## **Results:**

32 patients were included in the study, 16 patients with melanoma and 16 with SCC. 59.4% (19/32) were male and the median age was 62 years. Three main themes were identified: impact of the diagnosis, concern for the future, and professional care and trust. Over time, patients with melanoma increased their optimism and improved their future expectations, while patients with SCC gave more importance to their disease, showed fear of recurrence or new lesions and expressed resignation to the inevitability of their disease evolution. Both groups experienced lifestyle changes due to the sequelae of the disease and increased restriction of social life.

# **Conclusion:**

Our findings highlight the importance of healthcare professionals understanding patients' concerns and information needs, in order to provide appropriate support and care. The emotional impact on patients' lives is independent of skin cancer type and needs to be acknowledged and addressed. However, the needs and preferences over time may be different for melanoma patients and for SCC patients, as each group experiences their disease differently over time. Further research is needed to explore the long-term effects of a skin cancer diagnosis and the role of psycho-oncology support in improving patients' emotional well-being. This knowledge about the patients' perspective should be included in current guidelines for skin cancers.

# Survey on individual beliefs of experts and non-experts in cutaneous lymphomas regarding the diagnosis of early-stage mycosis fungoides

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# **Introduction & Objectives:**

PROspective Cutaneous Lymphoma International Prognostic Index (PROCLIPI) data has demonstrated a significant diagnostic delay in early-stage mycosis fungoides (MF). A timely diagnosis of MF is necessary to avoid potentially harmful therapies and undue patient distress. The aim of this study was to examine individual beliefs of specialists and non-specialists in cutaneous lymphomas (CL) about the diagnosis of early-stage mycosis fungoides (MF).

#### **Materials & Methods:**

An online survey using SurveyMonkey®, designed by a steering group of dermatologists with a special interest in cutaneous lymphoma from Austria, United Kingdom, and Ireland was set using distinct questionnaires. One tool was assigned for physicians with potential or no special interest in CL ("non-experts") and one for physicians with special interest in CL ("experts"), identified by being collaborators in the PROspective Cutaneous Lymphoma International Prognostic Index (PROCLIPI) study.

#### **Results:**

Questionnaires from 382 participants, comprising 86 experts and 296 non-experts, were available. Consultant dermatologists represented the majority of survey participants (n=302, 79%), though dermatology trainees (n=66, 17.8%), general practitioners (n=1, 0.3%), and dermatology nurses (n=2, 0.5%) were also represented. Non-experts and experts agreed that the diagnosis of early-stage MF is challenging and often delayed. There was significant variance on the knowledge about the time span needed to diagnose early-stage MF. Experts are aware of the average time between the onset of first MF symptoms and the final diagnosis (median 36 months), whereas non-experts are not familiar with that matter.

Both experts and non-experts rated the frequent misclassification of MF as a benign inflammatory dermatosis and the rarity of the disease to be among the most important factors contributing to a delayed diagnosis. Non-experts believe that a delayed diagnosis has an impact on therapeutic efficacy and prognosis in MF. Experts acknowledged that delayed diagnosis of MF was associated with impaired health- related quality of life.

#### Conclusion:

All participants of this survey reported a diagnostic delay in early- stage MF with non-experts lacking deeper knowledge and experts highlighting misclassification of MF as cause. Therefore, disease awareness is paramount for improved diagnostic identification in MF.

# Polycyclic lesions and nasopharyngeal involvement: a challenging diagnosis case with unfavorable outcome

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## **Introduction & Objectives:**

Extranodal natural killer/T cell lymphoma (ENKL) is an extranodal lymphoma strongly associated with Epstein-Barr virus (EBV). This disorder is rare in Europe and most common in Asia and South and Central America. ENKL typically presents with localized disease involving the nasal cavity, sinuses or palate, and rarely affects other tissues, such as skin. Diagnosis is challenging due to non-specific clinical symptoms and prognosis is poor. Elevated levels of EBV in plasma (>100,000 copies/mL) have been associated with worse outcomes.

## **Materials & Methods:**

Case presentation and literature review.

#### **Results:**

A Caucasian 63-year-old man with no medical history of interest was referred to our dermatology department because of a month history of extremities lesions. In the last week he had started with fever, a painful oral ulcer and extension of lesions to the trunk. Physical examination showed erythematous nodules and polycyclic violaceous plaques in trunk and extremities and an oral ulcer in the hard palate. Laboratory tests revealed abnormal values, including LDH (1,042 U/L), aspartate transaminase (638 U/L), alanine transaminase (662 U/L), gamma-glutamyl transferase (294 U/L), ferritin (7,561 ng/mL), C-reactive protein (58.2 mg/L), total bilirubin (1.85 mg/dL), direct bilirubin (1.22 mg/dL), haemoglobin (10.3 g/dL), leukocytes (1,970 /μL), neutrophils (1,480 /μL), and platelets (102,000 /µL). A biopsy of a skin nodule showed a dense dermal lymphoid infiltrate of atypical large cells expressing CD2, CD56, TIA-1 and perforin, and negative for CD20, CD4, CD8 and CD30. Positron emission tomography showed a hypermetabolic nasopharyngeal lesion, splenomegaly, multiple adenopathies and countless hypermetabolic foci throughout the skin and subcutaneous cellular tissue. The nasopharyngeal lesion was also biopsied showing a lymphoid infiltrate with the same immunophenotype as mentioned above. Bone marrow and plasma EBV DNA quantification were high (217,244 copies/mL and 19,500 copies/mL, respectively). The patient was diagnosed with stage-IV ENKL. Treatment with SMILE chemotherapy regimen (dexamethasone, ifosfamide, L-asparaginase, gemcitabine, etoposide) was initiated. However, the patient developed liver failure, leading to a fatal outcome.

#### Conclusion:

ENKL is a rare and aggressive lymphoma that can present with a variety of clinical manifestations. Clinicians should maintain a high level of suspicion when faced with patients presenting with polycyclic lesions and nasopharyngeal involvement. Tumour activity can be assessed with circulating copies of EBV DNA, allowing monitoring of response to treatment. Although combining L-asparaginase regimens with radiotherapy has improved outcomes, the prognosis for these patients remains poor. Further studies are needed to establish the

optimal treatment strategies for this rare and challenging disease.

# The effect of phototherapy on the dynamics of cytokine mRNA expression in the affected skin of patients with mycosis fungoides

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## **Introduction & Objectives:**

Phototherapy (PUVA, UVB-311 nm) is one of the methods of therapy for the early stages of mycosis fungoides. The mechanism of the therapeutic effect of phototherapy on the lymphoproliferative process in the skin of patients with mycosis fungoides is poorly studied. There is no doubt about the role of the cytokine environment and immune deregulation in the pathogenesis of mycosis fungoides, however, the effect of ultraviolet radiation on these pathogenetic links has been little studied.

#### **Materials & Methods:**

A comparative non-randomized study of the cytokine mRNA expression dynamics in the affected skin, and the effectiveness of phototherapy in patients with an early stage of mycosis fungoides. The *IL4, IL17A, IL17F, IL22* mRNA expression was determined relative to the endogenous control GAPDH using the real-time reverse transcription PCR (RT-PCR). Evaluation of the effectiveness of NB-UVB and PUVA therapy was carried out using BSA score (skin lesion area) and a modified severity-weighted assessment tool (mSWAT) score.

#### **Results:**

The study included 28 patients with early stages (IA-IIA) of mycosis fungoides; 9 patients received NB-UVB and 19 received PUVA therapy. 3.71-fold decrease in mSWAT (p<0.008), and 3-fold decrease in BSA scores (p<0.013) were observed in the NB-UVB-treated group. In the PUVA-treated group3.47- and 2.19-fold lower scores of mSWAT (p<0.001) and BSA (p<0.001) were found. There were no significant differences in the expression of the studied cytokines in the NB-UVB-treated group; however, a significant 19 and 72% increase in IL17F (p=0.003) and IL22 (p=0.021) was revealed after PUVA therapy. Correlation analysis has shown a weak correlation between IL4 and IL17A (r=0.43, p<0.027), and IL17F (r=0.43, p<0.028) before the treatment. Under the influence of phototherapy, the formation of a cytokine network in the affected skin was observed: there were positive associations between IL4 and IL17A (r=0.73 p<0.001), IL17F (r=0.7 p<0.001) and IL22 (r=0.43 p<0.024); IL17A and IL17F (r=0.78 p<0.001); IL22 and IL17A (r=0.63 p<0.001) and IL17F (r=0.66 p<0.001). In the PUVA-treated group a high negative correlation between IL17A and mSWAT (r=-0.79415 p=0.010586), BSA (r=-0.75432, p=0.018849) were found.

#### Conclusion:

The positive correlations between IL4, IL17A, IL17F and IL22 in the affected skin of patients with mycosis fungoides may underlie the positive effect of phototherapy.

## Cutaneous metastasis from pancreatic cancer, a systematic review

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**Introduction & Objectives:** Pancreatic cancer is also referred to as the 'silent killer'; it is a disease with a poor prognosis due to its aggressive nature and the difficulty of early diagnosis. It can spread to various organs and tissues of the body, including the skin. The most common site of skin metastases from pancreatic cancer is the abdominal wall, followed by the scalp and lower limbs. This involvement indicates advanced disease and, in some cases, may be the first sign of the disease, which makes early recognition and diagnosis crucial.

**Materials & Methods:** Four investigators (AB, FC, AD, MP) independently reviewed the literature. Data were extracted from PubMed/MEDLINE, Scopus, Embase and the search key was used: 'cutaneous metastasis from pancreatic' for a total of 685 unique articles; of these we included only case reports and short case series for a total of articles.

**Results:** In this scientific review, we will discuss the incidence, clinical features, diagnosis, and treatment of skin metastases from pancreatic cancer. Cutaneous metastases from pancreatic cancer are rare and the exact incidence is unknown, according to some in the literature their prevalence ranges from 0.5% to 7.6% in pancreatic cancer patients. Although their prevalence is lower than skin metastases from breast cancer (50.5%) or melanoma (18.3%), it is higher than in other cancers of the gastrointestinal tract, such as colorectal cancer, where skin metastases are described in 4.3% of cases. Skin metastases from pancreatic cancer may present in various forms, such as nodules or subcutaneous masses and, less often, as plaques, erythematous patches and swelling or thickening of the skin. These lesions may be solitary or multiple, may be painful or asymptomatic and may be accompanied by systemic symptoms such as abdominal pain, weight loss, jaundice, and anorexia. Skin metastases may occur at any stage of pancreatic cancer but are more frequent in advanced disease. Differential diagnoses include primary cutaneous neoplasms, secondaries from other primary tumors, non-neoplastic pathology such as umbilical hernia, keloid, or pyoderma gangrenosum.

**Conclusion:** Given that pancreatic cancer also known as 'silent killer' often presents in an advanced stage and is already metastatic at diagnosis, it is important for dermatologists to recognize skin metastases from pancreatic cancer to facilitate early diagnosis and help shorten the overall management time of patients with advanced disease.

#### Generalized eruptive keratoacanthoma of Grzybowski: an extremely rare diagnosis

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#### **Introduction:**

Keratoacanthoma (KA) is a common low-grade skin tumor, believed to arise from the seboglandular portion of the hair follicle, characterized by its rapid growth and spontaneous regression. Generalized eruptive keratoacanthoma of Gryzbowski (GEKA) is an extremely rare disease that occurs as a severely pruritic dermatosis made of various keratotic lesions with typical histological features of solitary keratoacanthoma.

#### Materials & Methods:

We report an atypical case of a patient who presented with generalized eruptive keratoacanthoma of grzybowski associated to multiple bowen disease lesions.

A 68-year-old female with a history of lower eyelid squamous carcinoma in situ treated surgically 5 years ago, consulted for chronic pruritic skin lesions that have been evolving for 15 years; located on the trunk and legs. No similar family history, no exposure to chemical carcinogens and no previous irradiation was found .Our patient had several macules and flesh-colored papules with keratotic surfaces, nodular pigmented lesions with erythematous scaly surfaces on the thighs, legs, and trunk, as well as excoriated lesions of scratching on the leg, without mucosal involvement.

#### **Results:**

Histopathological examination of the different lesions revealed in the nodular and papular lesions a histological aspect of keratoacanthoma with foci of dysplasia of low grade, and in the macular lesions a histological aspect of carcinoma in situ.

Given the crateriform feature of the lesions, the age of onset, the chronic and pruritic character, the absence of similar family history, and the histological aspect in favor of keratoacanthoma and squamous carcinoma in situ we concluded the diagnosis of generalized eruptive keratoacanthoma of Grzybowski associated to multiple bowen's disease.

## **Conclusion:**

Generalized eruptive keratoacanthoma of Grzybowski (GEKA) is an incredibly rare variant of multiple eruptif keratoacanthoma . First described in 1950, only 40 cases have been reported since then. GEKA affects the skin and mucous membranes , occurs sporadically, usually in the fifth to seventh decades of life, and is characterized by severely pruritic lesions located in sun-exposed and sun-protected sites with typical features of solitary keratoacanthoma. The exact etiology is still unknown and no codified diagnosis criteria have been established, making this entity of a challenging diagnosis and therapeutic management . The particularity of this case lies in the association of multiple bowen's disease to grysbowski's syndrome, to our knowledge no similar case has been reported in the literature .

Vitamin D receptor gene polymorphisms and serum vitamin D level in hypopigmented mycosis fungoides: A case-control study in an Asian population.

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Vitamin D receptor gene polymorphisms and serum vitamin D level in hypopigmented mycosis fungoides: A case-control study in an Asian population.

## **Introduction & Objectives:**

Hypopigmented mycosis fungoides (HMF) is a rare variant of mycosis fungoides (MF). Evidence shows that vitamin D deficiency is important in the development of cutaneous lymphomas and other malignancies. In a previous study, vitamin D deficiency and the FokI polymorphism were associated with MF. This study is the first to examine the relationship of VDL in patients with HMF and to identify the SNPs in VDR associated with HMF.

### **Materials & Methods:**

All subjects with HMF had complete histories, clinical characteristics, and treatment details documented. VDL and VDR polymorphisms were determined using serum blood samples from patients and controls. Genotyping of rs1544410 (BsmI), rs731236 (TaqI), and rs10735810 (FokI) in the VDR gene were performed using restriction fragment length polymorphism (RFLP) analysis.

#### **Results:**

We recruited 36 patients with HMF and 36 healthy controls matched by age, gender, and Fitzpatrick's skin type from 4 dermatology centres in Malaysia. Mean age (SD) for the HMF group was 40.9 years (16.0), and mean disease duration (SD) was 5.3 years (4.3). The controls had lower VDL (38-57 nmol/L) than HMF patients (51.50-7.75 nmol/L) (P=0.002). Phototherapy was not associated with higher VDL among HMF patients (p=0.310). While there was no significant difference in the distribution of the alleles and genotypes of the genetic polymorphisms between the HMF patient and control group, a significant association of vitamin D deficiency with homozygous AA of rs731236 (TaqI) was observed in patients with HMF (p=0.017).

#### **Conclusion:**

Vitamin D deficiency with Taql polymorphism may be associated with HMF. Further investigation of these VDR gene polymorphisms will be necessary to identify the potential genes involved in this rare MF variant's pathogenesis. Future research will also contribute to the development of pharmacogenetics and new therapeutic tools for the treatment of HMF.

Table 1. Demographic data and clinical characteristics of 36 subjects with HMF

Characteristics		Mean (SD)
Disease duration (years)		5.3 (4.3)
Age (years)	At enrolment	40.9 (16.0)
	At diagnosis	35.3 (16.0)
		n(%)
Gender	Male	26 (72.2)
	Female	10 (27.8)
Body surface area	≤50%	31 (86.1)
	>50%	5 (13.9)
Phototherapy	NBUVB	31 (86.1)
	NBUVB + topical PUVA	2 (5.6)
	NBUVB + oral PUVA	1 (2.8)
	No phototherapy	2 (5.6)
Fitzpatricks Skin Type	3	17 (47.2)
	4	16 (44.4)
	5-6	3 (8.3)

SD: standard deviation

Table 2: Genotype frequencies of genetic polymorphisms in the HMF and control groups

	HMF	Control	p value
Vitamin D total, median (IQR)	55.5 (51.5-75.75)	48.5 (38-57)	p=0.002
Vitamin D deficiency			
- Yes (<50 nmol/L)	7(19.4%)	20 (55.6%)	p=0.002
- No (≥50 nmol/L)	29 (80.6%)	16 (44.4%)	
Bsm1			
ВВ	2 (5.6%)	2 (5.6%)	p=0.693
Bb+bb	34 (94.4%)	34 (94.4%)	
Taq1			
TT	28 (77.8%)	24 (66.7%)	p=0.215
Tt+tt	8 (22.2%)	12 (33.3%)	
Fok1			
FF	11 (30.6%)	14 (38.9%)	p=0.311
Ff+ff	25 (69.4%)	22 (61.1%)	

Table 3: Subgroup analysis on association between VDL and VDR genetic polymorphism:

	VDL				VDL	
Genetic polymorphism	Deficient	Non- deficient	P value	Deficient	Non- deficient	P value
		Control			HMF	
Bsm1, n(%)						
ВВ	1 (5%)	1(6.3%)	0.871	1 (14.3%)	1 (3.4%)	0.261
Bb+bb	19 (95%)	15(93.8%)		6 (85.7%)	28 (96.6%)	
Taq1						
TT	16 (80%)	12 (75%)	0.720	2(28.6%)	22(75.9%)	*0.017
Tt+tt	4 (20%)	4 (25%)		5(71.4%)	7(24.1%)	
Fok1						
FF	9 (45%)	2 (12.5%)	0.067	4 (57.1%)	10 (34.5%)	0.270
Ff+ff	11 (55%)	14 (87.5%)		3 (42.9%)	19 (65.5%)	

# The combination of PI3Ki and MEKi: a promising treatment option especially for BRAF wild-type melanoma patients

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# **Introduction & Objectives:**

New therapeutic approaches such as immunotherapy or small molecule inhibitors has significantly improved the overall survival rate of melanoma patients. However, the response rates of current treatment options are limited, and the emergence of resistance mechanisms to immunotherapies and targeted therapies has become a major challenge in the treatment of melanoma. We and others have shown that the PI3K/AKT pathway is deregulated in 70% of melanomas and plays a key role in the development of these resistance mechanisms.

Therefore, PI3K may be a promising target for specific inhibitor treatment. In particular, the combination of PI3K and MEK inhibitors (PI3Ki and MEKi) that simultaneously target the PI3K/AKT and MAPK pathways may be an effective therapeutic option in metastatic melanoma. As monotherapy, the pan-PI3K inhibitor BKM120 can induce growth inhibition and apoptosis in most of the melanoma models tested, but shows severe side effects in patients. In contrast, the alpha isoform specific inhibitor BYL719 has limited antitumor activity as monotherapy but is considered less toxic.

#### Materials & Methods:

BRAF wildtype and BRAF mutated melanoma cell lines and PDX models were treated in vitro with PI3Ki and/or MEKi. Analysed was the growth inhibition, the cell cycle distribution as well as the expression of the molecules involved in apoptosis induction. Ex vivo slice culture models were used to analyse the efficacy of the treatment in a more physiological model resembling the tumor heterogeneity. In in ovo and in vivo experiments in mice the tumor growth after treatment with PI3Ki and/or MEKi was investigated.

# **Results:**

However, both combination treatments of PI3K and an MEK inhibitor resulted in effective growth inhibition and apoptosis in the cellular melanoma models tested (BRAF mutated and BRAF wild-type), exceeding the effect of MEK inhibition as monotherapy. Initial *in ovo* test results (on chick chorioallantoic membrane (CAM)) showed reduced tumor burden by using BYL719 in combination with the MEKi trametinib. *In vivo* results in NSG mice injected with either BRAF mutated or BRAF wildtype cells showed a synergistic effect of the combination in the BRAF wild-type cells.

## **Conclusion:**

These data suggest that the combination of PI3Ki with MEKi may be a new therapeutic option for BRAF wild-type melanoma patients.

# Oncological evolution of cutaneous squamous cell carcinoma after complete involution with intralesional methotrexate treatment

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# **Introduction & Objectives:**

Intralesional methotrexate (il-MTX) is an effective treatment for reducing tumor size in cutaneous squamous cell carcinoma (cSCC). In our department, this treatment is used as a neoadjuvant protocol after surgery. However, a significant percentage of patients achieve complete tumor involution. The aim of our work is to analyze the oncologic evolution of those cases in which, after the administration of il-MTX, complete resolution of the tumor was achieved without the need for surgery.

#### **Materials & Methods:**

In 2017, we initiated patient recruitment in a prospective study whose primary objective was to determine the efficacy of il-MTX in cSCC. Among the secondary objectives was the assessment of medium- and long-term oncologic safety. To this end, we performed a subanalysis of patients who achieved complete tumor resolution. To ensure an optimal follow-up time to be able to assess the occurrence of recurrences and metastases, we have established a cut-off point in December 2019, including in the subanalysis all patients in the study who achieved complete resolution until then. Both the diagnosis of cSCC before treatment and complete involution after infiltrations were histologically confirmed.

#### **Results:**

Eighty-six patients (52 men, 34 women) with a mean age of 80.7 (11.1) years were included. The mean follow-up period was 49.1 (16.1) months. The overall mortality of the series was 30.6%, not related to cSCC in any case. No local recurrences or distant metastases were detected in any of our patients.

#### Conclusion:

According to the scientific literature, our study confirms the oncological safety of il-MTX treatment as no recurrences or metastases were detected in patients who achieved complete resolution of cSCC after this therapy. The mean follow-up time over 4 years, the prospective nature of the study and the number of cases in our series, support the data available in the literature. Although il-MTX treatment should be considered with a neoadjuvant approach, our experience supports its oncological safety when complete tumor involution is achieved prior to surgical treatment.

Prognostic significance of the neutrophil-to-lymphocyte ratio, platelet-to-lymphocyte ratio and monocyte-to-lymphocyte ratio in melanoma patients: A cohort study

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**Introduction & Objectives:** The inflammatory response, as part of the homeostasis of the immune system, plays an important role in the initiation and development of cancer. In this context, the neutrophil-lymphocyte ratio (NLR), platelet-lymphocyte ratio (PLR), and monocyte-lymphocyte ratio (MLR) have been described as prognostic biomarkers in many solid tumors as well as in melanoma. However, their prognostic significance still needs to be fully elucidated due to some contradictory data. The aim of this study was to assess the impact of the pretreatment NLR, PLR, and MLR on survival in patients with melanoma.

**Materials & Methods:** We performed a retrospective cohort study among invasive melanoma patients treated in a single institution between 1998 and 2020. The maximally selected rank statistics from the Maxstat R package (version 2.7.3) was used to determine the optimal cutoff values for NLR, PLR, and MLR. Survival probability was estimated by Kaplan-Meier methods, and prognostic factors were evaluated by Cox proportional hazards model. All statistical analyzes were performed using R (version R 4.2.2).

**Results:** After applying the exclusion criteria, a total of 2721 patients were included in the study. The median follow-up was 8.23 years (IQR 4.41-13.25). Through the follow-up 601 (22.0%) patients progressed, and 413 patients (15.1%) died from melanoma. The optimal cut-off values of NLR, PLR and MLR were determined as 2.1, 184 and 0.2, respectively. In the multivariate analysis, high levels of NLR (≥2.1 vs <2.1), high levels of PLR (≥184 vs <184) and high levels of MLR (≥0.2 vs <0.2) were independently associated with a significantly shorter melanoma-specific survival (MSS) (NLR: HR=1.30, 95% CI=1.06-1.60, p=0.013; PLR: HR=1.37, 95% CI=1.06-1.76,p=0.014; MLR: HR=1.29, 95% CI=1.05-1.58,p=0.015). Other independent risk factors for a worse MSS included male sex, older age, increasing Breslow index and presence of ulceration. Additionally, high levels of NLR and MLR were also associated with poor relapse-free survival (RFS), while PLR was not.

**Conclusion:** In accordance with the current literature, our study demonstrated that elevated baseline NLR, PLR and MLR levels were predictive of poor MSS in patients with cutaneous melanoma. Each of NLR, PLR and MLR appears to be an accurate prognostic biomarker for melanoma. We believe that incorporating these values into prognostic algorithms for melanoma holds the potential to better identify high-risk patients and offer more individualized cancer care.

## Porocarcinoma developing in nevus sebaceous as a collision tumor with syringocystadenoma papilliferum

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## **Introduction & Objectives:**

Nevus sebaceous of Jadassohn (NSJ) is a benign tumour that is usually present at birth, as a hairless patch. After puberty, especially on lesions of the scalp, other benign or malignant tumours may develop including trichoblastoma, syringocystadenoma papilliferum, and basal cell carcinoma. Herein, we present a case of a porocarcinoma and syringocystadenoma papilliferum arising in the background of a nevus sebaceous of Jadassohn.

#### **Materials and Methods:**

The 77-year old African American female patient presented with the aggressive development of a nodule on a previously excised NSJ. The nodule located on the medial parietal scalp measured 3 cm in diameter, dome shaped, pink-red, friable with haemorrhage, and grew quickly in approximately 6 months.

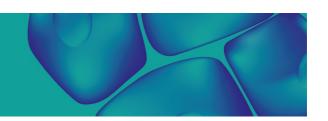
#### **Results:**

Histopathologic examination with hematoxylin and eosin (H&E) revealed a proliferation of severely atypical keratinocytes in the epidermis with extension into the dermis adjacent to areas of focal ulcer. The keratinocytes showed prominent nuclear pleomorphism, eosinophilic to clear cytoplasm, frequent mitotic figures, and focal microtubule formation. The tumour cells were positive for CK7, EMA, and P63, and negative for androgen receptors. Adjacent to this lesion, sections revealed compact orthokeratosis, papillomatosis, focal hypergranulosis, and epidermal hyperplasia. In addition, there were aggregates of sebaceous glands located abnormally high in the dermis, and duct-like structures composed of columnar and myoepithelium that extend as invaginations from the surface epidermis into the underlying dermis. The stroma contained numerous plasma cells, and dermis contained prominent apocrine glands.

The diagnosis was made of collision tumours of porocarcinoma, syringocystadenoma papilliferum, and remnants of NSJ. The tumour was removed with 10 mm surgical margins, and repaired with a double rotational flap. CT of the head and neck did not reveal evidence of lymphadenopathy or metastasis. Follow up through 12 months has been unremarkable without lesion recurrence or metastasis.

#### **Conclusion:**

Porocarcinoma has rarely been described to arise in NSJ, and only one previous report has documented it occurring as a collision tumour. This case highlights the pluripotency of NSJ, and the rare presentation of a porocarcinoma arising as a collision tumour with syringocystadenoma papilliferum in the background of a previously excised NSJ. In addition, while prophylactic removal of NSJ is debated, this case highlights the need for close monitoring of NSJ in cases of previous excision due to the risk of incomplete removal and subsequent malignant transformation.



## Dermatologic follow-up of patients with solid noncutaneous neoplasms

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**Introduction & Objectives:** Cutaneous metastases can be defined as skin localizations of non-primary skin malignancies. Although the spread of visceral malignancies to the skin is quite rare and usually occurs in an advanced stage of the disease, skin metastases affect up to 10% of cancer patients and account for 2% of skin cancers. Metastasis is known to be an organ-selective event and to be influenced by the microenvironment of the implantation site, and each visceral neoplasm has an apparently different behavior. For example, some visceral malignancies, such as liver cancer, metastasize randomly to the skin, while other cancers, such as lung, colorectal, or pancreatic cancer, preferentially metastasize to certain skin sites: lung cancer in supradiaphragmatic sites, colorectal cancer in infradiaphragmatic sites, pancreatic cancer at peri-umbilical area. Clinically, skin metastases from visceral malignancies have a heterogeneous presentation and are not always recognized by dermatologists; this can have an impact in terms of diagnosis, treatment, and patient prognosis. Sometimes skin metastases represent the first clinical manifestation of silent visceral tumor or can be the first manifestation of disease recurrence in follow-up cancer patients. Furthermore, it is very important to recognize skin metastases at first presentation so as not to delay diagnosis, considering that it has been described that the average survival after the diagnosis of skin metastasis is 7.5 months.

**Materials & Methods:** Four researchers (AB, FC, AD, MP) independently reviewed the literature. Data were extracted from PubMed/MEDLINE and search criteria were used: 'cutaneous metastasis from visceral cancers' OR 'skin metastasis from internal malignancies'. We noticed that attention to this topic has increased in recent years, especially for cancers whose diagnosis often occurs late such as pancreatic cancer.

**Conclusion:** Although attention has increased in recent years relatively to this topic, currently most cancer patients are followed up with imaging examinations such as PET-CT, MRI, CT, ultrasound, and so on, but are not screened by dermatology. On the other hand, traditional imaging examinations do not provide reliable information on small skin lesions, but the recent development of noninvasive diagnostic methods, such as OCT or confocal microscopy, has opened new perspectives for dermatologists in the follow-up pathway of cancer patients. However, further investigations are needed to assess the impact of dermatologic follow-up in patients with solid noncutaneous malignancies.

#### An uncommon location for skin metastases from cervical carcinoma

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## **Introduction & Objectives:**

#### **Materials & Methods:**

#### **Results:**

A 41-year-old female patient, with no previous medical history, was admitted to the Internal Medicine Department because of unintentional weight loss for 4 months, from 47kg to 35kg (approximately 25% of body weight), as well as asthenia, muscle weakness, myalgias and nausea for the past 3 weeks. Additionally, she referred having an asymptomatic nodule in her scalp which had been slowly growing for several months.

On skin examination, there was a tumoral erythematous lesion of 25x25mm with central ulceration, hard on palpation and not adherent to deeper plans, located on the left parietal region of her scalp (Fig.1). On the ipsilateral temporal region, a small skin-colored papule of 5 mm in diameter was found, also asymptomatic and mobile in relation to underlying structures. No other cutaneous or mucous lesions were observed.

Following investigations, including chest X-ray, PET-CT and colposcopy, demonstrated that the patient had a cervical tumor of high metabolic degree with disseminated metastases.

Cervical and skin biopsies were performed and showed significant histological and immunohistochemical overlapping findings between the samples.

Skin histological examination showed an epithelial neoplasm formed by strands and nodules of small cells with scanty cytoplasm and oval or vaguely elongated nuclei, finely vesiculated chromatin, and sometimes multiple punctate nuclei. There was high mitotic activity and no cornification observed.

The immunohistochemical features of both skin and cervical samples included diffuse positivity for CAM 5.2 and p16, as well as slight focal positivity for CD56 and synaptophysin. The remaining tested markers (chromogranin, CK20, CK7, p40, CK5/6 and 34BETAE12) were negative.

The final diagnosis of SCNEC of the cervix with multiple metastasis including to the skin was made.

Unfortunately, the patient died less than 1 month after the diagnosis due to multiple organ failure.

Small cell neuroendocrine carcinoma of the cervix is a rare highly invasive tumor, accounting for less than 5% of cervical cancer.

It is most common in peri-menopausal females, mainly in the 4th and 5th decades of life.

Skin metastases are extremely rare in SCNEC, even in advanced stages of the disease, with a variable incidence from 0.1% to 2%. When present, they are considered a strong predictor of poor prognosis.

The most typical locations for these secondary skin lesions are the abdominal wall, the vulva and the anterior chest

wall. Nevertheless, lesions on the limbs, umbilicus, face and scalp (as in our case) have been described.

We report this case due to the extreme rarity of skin metastasis in this subtype of cervical carcinoma, especially on the scalp and at initial presentation.

# **Conclusion:**

# Primary Cutaneous Pleomorphic T-cell Lymphoproliferative Disorder: A case series at a tertiary care hospital

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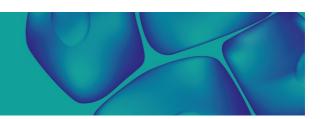
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**Introduction & Objectives:** Primary cutaneous lymphomas (PCL) are a rare pathology with multiple changes in their classification, including the former CD4+ pleomorphic T-cell lymphoma. The objective of this series is to analyze all cases collected in our department between 1993 and 2022.

**Materials & Methods:** Retrospective observational study. Cases of primary cutaneous pleomorphic CD4+ lymphoma diagnosed and/or followed up through database queries and medical records in our Lymphoma Unit were collected during the period 1993-2022. All cases have confirmed histopathological diagnosis, with different nomenclatures prior to and after the WHO-EORTC 2018 classification.

**Results:** A total of 102 cases of primary cutaneous T-cell lymphoma were recorded, of which 10.8% (11/102) were pleomorphic CD4+. 63.6% of the patients were women (7/11) with a mean age of 49 years at diagnosis. The common clinical presentation consisted of solitary erythematous papules-nodules, located in 90.1% on the head (5 on the forehead, 1 retroauricular, 2 preauricular, 1 nasal tip, and 1 lower eyelid), and only 9.1% on the trunk (upper chest). No cases with lymphadenopathy were reported. Biopsies showed atypical polymorphic lymphocytic infiltration in the dermis, with CD2, CD3, CD4, CD5, CD7, CD48, PD1, and BCL2 positive in 100% of cases (11/11), with CD30+ cells and mixed-in lymphocytes B. Clonality studies were performed in 54.4% (6/11), showing TCR clonal restriction in all of them. Spontaneous resolution after punch biopsy was observed in 36.4% (4/11), while 63.6% (7/11) were treated with complete excision, of which 9.1% (1/11) experienced recurrence, resolving after intralesional corticosteroid infiltration, and later developing a new lesion in the helix, which was cured after complete excision. Extension studies (CT and bone marrow biopsy) were negative in 100% of cases.

**Conclusion:** Formerly known as CD4+ pleomorphic T-cell lymphoma, it is now defined as primary cutaneous small/medium pleomorphic T-cell lymphoproliferative disorder (DLCTP) in the WHO-EORTC 2018 classification, being a provisional entity within the spectrum of PCL of T-cells. It is a rare process with indeterminate malignancy potential, and due to its indolent course, the WHO decided to reclassify it as a lymphoproliferative disorder rather than a true lymphoma. Lesions are usually solitary and located in the upper half of the body, affecting middleaged individuals. It is characterized by a non-epidermotropic CD3+ and CD4+ lymphocytic infiltrate with abundant B-cells. It is suggested to derive from follicular TH lymphocytes that stimulate B-cell activation. Treatment usually involves surgery or corticosteroid infiltration, with an excellent prognosis.



## Sarcoma mimicking melanoma

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**Introduction & Objectives:** Soft tissue sarcoma and melanoma sometimes share common histologic, molecular, and immunohistochemical features. This study aims to review case reports and case series in the literature in which the initial diagnosis of melanoma is revised to a diagnosis of sarcoma. The purpose is to describe the clinical, histological, immunohistochemical and molecular features to be referred to during the diagnostic process.

**Materials & Methods:** Three investigators (FC, AD, PDF) independently reviewed the literature. Data were extracted from PubMed, Embase and Scopus and the search criteria were used: 'sarcoma mimicking melanoma' OR 'sarcoma resembling melanoma' OR 'Melanoma-Like' for a total of 368 unique articles; of these we included only case reports and short case series for a total of 32 articles.

Results: The analysis yielded 38 eligible cases in which the initial diagnosis of melanoma was subsequently changed to the more likely diagnosis of sarcoma. The enrolled cases were evaluated for clinical history, histologic, immunohistochemical, and genetic features. Of the 38 cases in which an initial diagnosis of melanoma was made, 23 were screened for the EWSR1 translocation typical of clear cell sarcoma. In 18 of the latter, the search was successful, and a definitive diagnosis of clear cell sarcoma (CSS) was made. Of these, 14 were males and 4 females, and the age group most affected was 20 to 54 years old (12 cases). All 18 cases with definite diagnosis of CSS were described since 2009, and most (14) were reported in the last decade (2013-2023). It turned out that CSS is not the only sarcoma that can "disguise" as melanoma; in fact, of the 38 cases mentioned above, 6 were definitively diagnosed as malignant peripheral nerve sheath tumor (MPNST), 3 were angiosarcomas, and 2 were synovial sarcomas. The remaining diagnoses included Kaposi's sarcoma, Langerhans cell sarcoma, pleomorphic sarcoma, and malignant neuroendocrine tumor of the gastrointestinal tract (GNET).

**Conclusion:** The literature review confirmed the close clinical, histologic and immunohistochemical similarity between melanoma and some forms of sarcoma such as CSS, also highlighting the importance of searching for EWSR1 translocation in cases where the diagnosis of melanoma appears uncertain.

## 3D moles mapping and analysis for automatic melanoma detection

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**Introduction & Objectives:** Melanoma is the most aggressive skin cancer and its detection in the early stage is crucial for a successful management. Many algorithms have been developed so far to provide an objective examination when evaluating pigmented skin lesions, but none proved effective in clinical practice because these methods are usually time and resource consuming. We propose an innovative and automatic method that derives a 3D model of the patient's body from multiple macroscopic images through photogrammetry.

**Materials & Methods:** We used a system prototype consisting of a vertical structure with a horizontal movable arm equipped with 12 cameras and 4 polarized led lights. All 12 cameras were set to shoot simultaneously so that images were not influenced by the movements of the patient. A 3D model was then reconstructed using the Structure from Motion Photogrammetry technique. The obtained 3D models also allowed to evaluate the thickness of each mole. A specific algorithm has been developed for the analysis of the obtained 3D model, to automatically identify and analyze every single mole computing diagnostic indices related to asymmetry, border, color, dimension, and volume for each detected nevus. Images from 15 subjects were considered. Each subject had been referred to our dermatology unit for a cutaneous excisional biopsy of an atypical mole. For each subject, 12 back skin images were simultaneously acquired using 12 digital cameras equipped with polarizing filters (Nikon D3500).

**Results:** The proposed algorithm correctly identified all the main nevi on the patient's back, and all suspicious moles to be excised were among automatically identified moles. Segmentation is necessary to identify skin lesions' borders, and to evaluate this process 30 moles were considered and analyzed both manually and automatically: as a matter of fact for each subject we considered the suspicious mole and another randomly selected non-suspicious mole. The IoU (Intersection over Union) index was therefore calculated for the 30 moles by comparing the automatic segmentation and the manual segmentation. The segmented moles showed a medium IoU index of 0.9, which is very close to 1, denoting a good correspondence between automatic and manual segmentation. Although a global index has not been developed yet, in the considered limited dataset the suspicious moles had elevated values in clinical indices of color variation (4 moles), asymmetry and dimension (3 moles), border irregularity (2 moles), or high values in all the derived clinical indices (6 moles). Moreover, the derived value of thickness proved to be useful for classifying as normal two moles which would have otherwise been misclassified as suspicious.

**Conclusion:** The automatically estimated clinical indices may allow to identify melanoma among normal benign moles. These preliminary results encourage the further development of the proposed method, but also highlight the need to evaluate a larger number of subjects. Furthermore, with a larger number of patients available, images and verified labels will be used for the training of an algorithm based on MachineLearning techniques which can lead to an accurate and generalizable classification of suspicious moles. Further developments of the proposed algorithm will be the identification of the so-called "ugly duckling sign" and a specific procedure for computing the evolution over time of moles from images of the same patient taken at different times.

## **Exophytic White Lesion From Vagina**

Thuraiya Al Rumhi\*1, Raqiya Al Rajaibi1, Fatma Al Hinai1

<sup>1</sup>Oman, Dermatology, Muscat, Oman

## **Introduction & Objectives:**

Turner syndrome (TS) is the only monosomy syndrome that a patient can survive. It has been associated with an increased risk of many cancers. However, its association with solid tumors is not well established. Developing squamous cell carcinoma (SCC) of the vulva in a virgin TS female is extremely rare. Here we report a case of a young virgin female with TS. She has been on hormonal therapy for 15 years. She developed SCC of the vulva. This is the first published case of a young virgin female who has Turner syndrome on a hormonal replacement since the age of puberty and developed SCC of the vulva, human papillomavirus (HPV) independent.

#### **Materials & Methods:**

A 30-year-old female is known to have Turner Syndrome (XO). She is on a hormonal replacement for 15 years. She was seen for evaluation of a genital lesion for 4 months duration. There were two exophytic growths seen on the medial side of the right labia majora with no labia minora seen. They presented on a well-demarcated depigmented patch involving both sides of the labia major medially. An initial biopsy from the junction between normal and abnormal epithelium was taken by a gynecologist. The histopathology impression was irritated seborrheic keratosis. She underwent cryotherapy twice, with no improvement. Then, two punch biopsies were taken by a dermatologist representing the two lesions. Both biopsies showed similar histopathological morphology. It was compatible with atypical squamoproliferative lesion which can be giant condyloma acuminatum or well-differentiated squamous cell carcinoma. Therefore, surgical wide excision was done. Histopathology report came to be well-differentiated squamous cell carcinoma, HPV-independent.

## **Results:**

Vulvar cancer is an uncommon malignancy. It primarily affects post-menopausal women and high-risk HPV infected women. The most common type of vulvar cancer is squamous cell carcinoma (SCC). TS has been found to be associated with an increased risk of many cancers. However, its association with solid tumors and hematological malignancies is not well established. Developing SCC of the vulva in a virgin TS female is extremely rare. However, TS is proposed to be associated with multiple autoimmune conditions including Lichen Sclerosis (LS), with an estimated prevalence of 17%. The risk of developing vulvar SCC in LS can reach very high. Prevalence is ranged from 0% to 83%, with incidence from 1.16 to 13.67 and the absolute risk is from 0.0% to 21.88%.

There is a well-documented phenomenon that chronic inflammation and scarring can give rise to carcinoma. Lichen sclerosis is a chronic inflammatory dermatosis characterized by clinicopathologic hypocellular fibrosis. There are a subset of vulvar SCCs and LS found to diffusely express the p53 gene product and DNA aneuploidy which are considered neoplastic progression markers. Vulvar LS can act as both the "initiator and promoter" of carcinogenesis. This is explaining the frequent coexistence of these diseases. There is one similar published case in 2011. She was a young, virgin with Turner syndrome who develop SCC of the vulva. But that patient was not on hormonal replacements. Therefore, she had a low estrogen level, so getting SCC of the vulva is anticipated.

## **Conclusion:**

LS can be both an "initiator and promoter" of carcinogenesis. Vulvar assessment is needed as part of routine follow-up in all women with TS. Lastly, re-conceptualize the problem and push yourself to think out of the box.

# IGF1 synthesis after CO2 fractional laser resurfacing (FLR): new insights in the treatment of scalp actinic keratoses

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## **Introduction & Objectives:**

Actinic keratosis have a high risk of progression to a squamous cell carcinoma. Insulin-like growth factor 1 and its receptor play a relevant role in restoring repair of UV-induced cell damage. This pathway is reduced in patients older than 65 years. Ablative fractional laser resurfacing could normalize IGF-1 secretion in elderly by recruiting new fibroblasts. The aim of the study is to evaluate restoration of IGF1 values by PCR in senescent fibroblasts after ablative fractional laser resurfacing.

#### **Materials & Methods:**

We enrolled thirty male patients with multiple actinic keratosis on the scalp, equally divided into two mirror areas of up to 50 cm2, treating only the right one. We performed one skin biopsy for each area 30 days after treatment. Real-Time PCR in fibroblasts was performed to assess the change in IGF1. At baseline and after 6 months, in vivo reflectance confocal microscopy examination was performed in all patients.

#### **Results:**

IGF1 values were increased in the treated side by about 60%. The right areas had fairly complete resolution of actinic keratosis at the last follow-up visit after six months with no appearance of new lesions. The mean number of actinic keratosis in the right area was reduced by more than 75% at 4- and 6-follow-up visits compared to the left area. The improvement in the right area was also evidenced by lower values of the mean AKASI (actinic keratosis area and severity index) score. Reflectance confocal microscopy showed a reduction of keratinocytic disarray and scales after treatment.

# **Conclusion:**

Taken together, all the clinical, laboratory and in vivo results of our study allowed us to confirm that ablative fractional laser resurfacing is a valuable tool for the treatment of actinic keratosis and cancerization field, both for the management of clinically evident lesions and for preventing the occurrence of squamous cell carcinoma.

# Paediatric cutaneous lymphomas including rare subtypes: 40-years' experience at a tertiary referral center

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# **Introduction & Objectives:**

Cutaneous lymphomas are a heterogeneous group of haematological malignancies characterised by primary cutaneous involvement or secondary skin manifestations of systemic diseases. Primary cutaneous lymphomas usually arise in the elderly and there are few published studies of childhood and adolescent cutaneous lymphomas.

The aim of this study was to start filling this knowledge gap by describing the clinical, histological, and molecular characteristics of a large group of young patients affected by primary or secondary cutaneous and, when available, their prognosis, progression and clinical outcomes. Finally, we compared our findings with those available in the literature in order to identify possible differences and similarities with adult patients.

## **Materials & Methods:**

This retrospective study collected the clinical and pathological data of young patients diagnosed as having primary or secondary cutaneous lymphomas between 1980 and 2022 at the Paediatric Dermatology Unit of our hospital. To be included in the study, the patients had to have a biopsy-confirmed cutaneous lymphoma and be aged no more than 18 years old at the time of diagnosis.

## **Results:**

The study considered the cases of 104 patients (58 males, 46 females) whose median age at the time of diagnosis was 10.4 years (Table 1). The majority had primary cutaneous lymphomas (102, 98.1%), and the remaining two different haematological disorders: 48 had lymphomatoid papulosis, 31 mycosis fungoides, 7 cutaneous anaplastic large-cell lymphomas, 7 primary cutaneous CD4+ small/medium T-cell lymphoproliferative disorder, 3 primary cutaneous marginal zone B-cell lymphomas, 2 primary cutaneous follicle centre lymphomas, 2 subcutaneous panniculitis-like T-cell lymphomas, 1 blastic plasmacytoid dendritic cell neoplasm, 1 primary cutaneous peripheral T-cell lymphoma not otherwise specified, 1 primary cutaneous precursor B-lymphoblastic lymphoma, and 1 Sézary syndrome. Clinical follow-up data covering a median of 70.6 months (range 1-324) were available for 74 patients, of whom seven died (five due to cutaneous lymphoma).

#### Conclusion:

To the best of our knowledge, our demographic and clinical data relating to 104 confirmed cases of paediatric cutaneous-haematological disorders describe the largest published series of patients with the longest duration of follow-up. The limitations of our study include its retrospective design and the fact that it is based on the experience of a single centre. Although our findings require confirmation by methodically sound, larger-scale studies, they highlight some particular features of paediatric cutaneous lymphomas. Furthermore, there is still

much to be learned about their pathogenesis, molecular bases, and treatment.

Table 1.

Subtype	No. of cases (%)	Sex (Male/Female)	Median age at diagnosis (range), years	Median follow-up (range), months	Clonal
Mycosis fungoides	31 (29.8%)	16/15	11.4 (2 – 17)	100.4 (10-340)	18/23
Sezary syndrome	1 (1%)	1/0	17	100	1/1
Lymphomatoid papulosis	48 (46.1%)	29/19	6.8 (0 – 17)	58.6 (1 – 281)	23/33
Primary cutaneous anaplastic large cell lymphoma	5 (4.8%)	4/1	8.8 (3 - 13)	20.3 (6 - 36)	2/3
Secondary cutaneous anaplastic large cell lymphoma	2 (1.9%)	0/2	15 (13 - 17)	18 - 66 (42)	0/0
Subcutaneous panniculitis-like T- cell lymphoma	2 (1.9%)	1/1	12 (10 – 14)	90 (12 – 168)	2/2
Primary cutaneous CD4+ small/medium T-cell lymphoproliferative disorder	7 (6.7%)	3/4	10.6 (5 – 16)	25.5 (6 – 48)	3/6
Cutaneous peripheral T-cell lymphoma, not otherwise specified	1 (1%)	1/0	12	132	1/1
Cutaneous marginal zone lymphoma	3 (2.8%)	1/2	12.3 (10 – 17)	84	1/2
Cutaneous follicle centre lymphoma	2 (1.9%)	2/0	16.5 (16 – 17)	182.5 (41 – 324)	2/2
Cutaneous B cell lymphoblastic lymphoma	1 (1%)	0/1	2	156	0/0
Blastic plasmacytoid dendritic cell neoplasm	1 (1%)	0/1	9	12	0/0
Total	104	58/46	10.4 (1 – 17)	70.6 (1 - 324)	53/73

## Sun protective behaviour and melanoma awareness in a high-risk population in Switzerland

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# **Introduction & Objectives:**

The worldwide incidence of melanoma has increased rapidly in the Caucasian population in recent decades. Switzerland shows one of the highest rates in Europe. Since ultraviolet (UV) radiation is one of the major risk factors for melanoma, our objective was to investigate UV protective behavior and melanoma awareness in a high-risk cohort for melanoma.

#### **Materials & Methods:**

In this prospective monocentric study conducted between 01/2021 and 03/2022, we assessed general melanoma awareness and UV protection habits in melanoma patients and at-risk patients for melanoma ( $\geq$  100 nevi,  $\geq$  5 dysplastic nevi, known CDKN2A mutation and/or positive family history) using questionnaires.

## **Results:**

We included a total of 269 patients (53.5% at-risk patients, 46.5% melanoma patients). We observed a trend toward the use of higher sun protection factor (SPF) among melanoma vs. at-risk patients (SPF 50+: 48% [n = 60] vs. 26% [n = 37]). UV protection in the form of sunscreen use with an SPF  $^3$  30 was significantly higher in individuals with a college or university degree compared to those with lower levels of education (p = 0.0007). Interestingly, the opposite was found for annual sun exposure: Participants with higher education levels spent significantly more time in the sun (p = 0.041). Neither a positive family history of melanoma nor age, gender, Fitzpatrick skin type, melanoma subtype or stage nor the anatomic location of the melanoma on the body significantly influenced sun protection behavior in terms of the SPF used and the amount of sun exposure per year. Participation in the study resulted in improved sun protective behavior, as 51% reported using sunscreen more frequently after enrollment.

## **Conclusion:**

UV protection remains a key factor in melanoma prevention. We propose to further raise melanoma awareness through public skin cancer prevention campaigns, focussing on individuals with low education levels. Further, we urge all dermatologists to instruct their patients to practice appropriate UV protection at every exam.

## **Duality of immune checkpoint inhibitors - clinical challenges**

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## **Introduction & Objectives:**

The introduction of immune checkpoint inhibitors (ICI) into current medical practice has been a milestone in the treatment of neoplasms, including metastatic melanoma. Due to its unique mechanism of action, immunotherapy involves a new spectrum of adverse reactions that are mainly related to the immune system (irAE). They can affect any organ or tissue, but most commonly they affect the skin.

#### **Materials & Methods:**

We present the case of a patient recently diagnosed with ulcerated invasive acral melanoma, left thumb, Clark stage IV, Braslow Index 3.5 mm and sentinel lymph node metastases, for which excision of the distal phalanx of the left thumb is performed, accompanied by left axillary lymphadenectomy. It has been decided to initiate adjuvant immunotherapy with Pembrolizumab, a humanized monoclonal antibody that acts against PD-1.

During the course of the treatment, the patient developed a cutaneous lesioned polymorphism, starting from a simple maculo-papular reaction and culminating in the shape of some of the rarest irAEC (also called irAECs): bullous pemphigoid, lichen planus and pemphigus vulgaris.

Aa topic we will discuss further in the article is that IrAEC are often reported in the literature as "rashes" and rarely characterized into distinct dermatological entities.

#### Results:

The particularity of the case is represented by the occurrence of three rare irAECs during immunotherapy with PD-1 inhibitors. The management of skin lesions has been a real challenge because the goal was to not interrupt the ICI treatment.

## **Conclusion:**

The results of the latest clinical trials have established ICI as the most successful class of immunotherapies. Although irAECs are the most common adverse effects, most cases are mild (grade 1 and 2), allowing continuation of treatment with ICI. Given that these adverse reactions can occur at any time during treatment (sometimes even after treatment has ended), early recognition and appropriate management is key to therapeutic success.

Key words: immune checkpoint, immunotherapy, metastatic melanoma, adverse reactions.

## Carcinoma erysipeloides initially treated as an adverse cutaneous reaction: a case report

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**Introduction & Objectives:** Carcinoma erysipeloides\* (CE) represents an uncommon form of cutaneous metastasis in many different types of tumors, with breast carcinoma being the leading cause. It can be an initial manifestation of the disease, but also occur at advanced stages. Clinically it is mostly presented as erythematous patch or plaque, resembling cellulitis or erysipelas, with often distinct, raised borders. However, it can also manifest with other forms including papules, nodules, plaques, ulcerations, or crusting.

**Materials & Methods:** We report a case of a 39-year-old Caucasian female with a one-year history of breast erythema. Eight months before skin changes the patient was diagnosed with ductal invasive breast carcinoma stage IV, T4N1M1 with metastases in bones and liver confirmed by CT scans. She was treated with 10 cycles of radiotherapy and 6 cycles of chemotherapy with docetaxel, trastuzumab, and pertuzumab. Initially, skin changes were misdiagnosed as a cutaneous adverse effect of chemotherapy, and pertuzumab was discontinued. Three more cycles of docetaxel and trastuzumab were administered. Due to the persistence and further spreading of skin changes after pertuzumab suspension, the patient was referred to a dermatologist.

**Results:** The patient presented with annular, erythematous plaques with elevated borders predominantly affecting the left breast with centrifugal spreading to the right breast and the trunk. Within the plaques, violaceous and reddish nodules were observed. Biopsy of skin changes revealed large tumor cells within dermal lymphatics. Immunohistochemical staining revealed HER-2 + with Ki-67 positivity in 90% of tumor cells. Estrogen and progesterone receptors were negative. Based on clinical presentation and histopathological findings, the patient was diagnosed with carcinoma erysipeloides as a rare manifestation of breast carcinoma. She was referred to an oncology specialist for further evaluation and specific oncologic treatment.

**Conclusion:** Carcinoma erysipeloides is a rare manifestation of cutaneous metastases which can be easily confused with other diagnoses, leading to delay in treatment and consequently poor prognosis. In the era of novel biologic therapies, adverse cutaneous reactions are a common finding, representing an important differential diagnosis. Cutaneous metastases can be diagnosed early with regular skin check-ups with oncologic patients.

## Mucosal lesions in genital lichen sclerosus: what is the neoplastic risk?

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# **Introduction & Objectives:**

Lichen sclerosus (LS) is a chronic inflammatory dermatosis of uncertain etiology, with frequent localization in the anogenital area. The course of this disease is chronic and recurrent, presenting an increased risk of developing squamous cell carcinoma (SCC). LS affects people of all ages and is more common in women (6:1 ratio), peaking during periods of life with lower estrogen production. The etiology of LS is uncertain, the pathogenesis being a multifactorial process involving the interaction of genetic predisposition, autoimmunity and local factors.

#### Aim

Systematic review of the incidence rate of developing SCC in patients with anogenital LS, as well as patient characteristics that influence the risk of developing LS-associated SCC.

# Materials & Methods:

PubMed databases were systematically reviewed for publications related to LS from the past five years. Relevant LS clinical cases were included.

### **Conclusion:**

LS remains a potentially insidious pathology that can lead to diagnostic errors due to the time of presentation of patients (initial or advanced stage). The risk of developing SCC in the context of pre-existing LS is high enough to require close long-term follow-up of patients with this condition.

Keywords: lichen sclerosus, neoplastic risk, clinical features, genital lichen sclerosus, squamous cell carcinoma.

## Comorbidities in patients with skin cancer, is chronic inflammation involved?

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# **Introduction & Objectives:**

Skin cancer (SC) is the most frequent cancer worldwide. Chronic inflammation has been involved in its pathogenesis, which acts in response to the proliferation and survival of malignant cells. On the other hand, chronic systemic inflammation can also be present in the pathophysiology of cardiovascular, metabolic and autoimmune diseases as processes such as T-lymphocyte dysregulation, increased levels of inflammatory cytokines and loss of local homeostasis are implicated. We aim to describe the frequency of comorbidities present in patients with skin cancer, including personal history of skin cancer.

## **Materials & Methods:**

We conducted a cross-sectional study in patients with SC that attended a dermatologic center between January 2018 to June 2022 in Bogota, Colombia. Variables obtained from medical records were sex, age, SC subtype and comorbidities. We performed an univariate and bivariate analysis and relative and absolute frequencies were estimated. Data was collected and analyzed using Microsoft® Excel.

## **Results:**

Out of 508 patients, 52.95% were women (n=269). Median age was 74 years. Cardiovascular comorbidities were found in 44.88% (n=228) of the sample, 206 of them had hypertension. Endocrine disorders were present in 21.45% (n=109) of the patients, of whom 58 subjects had type 2 diabetes and 45 hypothyroidism. Concomitant dermatological comorbidities were present in 12.79%, followed by neuropsychiatric disorders and gastrointestinal disorders, both with 6.88%. Almost one third of the sample had positive skin cancer records (n=145), distributed as follows: basal cell carcinoma in 75.86% (n=110), squamous cell carcinoma 20% (n=29), and melanoma 3.44% (n=5).

## **Conclusion:**

Our patients showed a higher frequency of cardiovascular and endocrinologic disorders. This finding could be associated with an immune dysregulation and systemic chronic inflammation, however, hypertension and diabetes does have a higher prevalence in older patients, which were the majority of our sample. Given that chronic inflammation plays a key role in the development of SC, further studies should be performed in order to define if there is a possible association with other chronic inflammatory conditions for the purpose of promoting secondary prevention in this population.

# Dermatofibrosarcoma Protuberans of the Breast with Fibrosarcomatous Degeneration and Pulmonary Metastases: a rare case

Eleni Bountouroudi\*<sup>1</sup>, Christos C. Zouboulis<sup>2</sup>

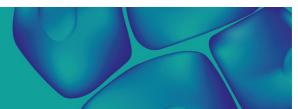
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**Introduction & Objectives:** Dermatofibrosarcoma protuberans is a rare, locally aggressive cutaneous tumor of intermediate malignancy. It is a slow-growing neoplasm with a marked propensity to recur after resection. DFSP commonly involves the trunk and extremities and very rarely the breast skin, with few reported cases in the literature. Distant metastases are quite rare but tend to be more frequent in tumors that undergo fibrosarcomatous degeneration.

**Materials & Methods:** We report a 53-year-old woman with a history of fibrosarcomatous dermatofibrosarcoma protuberans of left breast, who therefore underwent Mastectomy and Lympadenectomy of the left side in 2022. Ten months later, she presented in our hospital because of a growing Tumor in the left chest.

**Results:** With suspicion of local recurrence, a computed tomography (CT) of the thorax was performed, demonstrating additionally pulmonary metastases bilaterally. Histopathology of both primary tumor and pulmonary metastasis showed a spindle cell neoplasm. Immunohistochemistry of the primary tumor cells showed diffuse positivity for CD34 antigen. A second wide local excision of the tumor was performed and the patient is under adjuvant chemotherapy with Imatinib and long-term-follow-up.

**Conclusion:** In conclusion, DFSP is the most common cutaneous sarcoma but represents less than 0.1% of all malignant cutaneous neoplasms. Distant metastases are rare but should be considered by DFSP with a more aggressive fibrosarcomatous variant. The therapeutic management remains challenging, especially by numerous metastases. Local resection may be considered for solitary metastasis of DFSP, but as in our case primary-tumor-excision combined with adjuvant chemotherapy is necessary to slow down the further progress of the disease.



## Post-transplant lymphoproliferative disorder: a case report

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**Introduction & Objectives:** Post-transplant lymphoproliferative disorders (PTLD) are unkommon but potentially serious complications associated with chronic immunosuppression in solid organ or hematopoietic cell transplant recipients. Most originate from B cells and are associated with proliferation of Epstein-Barr virus (EBV).

Materials & Methods: We report a clinical case of PTLD with cutaneous involvement.

**Results:** A 67-year-old woman who underwent surgery of a cutaneous T cell lymphoma on the right lower limb 8 years ago, presented to the dermatology department due to a suspicion of recurrence. She was a kidney transplant recipient under immunosuppressive therapy with tacrolimus and mycophenolic acid. On examination, she presented multiple erythematous-violaceous 1-2 cm papules and nodules, some of them ulcerated, on the right lower limb. Anatomopathological examination of a cutaneous lesion showed a polymorphic dermal lymphoid infiltrate with presence of EBV-positive cells. Peripheral blood PCR analysis was negative for EBV. This was compatible with a PTLD. The PET-CT showed hypermetabolism of the cutaneous nodules, supporting the diagnosis. The immunosuppressive therapy was interrupted with resolution of the cutaneous lesions.

**Conclusion:** We present a case of PTLD with exclusively cutaneous involvement. Although it is a rare entity, it should be considered in the differential diagnosis of cutaneous lesions in transplant recipients who receive immunosuppressive therapy. The diagnosis of PTLD is histological, although the PET-CT, the peripheral blood PCR analysis for EBV and lactate dehydrogenase may be useful.

## Behavior of vitamin D levels in patients with skin cancer

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# **Introduction & Objectives:**

Vitamin D is 80-90% synthesized in our skin from exposure to ultraviolet radiation (UVR). It has anti-inflammatory, anti-apoptotic, antioxidant, anti-proliferative, pro-differentiation, DNA repair and autophagic cell death functions. Its dysregulation has been associated with the development of some types of cancer, especially in breast, colon, pancreatic and prostate. The relationship regarding skin cancer remains unclear and sometimes contradictory. There are cases reported of basal cell carcinoma in patients with optimal levels and increased risk of progression with levels <15 ng/mL. The aim of this study is to evaluate the behavior of vitamin D levels in patients diagnosed with skin cancer.

## **Materials & Methods:**

A cross-sectional study was performed from January 2021 to December 2022. Data were obtained from the medical records of patients diagnosed with skin cancer, who in turn reported serum vitamin D levels. Data were collected at a single dermatologic center in Bogota, Colombia. Univariate analysis was performed, along with multivariate analysis from contingency tables and logistic regressions. These were collected in Microsoft Excel and analyzed through STATA.

#### **Results:**

Of 61 patients, 72.1% were male. The most frequent age range was between 81 and 90 years. The 50.8% were phototype II. Basal cell carcinoma (BCC) was the most frequent with 77%, followed by squamous cell carcinoma (SCC) with 21.3% and melanoma (1.6%). Vitamin D levels were at sufficiency levels in 70.4%, while patients with insufficiency and deficiency were 26.2% and 3.2%, respectively. Additionally, it was observed that the patient with melanoma had vitamin D levels in sufficiency, this range also being the most frequent for patients with BCC (72.3%) and SCC (61.5%). The 15.3% of patients with CEC had deficient levels. The probability of occurrence of the type of cancer was estimated with vitamin D levels, whose relationship was not statistically significant (p:0.181 CI 95% 0.71-5.74).

# **Conclusion:**

Although our sample was small, and we did not obtain a statistically significant estimate of the probability of cancer occurrence with suboptimal vitamin D levels, in other studies there is no consensus in the literature to establish it as a protective or risk factor. We obtained a very similar behavior to the prevalence of vitamin D deficiency in the general population compared to the sample studied. We also found that the majority of patients showed sufficient vitamin D levels, however, most of those with CHD showed insufficiency. With this, we consider that more studies are needed to bring us closer to concrete conclusions that demonstrate a probable causal relationship, the usefulness of measuring vitamin D levels and the adequate range in populations with similar characteristics to the one studied in this study.

## Primary cutaneous mucinous carcinoma in an elderly woman: A rare entity

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**Introduction & Objectives:** Primary cutaneous mucinous carcinoma (PMCM) is a rare malignant tumor of sweat gland origin. In general, PCMC is a slow-growing tumor with an indolent behavior, which predominantly affects the face and scalp of elderly male patients. This tumor can be difficult to diagnose due to its clinical and histological similarities to other skin conditions, including metastatic breast and colon mucinous adenocarcinomas.

Materials, Methods & Results: We report a case of an 80-year-old female patient with no significant medical history, who presented to our dermatological department with a 2-year nodule on the scalp that was increasing gradually in size with occasional mild pain, but without bleeding or discharge. Dermatologic examination revealed an 18x15mm, elevated, dome-shaped, erythematous-violaceous tumor on the left occipital region. Clinical examination and extensive laboratory, radiographic, and endoscopic studies did not reveal distant primary disease. The lesion was resected with free tumor margins. Histopathology revealed a circumscribed tumor with large amounts of mucin compartmentalized by fibrous septa and scattered floating islands of tumor cells in the dermis. Immunohistochemical studies stained positive for CK7. According to the observed clinical and laboratory characteristics, PMCM diagnosis was assumed. No local recurrence, regional lymph node involvement, or distant metastasis was observed during one-year follow-up.

**Conclusion:** Clinical and radiological evaluation, histology, and immunochemistry play a crucial role in the diagnosis of PCMC. Microscopically, it is characterized by nests of neoplastic epithelial cells floating in mucinous lakes, with more organized nests, less hyperchromasia, and less mitosis compared to secondary mucinous carcinoma deposits from other tissues. Immunohistochemical markers, such as CK7, CK20, CDX2, TTF1, D2-40, and p63, aid in the diagnosis, but still inconsistently differentiate PCMC from metastatic mucinous adenocarcinomas of the breast. Exclusion of metastatic disease is crucial, so complementary evaluation, such as mammography, colonoscopy, computed tomography and/or PET, should be performed. This report case highlights the diagnostic complexity of this rare adnexal tumor.

## Acquired palmoplantar keratoderma associated with onychopathy revealing Mycosis fungoides

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## Introduction:

Mycosis fungoides (MF), primarily located in the palmoplantar region, is a rare form. Its presentation is often unrecognized. We report a new case of palmoplantar keratoderma (PPK) revealing MF.

#### Observation:

A 92-year-old chronic smoker consulted for a pruritic PPK evolving for 4 years, treated several times as eczema without improvement, with the appearance 8 months ago of nodular skin lesions at a distance. The clinical examination revealed a diffused, transgrediant, purplish PPK, associated with nail involvement such as xanthopachyonychia, sub-nail hyperkeratosis, and distal pterygium, with the presence of nodular skin lesions located on the limbs, varying in size from 1cm to 3cm, rounded, and with a solid consistence. The skin biopsy realized at the palmar and nodular areas showed a lichenoid lymphocytic infiltrate with epidermotropism, and the immunohistochemical study showed an expression of CD4, CD3, with negative expression of CD8, and CD30. The extension study was negative. The mycological nail test was sterile. The diagnosis of MF was retained at stage IIB. The patient had received methotrexate combined with local treatment with good clinical evolution. The current follow-up is 5 months.

#### Discussion:

Our case highlights the importance of considering MF as an unusual but serious cause of acquired PPK. Indeed, primary, isolated, or predominant involvement of the palmoplantar region in MF is only rarely described. It has no specific clinical presentation and may present as hyperkeratotic plaques, verrucous nodules, dyshidrosis pseudoeczema, or pustulosis, which may be confused with several dermatoses, leading to a delay in diagnosis. This is why it is important to perform a skin biopsy in the presence of any palmoplantar keratoderma that does not regress with usual local treatment. Nail involvement, such as onychoderma and xanthonychia, is described. Treatment includes local and general therapies, depending on the grade of the MF.

Handheld reflectance confocal microscopy: significant impact on management patient decision-making and treatment outcomes for lentigo maligna (melanoma) patients

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# **Introduction & Objectives:**

The management of lentigo maligna (melanoma) (LM/LMM) presents challenges due to lesion localization, size, and subclinical spread, resulting in a significant risk of local recurrences. While surgical methods using micrographically controlled techniques can reduce the recurrence rate, predicting the defect size post-surgery remains difficult to predict. Handheld reflectance confocal microscopy (HH-RCM) allows for in vivo diagnosing of equivocal facial pigmented lesions and detecting subclinical tumor spread, undetectable by dermoscopy. We sought to assess the impact of pre-treatment mapping using HH-RCM on patient decision-making and to compare surgical results before and after incorporating HH-RCM into clinical practice.

#### Materials & Methods:

Our study compared two patient cohorts: those treated before (2003-2014) and after the introduction of HH-RCM (2015-2023). The primary outcome was negative histological margins, while the secondary outcome was the local recurrence rate. We collected data prospectively following a pilot phase with HH-RCM (2015-2017). The data included clinical characteristics, diagnostic errors, and the proportion of patients whose treatment plans changed due to HH-RCM findings. We also evaluated the time taken for mapping, the ability to detect the presence and extent of subclinical LM, as well as the ability to identify potential missed invasive components by initial histological diagnosis.

#### **Results:**

In the\* pre-RCM era, we surgically treated 75 patients (LM n=27, LMM n=48), achieving negative histological margins in 76% of the cases. The invasive component was missed in 19% at the time of diagnosis. After additional surgeries, a 17% recurrence rate was observed over a median follow-up of 64 months.

In the post-RCM era, our sample included 108 patients (LM n=63, LMM n=45; primary n=74, recurrent n=34). Following surgery, 23% (n=13) of LM were reclassified as LMM. HH-RCM identified 10 out of 13 initially missed invasive lentigo maligna melanomas (77% sensitivity, 93% specificity). It also detected the presence of subclinical LM in 57% of cases (97% sensitivity, 83% specificity). On average, mapping took a mean time of 17 minutes (range 4 to 50) in addition to 5 minutes of preparation time. Based upon the HH-RCM mapping result, the management was changed in 25% of cases due to patient preference or following multidisciplinary consultation. The remaining patients (n=80) were surgically treated, achieving negative margins in 96% of cases (89% sensitivity, 83% specificity). After a mean follow-up of 29 months, there was a single (1.2%) case with a local recurrence.

## **Conclusion:**

In conclusion, the incorporation of HH-RCM into the management of LM/LMM has resulted in significant

improvements in reducing sampling errors, and guiding management choices, while minimizing the local recurrence rate in surgically treated patients. Furthermore, the time investment of the mapping procedure itself is limited.

## Squamous cell carcinoma arising from lupus vulgaris with a history of more than 50 years

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# **Introduction & Objectives:**

Tuberculosis (TB) continues to be an important public health problem in developing countries around the world. Extracutaneous tuberculosis accounts for 10% of extrapulmonary tuberculosis cases. Lupus Vulgaris (LV) is the most common form of cutaneous tuberculosis and has a chronic and progressive prognosis. The clinical diagnosis of lupus vulgaris is difficult because it has become a rare disease in recent years. Malignant tumors are known to occur in individuals with lupus vulgaris. Squamous cell carcinoma (SCC) can develop within long lasting plaques. Here, we report a case of squamous cell carcinoma arising from lupus vulgaris with a decade-long history.

## **Materials & Methods:**

A 73-year-old Caucasian woman presented to our dermatology clinic with a history of red slow growing lesion on the anterior cervical area for 55 years. She now had a bleeding and crusty ulcer that had started 8 years before on top of the pre-existing lesion. Systemic examination showed nothing of note. Dermatologic examination of the skin showed reddish-brown erythematous plaques extending from the anterior site of the neck to the left ear. She also had a 15x15 cm bleeding and crusty tumor growing on the plaque. She had no cervical, submandibular or occipital lymphadenopathy.

#### **Results:**

Histologic examination of a biopsy specimens taken from the plaque lesion and ulcer were reported as Lupus vulgaris and SSC, respectively. Our final diagnosis was lupus vulgaris complicated by SCC. First, she was treated with combined antituberculous therapy (Rifampicin, Isoniazid, Pyrazinamide and Ethambutol). The SCC was then completely excised and the defect was closed with a split thickness skin graft with donor skin by head and neck surgeon.

## **Conclusion:**

Our patient with cutaneous tuberculosis, which has not been recognized for decades, did not care about the presence of a long-standing lesion on the neck and consulted a doctor because the ulcer formed in the middle of the lesion bothered her. In longstanding cases of lupus vulgaris, the possibility of SCC should always be borne in mind and biopsy of suspicious lesions should always be performed to confirm or exclude SCC.

# Metastatic melanoma following a negative sentinel lymph node biopsy - A cohort study and literature review

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## **Introduction & Objectives:**

Sentinel lymph node biopsy (SLNB) is a recognised tool in melanoma management. False negative results may significantly impact patient outcomes.

This retrospective study aimed to analyse local data and review the literature regarding outcomes in patients with SLNB-negative melanomas to identify markers of poor prognosis and guide follow-up in these patients.

#### **Materials & Methods:**

All 82 patients with a negative SLNB between 2010 and 2020 in our centre were included. Patients with a follow-up period <1 year were excluded. For the literature review, a PubMed search was used to identify studies on cases of melanoma with a negative SLNB result and including data on histopathological features and clinical outcomes.

Patient data were divided into two groups: true negative SLNB melanomas and false negative SLNB melanomas. The two proportion Z-test was used to compare the percentages of patients within the two populations regarding gender, melanoma site, melanoma subtype, Breslow thickness, Clark level, mitotic count and presence of ulceration.\*

## Results:

With regards to local data, the following factors were found to be statistically significant for metastasis in false negative SLNB melanomas:

Factor	SLNB negative	False negative SLNB	P value
	n = 70	n = 12	
	N (%)	N (%)	
Histological subtype			
Acral lentiginous melanoma	1 (2)	2 (22.2)	.010
Breslow thickness >4.0mm	5 (8.2)	4 (36.4)	.009
Ulceration	8 (14.6)	5 (50)	.010
Mitosis >10/mm <sup>2</sup>	1 (1.8)	3 (30)	<.001
Lymphovascular invasion	0	2 (18.2)	.004
Regression	4 (21)	2 (100)	.019
Mean tumour diameter (mm)	12.1 (6.8)	18.1 (11.9)	.020

Truncal melanomas (P = .674) and the presence of tumour infiltrating lymphocytes (P = .818) were not significantly associated with metastasis compared to true-negatives. The overall 3-year mortality of the false negative SLNB melanomas was 66.7% (8/12).

Seventy-one articles satisfied the criteria for inclusion in our review. Significant results are summarised in the table below:

Factor	SLNB negative	False negative SLNB	P value
	N (%)	N (%)	
Gender			
Male	4011 (53.2)	666 (61.8)	<.001
Site of Melanoma			
Head & Neck	675 (13.7)	284 (25.8)	<.001
Histological subtype			
Nodular melanoma	684 (28)	116 (43.6)	<.001
Acral lentiginous melanoma	105 (4.3)	25 (9.4)	<.001
Lentigo maligna melanoma	47 (1.9)	11 (4.1)	.018
Spindle cell melanoma	0	2 (0.8	<.001
Breslow thickness >2.0mm	1174 (42.8)	481 (63.6)	<.001
Clark level IV	2020 (45.1)	186 (62.4)	<.001
Ulceration	1500 (24.6)	143 (40.9)	<.001

Patients with metastasis following a negative SLNB had significantly higher risk of mortality (P = .025) compared to those with a positive SLNB.

## **Conclusion:**

Our review identifies the following as risk factors for metastasis in patients with negative SLNB: male gender, head & neck melanoma, presence of ulceration, mitotic rate of >10/mm2, Clark level of IV and Breslow thickness of >2.0mm. Moreover, the following melanoma subtypes were significantly associated with metastasis after a negative SLNB: nodular, acral lentiginous, spindle cell and lentigo maligna melanoma. Such patients are likely to benefit from closer surveillance and possibly more frequent imaging. Further studies are required to identify the particular combination of risk factors which should trigger more intensive surveillance to enable earlier detection and treatment of metastatic disease.

## Giant cell tumors of the tendon sheaths, rare and often unrecognized tumor by dermatologists

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**Introduction & Objectives:** Giant cell tumors of the tendon sheaths (GCTTS), or giant cell tenosynovial tumors, arise from the articular and periarticular synovium. It is a common benign tumor. They mainly affect the hands. The diagnosis of GCTTS should be evoked when there is evidence of digital swelling. Their management is based on surgery which is difficult and should be performed correctly to avoid recurrences. It is a rare tumor in our context.

**Observation :** A 65-year-old woman consulted for painless swelling at the distal interphalangeal joint of the 3rd finger of the left hand that had been evolving for 4 years and had gradually increased in volume. Examination showed a roughly oval mass with a polylobed appearance, 4 cm long axis, of firm consistency, infiltrated, adherent to the deep plane, with no adjacent inflammatory signs. The X-ray showed osteoarthritis of the joint with significant narrowing of the joint line medial without lytic image. Soft tissue ultrasound showed hypoechoic masses with no color Doppler signal. The skin biopsy concluded to a giant cell tumor of the tendon sheaths. Surgical excision with histological study made it possible to retain the diagnosis of giant cell tenosynovial tumor in its diffuse form. Treatment consisted on complete tumor resection. No recurrence was noted over a follow-up od 16 months

**Discussion :** Giant cell tumors are a benign proliferative disorder of the synovium with an unclear mechanism. They primarily affect young adults, usually between 30 and 50 years of age, with a peak incidence between 40 and 50 years, but children can also be affected. In large series, there is a slight predominance in females. Like most soft tissue tumors, the etiology of giant cell tumors of the hand remains unknown. Clinically, giant cell tumors present as a slowly growing, painless mass on the palmar or plantar surfaces. Differential diagnosis often includes foreign body granulomas, fibromas of the tendon sheaths, fibrous tumors, lipomas, or desmoid tumors. Imaging studies typically include standard radiographs, which may show cortical bone erosion in 10 to 15% of cases. MRI reveals a tumor with isointense signal on T1-weighted images and hyperintense signal on T2-weighted images invading the soft tissues. Histologically, giant cell tumors consist of a proliferation of multinucleated giant cells and histiocytes associated with foamy macrophages and hemosiderin deposits. Treatment involves wide surgical excision to prevent recurrence, which is not uncommon and can occur in up to 44% of cases.

**Conclusion:** Giant cell tumors of the synovial sheaths in the hand are benign lesions where recurrence is the primary risk. Intra-articular tumor development, marginal resection and tendon involvement seem to contribute to recurrence. This tumor deserves to be known by dermatologists and evoked in front of any digital mass in order to carry out an imaging assessment and adequate surgical management.

## Unclassifiable pediatric melanoma of the face simulating botriomycoma: a rare observation

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## **Introduction & Objectives:**

Melanoma is one of the rarest tumors in children, particularly in children under 5 years of age, accounting for 0.9% to 3% of all pediatric malignancies. Its diagnosis is usually delayed, due to its misleading morphology and low level of suspicion. Pediatric melanoma is now a real challenge for the clinician both diagnostically and therapeutically due to a lack of data guiding the management unlike in adults. We present the case of a pediatric melanoma diagnosed at the age of 3 years who had a multidisciplinary management in our institution.

#### **Observation:**

A 3-year-old child with a family history of gastric cancer who presented one year before her first consultation with a painless budding nodule in the zygomatic region in a post-traumatic situation without pre-existing nevus, which had progressively increased in size. The clinical examination showed an erythemato-violated exophytic lesion of 2 cm in diameter without ulceration giving the appearance of a botriomycoma with bilateral cervical lenticular and submandibular adenopathies. Histological study after excisional biopsy showed malignant tumor proliferation in favor of an unclassifiable melanoma of rare morphology (rich in giant cells) not ulcerated, with a Breslow index of 5mm, Clark level IV, TILS: non-Brisk type and lesion resection limits. Immunohistochemistry showed heterogeneous expression of anti MelanA and antiHMB45 antibodies with loss of p16 expression.

Pet scan revealed a hypermetabolic right spinal ganglion (SUV max 2.6) and suspicious bilateral mediastino hilar lymph node hypermetabolisms (SUV max 3.1, 4.4 and 2.3), while brain CT was unremarkable. The LDH level was elevated at 553. We concluded that the patient had stage T4aN2M0 melanoma (IIIC AJCC), which was presented in a multidisciplinary consultation meeting. The patient had undergone a 2 cm revision of the surgical margins and sentinel lymph node mapping. The histological study of the 8 sentinel lymph nodes (parotid, jugulocarotid, and spinal) did not show any metastases, as well as the margins which were safe.

The patient was taken back two weeks later for a skin graft with a satisfying aesthetic result.

## **Conclusion:**

Melanoma is exceptional in the pediatric age group, and only a few cases have been presented in the literature. There are 3 differentiated subtypes: melanoma arising on congenital nevi with potential metastasis; conventional melanoma, clinically and molecularly similar to adult type; and spitzoid, which is the prerogative of prepubertal age with aggressive locoregional involvement but rarely leading to distant metastasis.

However, we represent an atypical case of unclassifiable melanoma occurring de novo without distant metastasis.

Despite its different presentation and evolution, there are no specific guidelines for pediatric melanoma. The first-line treatment consists of a large local excision with adequate margins. In cases of regional involvement, regional lymph node resection is no longer considered indicated because of the significant associated morbidity and lack of prognostic value, and therefore sentinel node biopsy is debated. The use of interferon alpha, which is highly toxic in adults but safer and better tolerated in children, is also controversial.

In our case, wide surgical excision and sentinel lymph node were successfully performed, avoiding potentially morbid complete lymph node dissection.

## Systemic Inflammation and its Relationship with Itching in Early-Stage Mycosis Fungoides

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**Introduction & Objectives:** The etiology of mycosis fungoides (MF) is still unknown. Although many inflammatory markers have been shown to play a role in the pathogenesis, there is no study on systemic immune-inflammation index in patients with mycosis fungoides in the literature. The cause of itching, a common finding in patients with MF, is still unknown. We aimed to investigate the status of systemic inflammation in patients with mycosis fungoides and whether it is associated with itching.

**Materials & Methods:** This is a retrospective case-control study which included MF patients followed in the dermatology outpatient clinic of a tertiary care hospital between January 2011 and January 2023. The demographic characteristics, stage of MF and other clinical and laboratory findings of the participants were reviewed. Systemic inflammation parameters including the neutrophil-lymphocyte ratio (NLR), platelet-lymphocyte ratio (PLR), and monocyte-lymphocyte ratio (MLR, and systemic immune-inflammation index (SII) were assessed for all participants. Additionally, mSWAT scores, Dermatology Life Quality Index (DLQI) and the presence and intensity of itching via Visual Analogue Scale (VAS) scoring were recorded.

**Results:** Overall, 81 patients with early-stage MF and 50 age- and gender-matched healthy controls were enrolled in the study. The mean age of the MF patients was  $48 \pm 13.5$  years, and 48.1% was female. NLR, PLR, SII, SIRI, CRP, and BMI values of the mycosis fungoides group were found to be significantly higher (p= 0.003, p<0.001, p=0.003, p=0.041, p=0,004, and p<0.001, respectively) and the lymphocyte count was found to be significantly lower than the control group (p=0.009). CRP, NLR, mSWAT, DLQI score, and BMI values were found to be significantly higher in MS patients with pruritus than those without pruritus (p=0.031, p=0.048, p=0.040, p<0.001, and p=0.034, respectively). Pruritus was significantly correlated with mSWAT, CRP, NLR, MLR, and SIRI (r= 0.235, p= 0.035, r= 0.270, p= 0.036, r= 0.276, p= 0.013, r= 0.221, p= 0.047, and r= 0.267, p= 0.016, respectively). VAS score was positively correlated with eosinophil and DLQI. (r= 0.373, p= 0.016, and r= 0.426, p= 0.006, respectively).

**Conclusion:** This study provides evidence of enhanced systemic inflammation in early-stage MF patients. Moreover, the correlation between pruritus and mSWAT scores, and systemic inflammation parameters suggests a potential link between pruritus and the inflammatory milieu in MF. VAS score was significantly correlated with eosinophil and DLQI. Further research is warranted to elucidate the underlying mechanisms and potential therapeutic implications of targeting systemic inflammation in MF patients.

Table-1. Comparison of mycosis fungoides patients and control group in terms of demographic characteristics and laboratory values.

	Mycosis fungoides (n=81)	Controls (n=50)	p-value
Sex female male	39 (48.1%) 42 (51.9%)	26 (52.0%) 24 (48.0%)	0.804
Age (years)	48±13.5	47.2 ± 10	0.717
Duration of MF (months)	41.0 (2.0-276.0)		
mSWAT	20.0 (1.0-110.0)		
Pruritus present absent	41 (50.6%) 40 (49.4%)		-
VAS score	6.0 (2.0-10.0)	-	
TNM stage IA IB IA	32 (39.5%) 32 (39.5%) 17 (21.0%)		
DLQI score	4.0 (0-22.0)		
Treatment for MF yes no	27 (33.3%) 54 (66.7%)		-
Moisturizer use yes no	54 (66.7%) 27 (33.3%)		-
BMI (kg/m2)	28.5±4.3	24.1±3.5	<0.001
Uric acid (mg/dL)	5.2 ± 1.5	4.9 ± 1.2	0.190
LDH (U/L)	197 ± 48.2		
Hemoglobin (g/dl.)	13.9±1.5	14.3 ± 1.5	0.178
RDW (%)	15.2 (12.6-25.3)	15.5 (13.3-21.6)	0.087
White blood cell count (10 <sup>1</sup> /µL)	7.20±1.57	7.19±1.50	0.973
Neutrophil count(10 <sup>3</sup> /µL)	4.26±1.22	4.05±1.02	0.293
Lymphocyte count (10º/µl)	2.13±0.56	2.43±0.66	0.009
Monocyte count(10 <sup>8</sup> /µL)	0.51±0.16	0.52±0.13	0.799
Eosinophil count(10³/μԼ)	0.10 (0.02-1.00)	0.15 (0.08-0.47)	0.198
Platelet count (10 <sup>1</sup> /µL)	253.25±63.23	240.80±41.62	0.177
C-reactive protein (mg/L)	3.80±2.31	2.85±0.85	0.004
NLR	1.92 (1.08-5.54)	1.66 (0.98-2.89)	0.003
MLR	0.24 (0.03-0.65)	0.22 (0.12-0.52)	0.124
PLR	124.07±37.37	103.30±22.43	<0.001
SII	478.53(214.28-1611.69)	381.96(204.12-770.67)	0.003
SIRI	0.98 (0.17-3.88)	0.81 (0.32-2.54)	0.041

DLQI: Dermatology Life Quality Index, LDH: lactate dehydrogenase, MLR: monocyte-lymphocyte ratio mSWAT: modified Severity-Weighted Assessment Tool, NLR: neutrophil-lymphocyte ratio, PLR: platelet-lymphocyte ratio, RDW: red cell distribution width, SII: systemic immune-inflammation index SIRI: Systemic inflammation response index, VAS: Visual Analogue Scale.

Table-2. Comparison of mycosis fungoides patients with and without pruritus in terms of demographic characteristics and laboratory values.

	MF with pruritus (n= 41)	MF with pruritus (n=40)	p-value
Sex female male	20 (48.8) 21 (51.2)	19 (47.5) 21 (52.5)	>0.999
Age (years)	49.59±13.87	46.27 ± 13.06	0.272
Duration of MF (months)	36.00 (7.00-240.00)	49.00 (2.00-276.00)	0.509
mSWAT	24.00 (3.00-110.00)	13.00 (1.00-80.00)	0.040
TNM stage IA IB IA	13 (31.7) 19 (46.3) 9 (22.0)	19 (47.5) 13 (32.5) 8 (20.0)	0.317
DLQI score	8.00 (1.00-22.00)	1.00 (0.00-8.00)	<0.001
Treatment for MF yes no	15 (36.6) 26 (63.4)	12 (30.0) 28 (70.0)	0.694
Moisturizer use yes	28 (68.3) 13 (31.7)	26 (65.0) 14 (35.0)	0.937
BMI (kg/m2)	29.45±5.07	27.45±2.99	0.034
Uric acid (mg/dL)	5.19±1.36	5.24±1.56	0.905
LDH (U/L)	200.97±47.18	192.53±49.59	0.463
Hemoglobin (g/dL)	13.65±1.50	14.21±1.50	0.095
RDW (%)	15.41±1.95	15.26±1.43	0.690
White blood cell count (10º/µL)	7.37 ± 1.71	7.02 ± 1.43	0.315
Neutrophil count(10³/μL)	4.49±1.44	4.02 ± 0.90	0.084
Lymphocyte count (10°/μL)	2.06±0.55	2.21±0.56	0.236
Monocyte count(10³/μί)	0.52±0.15	0.50±0.17	0.516
Eosinophil count (10³/μL)	0.14 (0.03-1.00)	0.10 (0.02-0.40)	0.175
Platelet count (10°/μL)	248.98±54.00	257.62±71.91	0.543
C-reactive protein(mg/L)	4.39±2.83	3.15±1.32	0.031
NLR	2.04 (1.08-5.54)	1.82 (1.17-3.19)	0.048
MLR	0.26 (0.03-0.65)	0.22 (0.11-0.41)	0.077
PLR	126.80±35.95	121.26±39.03	0.509
SII	530.00(229.05-1611.69)	449.70 (214.28-900.00)	0.126
SIRI	1.08 (0.17-3.88)	0.92 (0.32-1.72)	0.059

# Intralesional 5-FU: A safe and effective option to avoid surgery in the non melanoma skin cancer in the elderly

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## **Introduction & Objectives:**

Due to the characteristics of an increasingly aging population, especially in the countryside, alternatives to hospital admission to conventional surgeries will gain more prominence in the next coming years

## **Materials & Methods:**

An eighty-nine-year-old patient living in a rural area and who never leaves home due to mobility problems and agoraphobia asked her general practioner (GP) to visit her to evaluate a rapidly growing left infraorbitary skin lesion. She also suffered from Asthma, Hypertension and hip osteoarthritis.

A 30x35 mm skin tumor was confirmed. It was a nodule centered by a keratinous area located in her left nasopalpebral angle. Patient and her family refused hospital referral and asked for home treatment options. The GP consulted the hospital dermatologist via teledermatology with the suspicion of squamous cell carcinoma (SCC) vs. Keratoacanthoma and performed a punch biopsy at the patient's house that confirmed the presence of a well/moderate differenciated SCC.

#### **Results:**

The possibility of local treatment without visiting the hospital operating room was proposed to the Dermatology service by the online consultation, and a treatment with intralesional 5-fluorouracil (provided by the referring hospital) was suggested.

The tumor was infiltrated in its base with 2ml of a 25mg/ml solution of 5-FU, that was prepared by the hospital pharmacy. Only one treatment was administrated.

Follow-up was carried out two weeks later with significant reduction of the lesion and after 4 weeks curettage end electrocoagulation of the residual lesion was performed at the patient's home by the GP without complications or bleeding.

Currently, after 12 months, the patient remains relapse-free and asymptomatic.

## **Conclusion:**

The intralesional injection of 5-FU in non-melanoma skin cancer is an economical, easy and safe alternative for the therapeutic approach of these tumors in patients who refuse surgery or in which this is not possible. In order to respect the patient's decisions, it is necessary to know this alternative and to strengthen the link between reference hospital services and primary care.

# Dermatofibrosarcoma protuberans: A 25-year retrospective study from a large metropolitan academic center

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**Introduction & Objectives:** Dermatofibrosarcoma protuberans (DFSP) is a rare low-grade mesenchymal tumor, which most frequently presents as an asymptomatic, slow-growing nodule. Although distant metastasis is uncommon, DFSP has a high potential for local recurrence, making early diagnosis and appropriate treatment crucial for the patient's prognosis. As a rare neoplasm, there are few studies in the literature characterizing DFSP.

**Materials & Methods:** In this retrospective study, based on the medical records, the clinical and histopathological characteristics of DFSP diagnosed between 1997 and 2022 at a Tertiary Hospital Center were analyzed. The patients without clinical follow-up on the studied institution were not included. Factors such as age, gender, location, size, histological type, surgical margins, adjuvant treatment, local recurrence and distant metastasis were evaluated.

**Results:** Forty-two patients with DFSP were included. The mean age at diagnosis was 49.1 years, with a female-to-male ratio of 2.2:1. The most common location was the trunk (60%) and the most frequent clinical presentation was an asymptomatic pediculated nodule (31%). All cases were histologically confirmed as DFSP, with the majority being characterized by a typical storiform pattern with CD34+ positivity confirmed on immunohistochemistry (62%). Wide surgical excision was the chosen treatment in almost all patients (95%), and tumor-free surgical margins were achieved in 76% of patients. Eight patients (19%) underwent adjuvant radiotherapy. The mean follow-up time was 10.6 years. Four patients had local recurrence and two patients died due to lung metastasis. Male sex, age  $\geq$  50 years and positive surgical margins were associated with local recurrence.

**Conclusion:** Although most patients underwent surgery with wide excision instead of Mohs surgery, the rate of local recurrence was not higher compared to previous studies. Adjuvant radiotherapy appears to decrease the risk of recurrence in cases where achieving negative surgical margins is not feasible.

Nail and vulva Bowen's disease: case of genito-ungual transmission of HPV

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#### Introduction:

Bowen's disease (BD) is an in situ form of cutaneous squamous cell carcinoma. However, the etiology of BD is unknown. Human papillomavirus (HPV) infection is a predisposing factor strongly implicated in its occurrence. We report a case of HPV-induced genito-ungual BD, revealed by a nail lesion.

#### **Observation:**

A 55-year-old patient, postmenopausal. Having a husband followed for venereal condyloma 20 years ago. She consulted for a dystrophic lesion of the nail of index finger evolving for 15 years with notion of vulvar pruritus and scratching by the same finger.

Nail examination revealing a verrucous lesion in the lateral fold of the right index finger, onycholysis and pigmentation on the periphery without pain or pruritus. The examination of mucous membranes showed pink venereal vegetations with arciform and hyperpigmented lesion, occupying the large and small genital lips as well as the inner surface of the right thigh and anal orifice. On questioning, the genital lesions were older than the nail lesion and neglected by the patient. Nail and genital biopsies were performed, showing high-grade HPV-induced nail and vulvar Bowen's disease (BD)

We retained the diagnosis of bifocal BD (ungual and genital). Viral serologies are negatives. Gynecological and proctological examination did not reavealing other abnormalities.

We opted for surgical treatment for both genital and nail lesions.

## **Discussion:**

Bowen's disease is a precancerous condition with a risk of progression to invasive carcinoma in 3% to 5% for extragenital lesions and 10% for genital lesions. The association of BD and HPV has been reported

The originality of our case lies in the simultaneous genito-ungual localization of BD which can be explained by the genito-ungual viral transmission; in front of precessive venereal vegetations, temporal difference between genito-anal involvement and nail involvement as well as the theory of self-inoculation through scratching.

# A confusing case of primary cutaneous anaplastic large cell lymphoma T/ALK- phenotype with an atypical presentation in a child

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#### Introduction

Anaplastic large-cell lymphoma is a non-Hodgkin's lymphoma with CD30+ T cells. It comprises 2 distinct entities: primary cutaneous (PC-ALCL) which is rare and does not present systemic involvement, and systemic (S-ALCL). PC-ALCL is very rare in children compared to S-ALCL. We report a rare case of PC-ALCL in a child.

## Cas report

An 11-year-old patient, with a history of Crohn's disease in her mother, presented 3 nodular lesions that had fistulated to the skin on the left forearm and right thigh, with left axillary ADP evolving in the context of AEG, fever, and night sweats.

Given the gum-like appearance, an infectious origin was first suggested, in particular tubercular gum, leishmaniasis, then an inflammatory origin as panniculitis of autoimmune diseases (Crohn's, lupus), and lastly a tumoral origin, in particular a cutaneous T lymphoma or a cutaneous metastasis. The biological workup showed inflammatory anemia, and LDH was normal. A 3-part skin biopsy was performed.

Histology showed a polymorphic granulomatous dermo-hypo dermatitis. The search for BK and leishmaniasis on skin biopsy was negative. Fecal Calprotectin was negative as well as the immunological assessment. An immune deficiency test was performed and came back without any anomalies. The evolution after 1 month was marked by the aggravation of the lesions on the forearm which became tumoral, and the spontaneous regression of the lesion on the thigh paradoxically. A 2nd biopsy was performed revealing an anaplastic large cell lymphoma of T/ALK- phenotype. The extension workup showed multiple necrotic ADPs in the left axilla. The patient was classified as T3N1M0 and referred to clinical hematology for chemotherapy with anthracyclines, etoposide, ifosfamide, cyclophosphamide, doxorubicin, methotrexate, and cytarabine. The evolution was marked by regression of the lesions with complete healing. We have a 10-month follow-up with no signs of recurrence or systematization.

# **Discussion and conclusion**

The interest of the observation lies in the rarity of this clinical entity especially in children, which poses a diagnostic challenge requiring a clinical-anatomopathological confrontation.

It is imperative to differentiate PC-ALCL from S-ALCL with cutaneous metastasis because their prognosis and treatment are completely different. The prognosis is most often favorable. The age of presentation is about 60 years. It is very rare in children compared to S-ALCL. The main risk factor is the immunodepressive background which was eliminated in our patient. Clinically, in children as in adults, the cutaneous involvement is not very specific and can be the cause of a diagnostic delay. The evolution can be rapidly progressive simulating an aggressive lymphoma. Occasionally, localized ADP may be present, especially if localized in the limbs. General signs may be present if extracutaneous involvement. Treatment can range from simple surgical excision to

aggressive chemotherapy depending on the clinical presentation. The prognosis is generally favorable.

## Rate of Melanoma in Situ among Total Melanoma Cases

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**Introduction & Objectives:** Melanoma in situ refers to the earliest stage of melanoma, when abnormal melanocytes are only found in the upper layer of the skin (epidermis) and have not invaded the deeper layers or spread to other parts of the body. The rate of melanoma in situ is an important factor to consider when assessing the overall malignancy rate. It gives an indication of the incidence and detection of early-stage melanoma, which is highly curable. The rate of melanoma in situ out of total melanoma cases indicates the percentage of melanomas diagnosed at the in-situ stage compared to those that have progressed to invasive melanoma. Tracking this rate over time helps evaluate the effectiveness of early detection efforts and skin cancer screening programmes in identifying melanoma at an early and more curable stage.

**Materials & Methods:** Retrospective observational study. Inclusion criteria: Cutaneous melanocytic lesions undergoing surgery (incisional or excisional biopsy) with clinical suspicion of melanoma. Exclusion criteria: (1) non-melanocytic lesions; (2) Histological examination with non-diagnostic or inconclusive results; (3) Enlargement of melanoma; Endpoints: (1) To evaluate the rate of melanomas in situ out of the total number of melanomas diagnosed at a single centre; (2) To investigate the clinical-pathological concordance between the clinical suspicion raised by dermatologists and the outcome of the histological examination.

**Results:** A total of 283 skin lesions were excised for clinical suspicion of melanoma. Nevoid lesions were found in 71% (no. 200) of the cases; the majority were compound nevi in 36.5% (no. 73) of the cases, and to a lesser extent dysplastic nevi 18.5 (no. 37), intradermal 15.5% (n. 31), junctional 10.5% (n. 21), Spitz's 8% (n. 16), blue 5.5% (n. 11), Reed 3% (n. 6), combined 2% (n. 4) or deep penetrating 0.5% (n. 1). The remaining cases consisted of cutaneous melanomas in 21% (n. 60) of cases, or pigmented lesions of another nature in 8% (n. 23) of cases (e.g. solar lentigo). In the dysplastic nevi subgroup: 51% (n. 18) low-grade dysplastic nevi (L) with mean age  $51\pm11$  years and 49% (n. 19) high-grade dysplastic nevi (H) with mean age  $50\pm16$  years. Sixty cutaneous melanomas (MM) were excised. Fifty per cent (n. 30) of the cases were melanomas in situ (MIS), followed by a gradually decreasing percentage of thicker melanomas, specifically MM pT1a in 30% (n. 18) of the cases and MM ≥ pT1b in 16.7% (n. 10) of the cases. Melanocytic tumours of uncertain malignant potential (MELTUMP) were found in only 3.3% (n. 2) of cases. In patients diagnosed with MIS a mean age and standard deviation of  $64\pm12$  years was found, in cases of MM pT1a a mean age of  $62\pm11$  years and in cases of MM ≥ pT1b a mean age of  $58\pm18$  years.

**Conclusion:** In conclusion, compound nevi and dysplastic nevi were the most represented histotypes among suspected cutaneous melanoma lesions. MM was identified with a predictive power of 19.32% and a diagnostic sensitivity of 95% in the Padua centre under analysis; with a percentage of melanomas in situ detected of 50%.

## Stewart-Treves syndrome on the lower limb secondary to uterine sarcoma treatment

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# **Introduction & Objectives:**

Cutaneous angiosarcoma (AS) is an uncommon malignant vascular neoplasm. Three clinical variants can be distinguished. The most common form occurs on the scalp of elderly patients (Wilson Jones AS). AS can also appear in patients with chronic lymphoedema (Stewart Treves syndrome) or on irradiated skin. Both variants have traditionally been described in association with breast cancer patients treated with radical mastectomy in the first case and with radiotherapy in the latter.

#### Materials & Methods:

An 83-years-old lady presented with a painful, rapidly growing lesion on the left pretibial region. The physical examination revealed bilateral chronic lymphoedema and a large irregular, bleeding plaque of 15 cm per 8 cm surrounded by confluent purplish papules and tender nodules (Figures 1A and 1C). Lymphedema appeared in 2012 secondary to the treatment of a uterine sarcoma with radical hysterectomy and radiotherapy in 1995. Dermatoscopy of satellite lesions showed a purplish veil, white dots, and purplish and violaceous areas (Figures 1B and 1D).

The differential diagnosis included angiosarcoma, Kaposi's sarcoma, uterine sarcoma metastases, squamous cell carcinoma, and large B cell lymphoma leg type. Histology showed an infiltration of epithelioid cells with atypia arranged in small nests surrounded by abundant hematic extravasation in dermis. It expressed strongly cd31, d2-40, ERG, and c-myc). It was negative for cytokeratin ae1-ae3, s100, cd34, and herpes virus-8. These findings were compatible with a primary cutaneous angiosarcoma.

## Results:

Although first descriptions of AG on chronic lymphedema were done by Loewenstein and Kettle, Stewart-Treves syndrome was named after Dr. Stewart and Dr. Treves' publication of six patients with angiosarcoma over chronic lymphedema secondary to radical mastectomy. There are 57 cases of Stewart-Treves syndrome on the lower limbs reported on the literature secondary to various causes.

The pathophysiology of this tumor remains unknow but the local immunodeficiency due to lymphedema could play a key role. Lymphedema predisposes not only to AG but to other malignancies. Stewart-Treves syndrome can be considered an example of locus minoris resistentiae, where an injured skin area is more prone to develop certain diseases3.

AG may present different histological patterns. Poorly differentiated AG, as this case, often presents proliferation of atypical cells without vessels proliferation while well differentiated AG may mimic benign hemangiomas. In this scenario, a clue known as "fish in the creek" that shows free-floating pleomorphic cells inside the vascular lumen, may be useful to suspect malignancy.

The gold standard treatment is radical surgery with chemotherapy and/or radiotherapy as adjuvant. The prognosis

is poor even when surgery is possible. Although some cases treated with bevacizumab or pazopanib have shown promising results, efforts should be made to prevent the development of chronic lymphoedema after surgery.

# **Conclusion:**

While the number of cases of classic Stewart-Treves syndrome is expected to decrease due to more conservative breast cancer therapies, the number of cases of angiosarcoma of the lower limbs may increase due to the increase in patients with chronic lymphoedema of the legs. In this scenario, awareness is needed for prevention of lymphoedema development and early diagnosis.



Black tumor of the thigh: what diagnosis?

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#### Introduction:

"Epidermoid cysts", "epidermoid inclusion cysts", "infundibular cysts" or "retention cysts" are dense benign lesions, which usually develop subcutaneously without modification of the overlying skin. We report a case of epidermoid cyst of atypical presentation mimicking a malignant tumor in a 60-year-old female patient.

## **Case report:**

A 60-year-old female patient presented for two months with a blackish nodular lesion rapidly increasing in size and becoming painful, located on the lateral aspect of the right thigh, appearing on healthy skin with no pre-existing lesion, evolving in a context of conservation of the general state. Clinical examination revealed a nodular lesion, protruding, measuring about 4 cm, with a hyperpigmented surface and vascularized in places. The lymph nodes were free, and the rest of somatic examination was unremarkable. We suggested Melanoma, hidradenoma, or sarcoma. The patient underwent tumor resection and the specimen was sent for pathology. The histology showed an orthokeratotic acanthosis epidermis. The dermis was fibrous with a thin cystic wall composed of a thin squamous lining thickening in places and containing a granular layer. The cyst lumen was filled with lamellar keratin. The subepithelial tissue was fibrous and sparse, with no granuloma or sebaceous glands. The morphological appearance was compatible with a totally excised dermal epidermoid cyst with no evidence of malignancy.

# **Discussion:**

The interest of this observation is to report a perplexing case of a dermal epidermoid cyst of unusual presentation mimicking a malignancy.

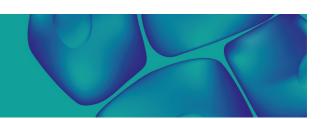
Epidermoid cysts are dense, well encapsulated benign soft tissue lesions that develop after a portion of the epidermis has implanted into the dermis.

It is most often a painless subcutaneous nodule with a central punctum and no change in the skin opposite. It is located preferentially on a follicular surface such as the scalp, the face or the trunk, and very rarely at the acral level. The size is generally less than 5 cm.

In our particular case, the location, the overlying skin changes, the rapid growth of the lesion and the painful character made us suspect a malignant tumor.

The recommended treatment option was complete surgical excision, including the entire wall and overlying skin to avoid malignant transformation. Any remaining part of the cyst wall may lead to recurrence of the lesion.

There are no current guidelines, specific prognostic indicators or staging levels for these cysts. Therefore, it is important to obtain pathologic confirmation that the lesion is benign.



# The combined effect of CO2 laser, topical diclofenac 3%, and imiquimod 5% in treating high-risk basal cell carcinoma

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The combined effect of CO2 laser, topical diclofenac 3%, and imiquimod 5% in treating high-risk basal cell carcinoma

# **Introduction & Objectives:**

Some basal cell carcinoma (BCC) patients are considered as a high risk regarding the site, size, histopathological variant, or recurrence. High-risk BCC is a challenging therapeutic problem due to the trial to balance between complete surgical excision from one side and tissue preservation from the other side. We tried to evaluate the efficacy of combining ablative CO2 laser, imiquimod 5%, and diclofenac 3% as a therapeutic regimen in high-risk and inoperable BCC.

#### **Materials & Methods:**

The study was conducted on 14 patients that were assessed clinically and pathologically then categorized regarding the site, size, histopathology, and fitness for surgery as high-risk inoperable BCC. They received

an ablative session of CO2 laser, followed by application of diclofenac sodium 3% gel once daily for 5 days and imiquimod 5% cream for another 2 days.

#### **Results:**

The study included 11 males and 3 females. Nine lesions were located on the scalp, 4 on the face, and one lesion on the trunk. All lesions were of large size >5 cm in diameter. Histopathology showed 4 patterns: nodular type in 8 patients, infiltrating type in 3 patients, metatypical type in 2 patients, and micronodular type in one patient. At the end of the treatment period, 9 patients showed significant (moderate to marked) improvement while 5 patients showed weak (poor to mild) response. Significant improvement was more observed in nodular type. Relapse was more observed during the 5th to 6th months with 2 patients showed no relapse.

# **Conclusion:**

This combined regimen is a good alternative therapeutic modality in high-risk inoperable BCC especially the nodular pathologic pattern.

PS: This study has been published at the Journal of Cosmetic Dermatologyhttps://doi.org/10.1111/jocd.14354

## Proliferating trichilemmal tumor: case report

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# **Introduction & Objectives:**

Trichilemmal proliferating tumor (TPT) is a rare condition that develops from follicular cystic lesions. It occurs in over 90% of cases on the scalp and in 84% of cases in elderly women. Due to its low diagnostic rate, the history of the lesion can be insidious, often mistaken for a simple pilar cyst.

#### **Materials & Methods:**

We present the case of a 39-year-old woman with a cystic lesion on the parietal region for 2 years, measuring approximately 8cm in its largest axis. Dermoscopy revealed polymorphic vessels, shiny white areas, and an erythematous background. An incisional biopsy was performed, which confirmed the diagnosis of trichilemmal proliferating tumor. The tumor was composed of blocks of squamous cells with frequent trichilemmal keratinization patterns, associated with discrete cellular atypia, the presence of apoptotic keratinocytes, and a few mitotic figures. Subsequently, the lesion was surgically excised, and intraoperative frozen section analysis of the margins was conducted.

## Results:

TPT is a rare condition, especially in younger patients like in this case. There is still debate whether trichilemmal proliferating tumor is a variant of squamous cell carcinoma (SCC) or a precursor lesion evolving into SCC. A study comparing the activity of p53 and p27kip1 between trichilemmal cysts, TPT, and SCC with trichilemmal differentiation found no difference in p53 expression between TPT and SCC, with almost no expression in trichilemmal cysts. This supports the notion that TPT is a carcinoma. However, p27kip1 expression is much higher in TPT compared to SCC, and this protein is associated with cell cycle regulation, classifying TPT as an intermediate-grade neoplasm in terms of malignancy.

The diagnosis is confirmed through histopathological examination, which reveals a proliferation of squamous cells with abundant eosinophilic cytoplasm and abrupt keratinization that excludes the granular layer, forming dense and homogenized keratin that fills the cystic spaces. There may be areas of epidermoid keratinization with the formation of corneal pearls. There is no infiltration of the adjacent stroma, which helps differentiate it from squamous cell carcinoma.

There have been reports of aggressive local behavior, with recurrences and even metastases. A study involving 94 cases of TPT reported recurrence rates of around 1% and malignant transformation with lymph node metastasis of approximately 10%, but no distant metastases. Another study attempted to correlate histopathological changes with biological behavior and found that involvement outside the scalp, rapid growth, size larger than five centimeters, and atypia were associated with a poorer prognosis. Treatment is based on complete surgical excision, while radiation therapy and chemotherapy can be used in more aggressive cases. In the present case, surgical excision was performed with good results. Long-term follow-up is necessary due to the possibility of metastatic disease.

## **Conclusion:**

This squamous cell neoplasm appears to have intermediate behavior in terms of malignancy and requires long-term follow-up. There are some prognostic predictors on histopathological examination that should be considered, such as the mitotic index and degree of atypia. Further studies are still needed to identify why some tumors exhibit indolent behavior while others are more aggressive.

## Nevoid melanoma mimicking intradermal nevus: a challenging diagnosis

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## **Introduction & Objectives:**

Nevoid melanoma is the name given to a rare morphological subtype of melanoma, representing <1% of all melanomas. It deemed to be one of the most difficult melanomas to diagnose as it mimics a benign nevus clinically and histologically but behaves like an invasive melanoma, with local recurrences and metastases. Clinically, nevoid melanomas present as papules, nodules, or verrucous lesions. They are black or brown and may have a variegated appearance. Dermoscopically, most nevoid melanomas have a nevus-like pattern, but with irregular globules/dots and atypical vascular structures.

#### **Materials & Methods:**

A 47-year-old woman, was referred to remove a long-standing infrapalpebral pink lesion that has grown slightly in recent months, for aesthetic reasons. Clinically, this lesion was a pink papule, with a smooth shiny surface, well-defined and regular edges, measuring 0.4 cm. At dermoscopy, the amelanotic lesion presented linear vessels. There was no palpable lymph node enlargement. An intradermal nevus was hypothesized and excision of the lesion was performed.

## Results:

Histopathologic examination revealed a 1.8 mm thick nevoid melanoma, Clark level IV. No ulceration, regression, neurotropism, angiolymphatic invasion was observed histologically. Immunohistochemistry was positive in dermal atypical cells for HMB45, positive for melan A and inconclusive for KI-67. The patient was referred for margin expansion of 1.0 to 2.0 cm, according to the Breslow scale and staging.

#### **Conclusion:**

Diagnosing nevoid melanomas can be challenging due to their resemblance to other benign lesions, particularly nevi. It is up to the dermatologist to have prior knowledge of this subtype of melanoma and clinical suspicion in lesions that show recent rapid growth, or that dermoscopically present with irregular globules/dots and atypical vascular structures. This patient presented a slight growth and absence of melanocytic component by dermoscopy. The diagnosis consists of performing a biopsy for histopathological evaluation and Immunohistochemical studies, when used in conjunction with a suspicious histology, can be useful. There is no evidence to assume at this time that it represents more than one morphological subtype without any special prognostic significance when compared to other types of melanoma. However, as it can be confused clinically and even pathologically with a nevus, there may be a delay in diagnosis, which can lead to a worse prognosis. Local recurrence and metastatic rates are reported at up to 50% with subsequent mortality of at least 25%. The treatment of nevoid melanoma is no different than that of melanoma in general, with the exception that there is no in-situ nevoid melanoma (as nevoid melanoma, by definition, implies a nevoid dermal component).

# Merkel Cell Carcinoma: detection of Polyomavirus and Immunohistochemistry markers in a tertiary hospital in Brazil

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# **Introduction & Objectives:**

Merkel Cell Carcinoma (MCC) is a primary cutaneous neoplasm with high mortality rates and an increasing incidence across the world. In 2008 it was discovered that a type of Polyomavirus (MCPyV) was present in the DNA of tumoral cells. Since then, literature has focused on studying the oncogenesis, behaviour and prognosis of MCC associated with MCPyV.

The prevalence of viral positivity is highly variable in different populations. European, North American, and Japanese cohorts reported a prevalence of virus-positive cases of up to 80%. In Australia, on the other hand, most tumours are virus-negative, with about 23% of virus-positive cases. In Brazil, a cohort of 13 cases that presented 100% of viral positivity was published in 2019. In 2021, a subsequent cohort, that added 7 new cases to the same group, resulted in 65% of virus-positive tumours.

Currently, literature suggests that there are two subgroups of MCC: virus-positive and virus-negative, according to the presence of viral DNA in the tumoral cells. Virus-positive tumours appear to have an oncogenic mechanism dependent on viral oncoproteins, whereas virus-negative tumours demonstrate DNA damage suggestive of chronic ultraviolet radiation exposure. Virus-negative tumours appear to have worse prognosis. Moreover, histopathology and immunohistochemistry also seem to differ between groups, and markers such as p63, p53 and PD-1 have been studied as prognostic markers to both groups.

In this study, we aim to re-evaluate the prevalence of MCPyV in MCC cases in Brazil and study the expression of p63, PD-1 and aberrant patterns of p53 in tumoral cells, and their relationship to viral status.

# **Materials & Methods:**

A cross-sectional study of 17 patients with confirmed diagnosis of CCM that consisted of a review of patient records, retrieval of patient biopsy specimens and conduction of MCPyV DNA detection with conventional and real-time PCR assays. Biopsy specimens were also submitted to immunohistochemistry (IHC) of markers: PD-1, p53 and p63. Two separate pathologists interpreted the IHC. Statistical analysis of data was conducted.

## **Results:**

52.9% of our cases were male, with a median age at diagnosis of 72,5 years. Most of them (70,6%) were in stage III or IV at diagnosis, with 78,6% presenting node metastasis. Of our 17 cases, 5 (29,41%) were virus-positive. There was no statistically significant difference in mortality according to viral status in our cohort.

None of our specimens showed expression of p63 or PD-1 in tumoral cells, nor an aberrant pattern of p53.

## **Conclusion:**

The prevalence of MCPyV positivity in Brazil might be lower than previously reported, and more compatible to

Australian prevalence; further studies should be conducted to clarify this finding. Expression of p63 and aberrant p53 was not found in our cohort. PD-1 expression in tumoral cells was anecdotical in previous studies and, likewise, was not found in our study.

Undifferentiated pleomorphic sarcoma and atypical fibroxanthoma - rare neoplasms in solid organ transplant patients.

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## Introduction:

Atypical fibroxanthoma (AFX) and undifferentiated pleomorphic sarcoma (UPS) are rare skin tumors situated in photo-exposed areas with a higher prevalence in Caucasian and elderly men. The most common risk factors are immunosuppression, advanced age, local trauma, chronic inflammation, and male gender. UPS has a more aggressive behavior and a higher risk of metastases, seen in up to 20% of cases, unlike AFX, whose risk is less than 5%. In solid organ transplant patients, these neoplasms assume a more aggressive behavior with rapid disease progression and a high rates local recurrences and metastases.

# **Obsarvation:**

A Caucasian man, 57 years old, had a kidney transplant four years ago, in immunosuppressive therapy. Presented with an erythematoceratotic papule on the right malar with the initial diagnosis of actinic keratosis and treated with cryosurgery. Lesions recurred after six months as a nodular form, an incisional biopsy has then performed with anatomopathological/immunohistochemical compatible with AFX/UPS (fig. 1,2). Excision of the lesion with wide margins was made, but infiltration of the ipsilateral parotid gland was verified during staging, evolving with local swelling, ulceration, and pain.

Immunosuppressive therapy was modified, with an optimization dose of everolimus and suspension of tacrolimus and mycophenolate mofetil. The patient performed three cycles of doxorubicin and complementary radiotherapy with significant clinical improvement.

#### **Conclusion:**

AFX and UPS have similar clinical, histopathological, and oncogenic characteristics, remaining uncertain whether they are neoplasms originating from the same progenitor cell or different neoplasms. Histopathological examination presents hyperchromatic, pleomorphic, fusiform, and multinucleated cells. In UPS, involvement of the subcutaneous tissue, tumor necrosis, lymphovascular and perineural invasion has been observed, demonstrating a more aggressive character.

In solid organ transplant patients, as in the case of the patient reported above, iatrogenic immunosuppression to prevent graft rejection increases, substantially, the risk of developing different cutaneous neoplasms, including AFX/UPS. This risk is directly proportional to the duration and intensity of immunosuppression.

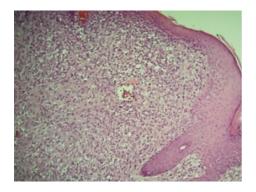
Being rare neoplasms, the diagnosis of AFX and UPS is one of exclusion, and IHC is essential to differentiate from other neoplasms, especially those with spindle cells.

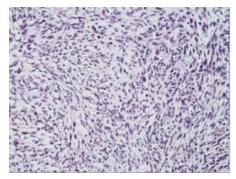
In cases of localized disease, surgical resection is the treatment of choice. Mohs micrographic surgery allows lesser recurrences or metastases. In the absence of this method, excision with 2cm margins should be used, which determines a cure rate of up to 96.6%.

Adjuvant therapy with radiotherapy and/or chemotherapy is indicated for inoperable, metastatic, and recurrent

diseases. Monoclonal antibodies addition to doxorrubicin have shown satisfactory results in these cases. The adequacy of immunosuppressive therapy in solid organ transplants is recommended, when possible.

Our objective in this present case report is to pay attention not only to the importance of early diagnosis and treatment of UPS/AFX but also to the risk of patients using immunosuppressive therapies to develop cutaneous neoplasms with aggressive clinical characteristics, being essential to carry out an examination thorough dermatological examination to detect early possible neoplastic lesions in these patients.





atypical fusiform cells

## Diagnostic Challenges in Cutaneous Lymphoma with Mucosal Invasion: A Rare Case Report

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<sup>1</sup>Complexo Hospitalar Heliópolis, Brazil

# **Introduction & Objectives:**

Lymphoma is a malignant neoplasm resulting from the proliferation of cells in the lymphoid system, with a varied potential for organic aggression.

Cutaneous lymphomas are classified according to their cellular origin into T-cell lymphoma and B-cell lymphoma.<sup>2</sup> Their average frequency is 0.3/100,000 inhabitants/year, with 65% derived from T cells, 25% from B cells and 10% true histiocytic lymphomas or those of rare cell types.

Primary cutaneous lymphomas (PCL) constitute a group of extranodal non-Hodgkin's lymphomas with no evidence of extracutaneous disease at the time of diagnosis. There are few longitudinal studies correlating clinical on the subject relating clinical, histopathological, therapeutic and prognostic aspects of PCL. Here we report a case of cutaneous-mucous lesions suggesting PCL.

# **Case report:**

67 years old male. Presented to our institution in November 2022, complaining of high dysphagia and oral lesion. He was admitted with palpable lymph node enlargement in the anterior cervical and submandibular regions bilaterally, enanthematous and friable plaques on the hard palate for 4 days. In 48 hours, developed violaceous, circular, infiltrated plaques, some with a necrotic ulcerated center, predominantly on the face and scalp.

Laboratory work-up showed significant bicytopenia with marked leukocytosis at the expense of immature cells and toxic granulations with immunophenotyping of peripheral blood without clonal abnormalities. Two biopsies of skin lesions were performed in different evolutionary stages, suggesting atypical lymphoid infiltration in the dermis with intense neutrophilia.

The patient evolved with Respiratory Distress Syndrome and died on the 7th day of hospitalization.

# **Discussion:**

Regarding the aggressive course of the disease, it is possible to classify, according to the WHO-EORTC classification, as a subtype of intermediate clinical behavior, with the clinical form that most closely resembles primary diffuse cutaneous large B-cell lymphoma, other (not leg), whose most common locations are the head, neck, trunk and legs, as found in this case. Based on the clinical history, physical examination and complementary tests obtained within 7 days of the disease's evolution, we believe that the rapid progression outcome is compatible with Diffuse Primary Cutaneous Large B-Cell Lymphoma, other (not leg). Although the clinical behavior most frequently reported in the literature is intermediate, the present case shows aggressive evolution, with cutaneous-mucosal manifestations being predictors of poor prognosis, which makes this study rare.

## **Conclusion:**

Aggressive behavior and death within 7 days compromised the final diagnostic workup and the treatment of the

underlying disease.

The chronology of the appearance of the cutaneous-mucous lesions and the rapid progression to the clinical instability of the patient is evident in the present report, since the infiltration of the respiratory mucous membranes culminated in Acute Respiratory Distress Syndrome, the final cause of death.Due to the rarity of this progression when it comes to a possible Non-Leg Primary Cutaneous B-Cell Lymphoma, we describe the importance of the skin condition as a marker of poor prognosis.

## Advancements in Circulating Melanoma Cell Detection and Isolation: Harnessing Multiple Surface Antigens

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# **Introduction & Objectives:**

Melanoma, known for its aggressive metastatic nature and poor prognosis in advanced stages, necessitates improved diagnostic and prognostic tools to address drug resistance, recurrence and metastasis. Circulating melanoma cells (CMCs), which play a pivotal role in distant metastasis, hold immense potential for assessing prognosis and treatment response. However, our understanding of CMCs remains limited. In this study, our objective is to develop a reliable method for detecting and isolating CMCs, employing a combination of up to four surface antigens on melanoma cells: CSPG-4, GD-2, MCAM, and PMEL. We aim to establish a panel of commercial antibodies for melanoma cell detection in the blood and generate single-chain variable fragments (scFvs) for their isolation.

#### Materials & Methods:

The variable region sequences for heavy and light chains were cloned into the pET-scFv-T vector. Cotransformation of BL21 E. coli with pET-scFv-T and PET21a-BirA plasmids enabled the production of biotinylated scFvs. His-tagged scFvs were isolated using immobilized metal ion affinity chromatography. Their efficacy in binding respective antigens was assessed via flow cytometry, in comparison with commercial antibodies. Flow cytometry experiments were conducted using a panel of melanoma cell lines, with scFvs as primary antibodies and streptavidin as a secondary antibody. The experiments were also repeated using commercial full-length antibodies. Furthermore, streptavidin-immobilized biotinylated scFvs were tested for their potential to bind and enrich melanoma cells.

# **Results:**

Flow cytometry experiments demonstrated successful recognition of target antigens (CSPG-4, GD-2, MCAM) by antibodies and/or scFvs on melanoma cell lines. The combination of these three scFvs exhibited a higher percentage of positive signals compared to individual antigen detection. The combined marker panel specifically identified melanoma cells while distinguishing them from HEK293 cells and CD45+ PBMCs used as negative controls. To evaluate the potential for clinical application, a streptavidin bead-based isolation of melanoma cells bound to biotinylated scFvs was tested using blood samples from healthy donors.

## **Conclusion:**

The detection of CMCs is challenging due to their heterogeneity and low abundance in the bloodstream. Our study aims to maximize melanoma cell detection by leveraging a combination of surface antigens. Single-chain variable fragments (scFvs) possess the antigen-binding capability of full antibodies, while their smaller size and lack of constant regions enable binding of multiple scFvs to tumor cells without compromising cell integrity. Our findings highlight the potential of scFvs to detect melanoma cells by targeting CSPG-4, GD-2, and MCAM surface antigens. These advancements pave the way for further exploration and utilization of scFvs in the diagnosis and monitoring of melanoma progression.

## Cancer testis antigens in cutaneous squamous cell carcinomas from patients receiving anti-PD-1 therapy

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## **Introduction & Objectives:**

Currently, no predicative biomarkers exist for the effective clinical use of anti-PD-1 therapy in advanced irresectable cutaneous squamous cell carcinoma (cSCC). Our study aims to explore cancer testis antigens (CTAs), a class of tumor-associated antigens that physiologically are only expressed in the male testis and female placenta, as potential biomarkers in cSCC. Due to their specific expression in human tumors, CTAs show promising potential as cellular targets in tumor cells. Our study focuses on cSCC patients treated with cemiplimab, aiming to compare CTA expression levels in responders and non-responders of the therapy in therapy-naïve tissue samples.

## **Materials & Methods:**

The National Cancer Institute (NCI) priority list was reviewed in advance to identify potential CTAs. The Galaxy and R2 analysis platforms were used to analyze available published cSCC data from NCBI (Accession number: GSE125285) and filtered highly expressed CTAs. Corresponding primer pairs were designed for six selected CTAs (MAGEA3, MAGEA4, PBK, KNL1, CEP55, ROPN1), along with an additional 19 primers that may be involved in anti-PD-1 response (e.g. CD8a, Cd274, PDCD1) or cSCC biology (e.g. MMP1, MMP3, MMP13).

RNA isolation, cDNA synthesis and qPCR quantification were first performed on four available cSCC cell lines (SCC-12, SCC-13, SCL-I, SCL-II) to determine the expression levels of the 25 primers compared with healthy keratinocytes. RNA was also isolated from available formalin-fixed, paraffin-embedded (FFPE) cSCC tumor tissue sections, with an additional pre-amplification procedure due to limited material.

#### **Results:**

Database analyses revealed that three of the CTAs from the NCI priority list (CEP55, KNL1, PBK) were significantly upregulated in cSCC samples compared to normal skin, while one (ROPN1) was significantly downregulated.

Relative gene expression by qPCR revealed higher expression levels for a subset of the genes of interest in the cSCC cell lines compared with healthy keratinocytes. In particular, MAGEA4 showed greatly increased gene expression in the SCC-12 and SCC-13 cell lines, whereas MAGEA3 showed high expression in SCL-I and SCC-13. MMP13 showed increased relative gene expression levels in all four cell lines. The 25 primers were also used to quantify gene expression in the FFPE tumor samples, and the results were compared with those from patients who did and did not respond to anti-PD-1 therapy.

#### Conclusion:

Our results provide preliminary evidence of gene expression levels of cSCC-associated CTA and a presumed association with response to anti-PD-1 therapy. Further experiments are needed to confirm our preliminary data.

# A rare case of relapsed adult acute myeloid leukemia with both scalp and orbital involvement by myeloid sarcoma.

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#### Introduction:

Myeloid sarcoma, formerly known as granulocytic sarcoma or chloroma, is a specific and uncommon manifestation of acute myeloid leukemia. It is defined by the World Health Organization as a tumor mass consisting of myeloid blasts with or without maturation occurring at an anatomic site other than the bone marrow. Though myeloid sarcoma can involve different sites such as lymph nodes, testicles and bone, concomitant involvement of multiple sites is very rare.

We report a case of two simultaneous granulocytic sarcomas with massive scalp and orbital involvement revealing the relapse of a previously treated AML with a fatal course.

## **Case report:**

A 43-year-old woman was admitted to the emergency room with a large scalp tumor associated with rapidly progressive exophthalmos. Her main history was acute myeloid leukemia in remission with regular follow-up in the hematology department. On her physical examination, the patient was found to have a dramatically large orbital nodular mass rapidly growing for the past 2 months, there was no tenderness to palpation associated with a single pinkish scalp nodular lesion, 6 cm long, infiltrated and hard and a center consistent with crusts. The patient had significant associated alopecia.

Orbital magnetic resonance imaging (MRI) demonstrated an infiltrative mass, an anterior orbitotomy with incisional biopsy was performed three times before revealing the mass to be a myeloid sarcoma in addition to the skin biopsy that showed the presence of mid-sized blasts extending into the deep dermis, positive for CD13,CD45,CD33 and negative for CD3 and CD20, also consistent with a diagnosis of myeloid sarcoma.

On the basis of the medical history, the diagnosis of relapse of extra medullary AML was established and chemotherapy was started but the patient died from complications of the treatment.

#### **Discussion:**

It is common to recognize four clinical situations of myeloid sarcoma:

- Myeloid sarcoma with concurrent acute myeloid leukemia (AML)
- Extramedullary relapse of AML like our case.
- Blast phase or transformation of a myeloproliferative neoplasm or chronic myelomonocytic leukemia
- Isolated MS, which occurs in association with a normal bone marrow biopsy and blood film, and in the absence of any history of myeloid neoplasia

The clinical presentations of myeloid sarcoma vary depending on the site and extent of involvement, indeed many of the patients with MS are misdiagnosed as having Hodgkin's or cutaneous lymphoma, rhabdomyosarcoma,

neublastoma and even hematomas or abscessed which may occur spontaneously in acute myeloid leukemia, its diagnosis is based on a combination of clinical features, radiological investigations and tissue biopsy that can exclude these differential diagnoses. Most cases reported in literature are of isolated MS but very few have mentioned involvement of multiple sites simultaneously as seen in our case.

# **Conclusion:**

In summary, simultaneous orbital and scalp myeloid sarcoma in adults is uncommon and generally carries poor prognosis. Such lesions should be included in the cutaneous tumor differential for any patient with or without history of known systemic disease.

# Nevus count on the face for the identification of patients with higher risk of melanoma

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**Introduction & Objectives:** Persons with a high total body nevus count (TBNC>50) are at higher risk of melanoma and should undergo a total body skin examination (TBSE). In daily practice, there are however several barriers against performing a regular TBSE in both primary care and dermatology and among them are lack of training, lack of expertise and lack of time. Attempts have been made to facilitate the recognition of more easily accessible phenotypic characteristics predictive for a high TBNC on covered body areas. The number of nevi on the arms, for example, has been demonstrated to be an independent predictor of a high TBNC and melanoma risk. However, the assessment of the arms still requires the patient to be undressed, at least partially. The aim of this study is to investigate the correlation between the number of nevi on the face and the TBNC and how the patient variables could influence this association.

**Materials & Methods:** This study was carried out in a private dermatology clinic. Consecutive adult patients consulting for any kind of skin problem underwent clinical and dermoscopic evaluation of all body nevi. Correlation between the number of nevi of the face and TBNC was analyzed. Cut-off values for the number of facial nevi useful to predict TBNC were determined using the area under the receiver operating characteristic curve.

**Results:** The study population included 999 subjects. A significant correlation between the TBNC and the number of facial nevi with a Spearman coefficient of 0.65 was found (p<0.001). A cut-off value of 8 nevi on the face best predicted TBNC above 50. Five and 6 facial nevi were the cut-off values characterized by highest sensitivity and specificity, respectively.

**Conclusion:** Count of nevi on the face is a simple, rapid and economical tool helpful for physicians of any medical field to better triage patients for early melanoma detection, in order to perform total body skin examination or refer patients for it.

## Not just another keloid: Atypical fibroxanthoma in a young patient

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# **Introduction & Objectives:**

We present a rare case of atypical fibroxanthoma in a young patient and summarise the features, natural history and treatment of this tumour.

#### Materials & Methods:

N/A

#### **Results:**

A 20-year-old male presented with an incidental left shoulder lump during a routine dermatology review. He had a history of eczema, formerly treated at another clinic with ciclosporin and methotrexate, but was now well-controlled for over a year on topical treatment alone.

The left shoulder nodule had been slowly growing for 1 year. The patient was asymptomatic and denied previous trauma or acne. Examination showed a well-circumscribed 15 by 12 mm hard to firm, skin coloured to slightly pink nodule, with a slightly whitish centre. No lymph nodes were palpable.

Given its appearance, a soft tissue or adnexal tumour was suspected, and an excisional biopsy was performed. Histology showed a thin epidermis with loss of rete ridges. A Grenz zone was seen. There was a nodular uncircumscribed dermal proliferation of spindle cells, appearing to form interweaving fascicles, with elongated ovoid nuclei and prominent nucleoli. There was moderate cellular and nuclear atypia. No necrosis was seen. The spindle cells stained positively for CD10. They were negative for AE1-3, CK5/6, S100, melanoma triple marker, factor XIII1, erg, CD31, CD34, desmin and SMA. Erg, CD31, 34 and SMA highlighted small vessels within the tumour. The histological diagnosis was an atypical spindle cell tumour favouring atypical fibroxanthoma. Excision margins were clear.

Given the histological diagnosis, a referral to surgical-oncology to consider re-excision with margins was made. Further history taking showed no family history of similar or other tumours. Chest X-Ray was clear. Magnetic resonance imaging showed mild skin thickening and enhancement at the left shoulder, possibly post-surgical change, with no significant nodularity suggesting residual or recurrent tumour. Oncology deemed that the patient did not require further excision. However, he was placed on 3-monthly follow-up for the next 2 years.

## **Conclusion:**

Non-keratinocyte, non-melanoma tumours such as sarcomas, including the rare atypical fibroxanthoma (AFX), comprise <5% of skin tumours. AFX is thought to be a benign entity which exists on a spectrum with pleomorphic dermal sarcoma (PDS), which has low-grade malignant potential. Both are of fibrohistioctyic mesenchymal origin, share several oncogenes (e.g. TP53 mutations) and are histologically and immunohistochemically similar. Typical presentation of AFX is a dome-shaped nodule on sun-exposed skin of the head or neck of an elderly, immunocompetent male. Given its rarity, no definitive guidelines exist, but evidence points to conventional excision (1cm margins if <1cm, 2cm if larger) or MOHS surgery as effective management with 2-10% recurrence

risk. AFX is a diagnosis of exclusion with no specific immunohistochemical markers, which primarily help rule out other tumours, and is distinguished from PDS (into which it may transform) by histological features such as subcutaneous tissue, vascular or perineural invasion, necrosis or local invasion/metastases. This atypical case of AFX, arising in covered skin in a young patient, raises questions about whether unknown genetic factors or perhaps even prior immunosuppression could have been contributory. The rapid growth, lack of prior trauma, and its solitary, regular dome-shaped appearance were useful clues for biopsy.

# Cumulative Incidence and Timing of Multiple Subsequent Cutaneous Squamous Cell Carcinomas; a Nationwide Prospective Cohort Study

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# **Introduction & Objectives:**

One third of patients who present with a cutaneous squamous cell carcinoma (cSCC) will develop a subsequent cSCC, but there is a lack of data on the cumulative incidence and timing of multiple subsequent cSCCs. This information is crucial for guiding dermatological follow-up. This study, therefore, aimed to determine (1) the cumulative incidence of developing multiple subsequent cSCCs, (2) the time interval between subsequent cSCCs, and (3) risk factors associated with multiple subsequent cSCC development.

#### **Materials & Methods:**

The study included all patients diagnosed with a first cSCC in 2007 or 2008, as recorded in the nationwide Netherlands Cancer Registry (NCR). Data for all subsequent cSCCs during a 12-year follow-up period were obtained through linkage with the Netherlands Pathology Registry (PALGA). For this cohort, a unique nationwide linkage with the Netherlands Organ Transplant Registry (NOTR) was used to obtain data on immune suppression due to organ transplantation. Data on immune suppression due to hematologic malignancies was provided by the NCR. Cumulative incidence function curves were calculated for all subsequent cSCCs and stratified for patient-based risk factors.

#### **Results:**

Among the 12,345 included patients, second to sixth cSCCs occurred in 4,325, 2,010, 1,138, 739, and 501 patients, with median time-intervals of 1.4, 1.2, 0.9, 0.6, and 0.5 years after the previous cSCC, respectively. The cumulative incidence of subsequent cSCC at 5 years was 27%, 42%, 54%, 64%, and 67% for the second to sixth cSCC, respectively. Stratification of the cumulative incidence function curves across immune status showed an increased risk of subsequent cSCC development among immunocompromised patients. For solid organ transplant recipients (SOTRs), the cumulative incidences were 74%, 83%, 83%, 88%, and 92% for the second to sixth cSCC, respectively. Hematologic malignancy patients had an increased risk of developing a second (41%) and third (52%) cSCC compared to the general population.

## **Conclusion:**

The risk of a subsequent cSCC steeply rises with the number of cSCCs, while the time-interval decreases. The cumulative incidence of subsequent cSCCs is especially high in SOTRs, reaching 92%. By including the risk of a subsequent cSCC, more informed decisions can be made about dermatological follow-up.

# Advanced cutaneous SCC: Italian multicentric retrospective analysis of patient profiles and therapeutic approaches

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**Introduction & Objectives:** CSCC may present in an advanced stage, displaying infiltrating behavior and/or loco-regional involvement and possible metastatic spread, thereby causing significant morbidity and mortality. Advanced CSCC (aCSCC) includes locally advanced (la) CSCC and metastatic (m) CSCC, and it represents an area of unmet clinical need, with no standardized treatments until the recent approval of immune checkpoint inhibitors (ICI). Patients' profile and disease characteristics of aCSCC need to be better characterized to provide a framework for clinical data interpretation. The aim of the present study is to describe clinical characteristics and therapeutic strategies of a real-life Italian cohort of aCSCC patients managed at the beginning of cemiplimab approval as compassionate use in Italy.

**Materials & Methods:** a multicenter retrospective study was performed by 10 Italian centers in the period January 1, 2018 - May 31, 2020. Patients aged  $\geq$  18 years and diagnosed with aCSCC (laCSCC and mCSCC) were eligible for the study. Analysis of patients' characteristics and treatment strategies was performed.

**Results:** We enrolled 220 patients in our study: we collected comprehensive information on patients' clinical characteristics for 191 patients, and on tumor features and therapeutic intervention for 220 patients. Most subjects were males (n=142, 74.4%), and median age was 81 years [IQR = (72; 86)]. 125 (65.5%) patients had cardiovascular comorbidities, 34 (17.8%) patients were immunosuppressed, and 52 (27.2%) patients reported personal history of non-cutaneous neoplasms. At the time of diagnosis of the aCSCC, nodal metastases were detected in 64 (29%) patients, and visceral organ metastatic spread was reported in 33 (15%) patients. The most common primary tumor localization was the head-neck region (n=169, 76.8%), with 75/169 (44.3%) affecting the scalp, followed by cheek (n=27, 15.9%), and ear (n=22, 13%).

Concerning treatment of the primary tumor, 212 (96.3%) patients received at least one therapeutic intervention: 42.5% (n=90) received one line of treatment only, 32.3% (n=71), 13.6% (n=30), 4.1% (n=9), and 5.4% (n=12) underwent two, three, four and five different therapeutic modalities, respectively. Surgery was the most common first line treatment option (n=161, 75.9%).

Regarding therapeutic management of nodal metastasis, 53/64 (82.8%) patients received at least one therapeutic

option. The most common first line treatment modality was surgery (n=22, 41.5%), followed by radiotherapy (n=13, 24.5%), immunotherapy (n=13, 24.5%), chemotherapy with platinum agents or anti EGFR (n=4, 7.5%), and electrochemotherapy (n=1, 1.8%).

As for distant metastasis, 23 of 33 (69.7%) patients received at least one therapeutic intervention. First line treatment choice was as follows: 10 patients (43.5%) received immunotherapy, 6 patients (26%) underwent surgery, 5 patients (21.7%) were managed by platinum compounds chemotherapy or anti EGFR, and 2 patients (8.7%) were treated with radiotherapy.

**Conclusion:** our study outlines the complex and heterogeneous clinical and therapeutic landscape of aCSCC patients at the beginning of ICI era, highlighting the need of a standardized care for this fragile and high need patient population.

## High frequency of acral lentiginous melanoma in northern chilean Patagonia

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# **Introduction & Objectives:**

The northern Patagonia of Chile is a territory with a high presence of mapuche-huilliche population, the main native people of the country. Our region stands out for having a highly rural population, and with higher poverty rates than Santiago, the national capital. A few years ago, we published a high frequency of acral lentiginous melanoma in our population, which were referred by general practitioners from small towns, and by teledermatology from rural areas. Our hospital serves to 210.000 people in northern Patagonia in Chile, and we wish to know what is the incidence of primary melanoma in our region, from 2018 to 2022.

## **Materials & Methods:**

Retrospective study of all the primary melanoma cases diagnosed in our hospital, from 2018 to 2022. Re-excision, metastases and recurrences were excluded. We reviewed demographic data, tumor localization and Breslow thickness.

#### **Results:**

65 cases of primary melanoma in the period, 37 male (57,0%) and 28 female (43,0%). Average age 69,4 + 12,9 years; 50 cases in people over 60 years (76,9%). The distribution of tumors were 43,0% nodular (n=28); 26,4% superficial spreading melanoma (n=17), 16,9% acral lentiginous (n=11); 4,6% lentigo maligna melanoma (n=3) and 9,1% other types (desmoplastic, amelanotic; n=6). About Breslow thickness, 11,6% were in situ (n=8); 8,3% indeterminate (n=5); less to 0,99 mm 13,5% (n=8), and 66,6% over 1 mm (n=40). 43,0% of the melanomas were localized in lower limbs. The most frequent sites of presentation were lower and upper limbs in women (64,2%), and lower limbs and trunk in men (67,7%). In acral lentiginous melanoma group, the age of presentation was 72,0 + 12,8 years, and 81,9% were in lower limbs.

## **Conclusion:**

A significant percentage of melanomas are diagnosed in male population. The average age of diagnosis is high, which may mean presence in the elderly population and a low rate of detection and suspicion in the young population. In our experience, the most common type of melanoma is nodular, followed by extensive superficial and then acral lentiginous. The last (16,9%) it could be due the high presence of native population, which could share genetic with black population. We have a high rate of late diagnosis (66,6%), that shows the effects of the pandemic and the impact of poverty on access to dermatological consultation. In both men and women, the most frequent site of presentation is lower extremities, which gives importance to the complete physical examination of the patients.

# Chronic Use of Hydrochlorothiazide and Risk of Skin Cancer in Caucasian Adults: A PharmLines Initiative Inception Cohort Study

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# **Introduction & Objectives:**

Photosensitizing properties of hydrochlorothiazide may increase skin cancer risk. To date, study findings on the association between hydrochlorothiazide use and skin cancer risk are inconsistent, notably regarding confounding and dose-response. The aim of this study was to investigate the association between hydrochlorothiazide use and incidence of skin cancer in a cohort of unselected Caucasian adults, taking dosing into account.

# **Materials & Methods:**

As part of the PharmLines Initiative, which links data from the Lifelines Cohort Study and prescription database IADB.nl, patients aged  $\geq$  40 years were included from Lifelines, a prospective population-based cohort study in the north of the Netherlands. Skin cancer incidence was compared between subjects starting hydrochlorothiazide treatment (n = 608), subjects starting treatment with other antihypertensives (n = 508), and non-antihypertensive long-term medication users (n = 1,710). Cox regression analyses were performed to obtain hazard ratios, adjusted for potential confounders.

# **Results:**

The risk of any skin cancer, keratinocyte carcinoma, basal cell carcinoma and squamous cell carcinoma was not significantly increased in general hydrochlorothiazide users. A clear association was observed between high cumulative hydrochlorothiazide use ( $\geq$  5,000 defined daily dose;  $\geq$  125,000 mg) and the risk of any skin cancer (adjusted hazard ratio 5.32, 95% confidence interval (95% CI) 2.40–11.81), keratinocyte carcinoma (adjusted hazard ratio 7.31, 95% CI 3.12–17.13), basal cell carcinoma (adjusted hazard ratio 7.72, 95% CI 3.11–19.16) and squamous cell carcinoma (adjusted hazard ratio 19.63, 95% CI 3.12–123.56).

## **Conclusion:**

These findings should lead to awareness of skin cancer-risk with high use of hydrochlorothiazide in Caucasian adults.

# Modulation of melanoma plasticity and developmental states in response to immunotherapy through microRNA-mediated mechanisms

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**Introduction & Objectives:** In this study, we investigated the role of microRNAs in regulating gene expression, both at the transcriptional and translational levels. MicroRNAs are crucial regulators that finely adjust various gene networks and pathways. Due to their significance, they are frequently observed to be dysregulated in cancer, and they play a vital role as indicators for prognosis, diagnosis, tumour staging, and response to existing treatments. Specifically, our research focuses on understanding how these networks influence the effectiveness of immune checkpoint blockade therapies in melanoma.

**Materials & Methods:** In our previous work, we successfully established four mouse models of melanoma: M1 (UV-induced, Braf-mutated), M2 (UV-induced, Braf-mutated), M3 (DMBA-induced, Gna11-mutated), and M4 (UV-induced, Kras/Gnaq-mutated). These models are representative of different subtypes of human melanoma, namely neural crest-like, undifferentiated, melanocytic, and transitory subtypes. In preclinical studies investigating immune checkpoint blockade (ICB) therapies, we observed that melanomas expressing a higher level of melanocytic plasticity signature, such as M1 and M2, exhibited greater resistance compared to those expressing a lower level of MPS, such as M3 and M4 melanomas.

**Results:** Through paired sequencing analyses of the four melanoma models treated with anti-CTLA-4 therapy, we observed significant alterations in mRNA and miRNA expression induced by anti-CTLA-4 treatment in the sensitive models (M3 and M4), while such changes were not observed in the resistant models (M1 and M2). In the M4 melanoma model, treatment with anti-CTLA-4 led to a decrease in the expression of *miR-203*, *miR-205*, and the *miR-200* family, which are known to counteract *ZEB1* and facilitate mesenchymal-epithelial transition (MET). However, the early recurrent tumours displayed elevated expression of microRNAs targeting inflammatory cytokines like *CCL2* and *CCL8*. In the M3 melanoma model, anti-CTLA-4 treatment resulted in a reduction in the expression of microRNAs targeting inflammatory cytokines. However, the early recurrent tumours exhibited lower expression of microRNAs that target immune checkpoints including *LAG3* and *TIM-3* as well as corticosteroid-inducible genes like *TSC22D3* and *DUSP* family.

**Conclusion:** Our findings indicate that melanomas with low melanocytic plasticity signature (MPS) expression possess the ability to employ various strategies to evade immune responses induced by immune checkpoint blockade (ICB). These strategies include: (1) transitioning to a mesenchymal-like state, (2) adapting through the suppression of inflammatory responses, and (3) upregulating the expression of alternative immune checkpoints. Currently, our research is focused on further validating these results and delving into the intricate mechanisms underlying these observations.

# Real world data based on clinical and histopathological predictors of disease progression in stage II cutaneous melanoma

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# Real world data based on clinical and histopathological predictors of disease progression in stage II cutaneous melanoma

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# **Introduction & Objectives:**

The rates of recurrence and death in stage II melanoma patients, particularly stage IIB and IIC, are close to those seen in stages III A-B with important implication for surveillance strategies and adjuvant treatment plans.1 Prognostic analysis for stage II melanoma is essential to identify high risk patients who could benefit of tight monitoring, given the recently approved adjuvant therapy for stage IIB and C. This study aims to characterize the influence of clinical and histopathological features on stage II melanoma recurrence.

# **Materials & Methods:**

A retrospective study was conducted including stage II sporadic and familial melanoma patients diagnosed at Policlinico Universitario Agostino Gemelli - IRCSS between 1991 and 2022. The study cohort was divided into two groups: the non-recurrent and recurrent melanoma group. The non-recurrent melanoma patients were defined based on a minimum 5-year follow-up period in order to minimize the risk of false non-recurrence. Recurrence classification and time-to-event recurrence prediction model with successive addition of patient clinical characteristics and tumor features was applied.

# Results:

103 stage II melanoma patients (56 stage II A, 29 stage II B, 18 stage II C) were included. Twenty-one of 103 (20.4%) stage II melanoma recurred with a median time 2.6 (IQR: 1.4-4.6) years from the diagnosis. The recurrent group had a higher mortality rate (62.5% vs 37.5%, p=0.005) compared to the non-recurrent group. Breslow thickness was associated with a 70% increased probability of melanoma recurrence (OR=1.7; CU95%:1.05-2.7; p=0.029) for each unit increase in Breslow thickness (mm). In addition, patients with familial melanomas showed a 7-point higher time from diagnosis to recurrence (p=0.001). To investigate specific risk factors associated with recurrence-free survival, we performed cox regression analysis. Breslow thickness was the most important feature

with shorter survival time for each unit increase in Breslow millimeters (p=0.025).

# **Conclusion:**

Our results showed that, by recurrence classification analysis and time-to-event recurrence prediction, Breslow thickness, but not demographic, clinical and histopathological features was the only important feature to predict clinical recurrence.

\1. Garbe C, Keim U, Amaral T, et al. *Prognosis of Patients With Primary Melanoma Stage I and II According to American Joint Committee on Cancer Version 8 Validated in Two Independent Cohorts: Implications for Adjuvant Treatment.* Vol 40.; 2022. https://doi.org/10.

## Pregnancy-associated melanoma - case series

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**Introduction & Objectives:** Pregnancy-associated melanoma is a term defining melanoma diagnosed during pregnancy or within one year after delivery. Cutaneous melanoma is the most common neoplasia reported during pregnancy and the one that most often metastasizes to the fetus and placenta. It is controversial whether women diagnosed with melanoma during pregnancy or within a postpartum period have poorer prognosis.

#### Materials & Methods:

**Results:** We report four women with pregnancy-associated melanoma consulted or diagnosed at two Departments of Dermatology. Patient 1 is a 30 year-old woman in 4th week of pregnancy with superficial spreading melanoma on left lower leg, Breslow thickness 0.38 mm. Another patients were diagnosed in the postpartum period: a 34 year-old woman month after the delivery with superficial spreading melanoma in vertical phase of growth on the abdomen, Breslow thickness 6 mm (patient 2), a 34 year-old woman 1 day after the delivery with lentigo maligna melanoma on the right breast, Breslow thickness 0.23 mm (patient 3) and a 36 year-old woman 6 months after the delivery with superficial spreading melanoma on left lower leg, Breslow thickness 0.76 mm (patient 4). In patient 2 and 3 lymph nodes metastases were diagnosed.

**Conclusion:** Influence of pregnancy on melanoma development and evolution of melanocytic nevi is still unclear. If melanoma is suspected in a pregnant woman, removal of the lesion should not be delayed until delivery.

## Melanonychia with zebra-like pattern: An Unusual Paraneoplastic Presentation of cholangiocarcinoma

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# **Introduction & Objectives:**

Cutaneous paraneoplastic syndromes (CPS) are a heterogeneous group of skin manifestations that occur in relation to many known malignancies. Paraneoplastic occurrence of dystrophic nail changes are a well-known phenomenon described in various paraneoplastic dermatosis. However, its development without any underlying skin lesions has been rarely reported in cutaneous lymphoma. Herein, we present a case of paraneoplastic nail pigmentation revealing an extrahepatic cholangiocarcinoma and discuss the clues to diagnosis and clinical importance

# **Case presentation:**

A 46-year-old man with no particular medical history presented to our Outpatient department with nail changes in his hands evolving for 2 months. Physical examination revealed a distal brown nail discoloration involving bilaterally his fingernails. Dermoscopic examination showed a thickening perforated free edge, seat of filiform hemorrhages within a distal longitudinal melanonychia and striped appearance giving a zebra-like pattern. The rest of the physical examination revealed conjunctival jaundice. Mycological examination of nail specimen was negative and routine laboratory tests revealed abnormal liver function tests. The patient was referred to the gastroenterology and hepatology department where the diagnosis of extrahepatic cholangiocarcinoma was conducted. The patient was treated with surgical resection. The nails abnormalities disappeared within two weeks after the surgery. Six months later, the patient experienced the reappearance of the same subtle changes and he was diagnosed with recurrent cholangiocarcinoma.

#### **Discussion:**

CPS are heterogeneous, rare, acquired dermatoses that may be associated with an internal malignancy. They are intrinsically devoid of any neoplastic nature and do not originate in the skin as a direct consequence of compression or by metastasis. Our patient presented with nail pigmentation which coincided with the diagnosis of extrahepatic cholangiocarcinoma. It resolved spontaneously without any other intervention following surgical resection and it reappeared on relapse. This temporal association points to the paraneoplastic nature. Various paraneoplastic cutaneous manifestations of cholangiocarcinoma have been reported, such as alopecia, migratory erythema and porphyria cutanea tarda. However, there has been no case report of nail pigmentation presenting as a paraneoplastic syndrome of cholangiocarcinoma in the literature. The presence of nail discoloration, thickening, crumbling, onycholysis, onychodystrophy, subungual hyperkeratosis, and splinter hemorrhages should raise suspicion of internal disease including malignancies especially in patients with additional systemic and/or cutaneous findings. The underlying mechanism of the melanonychia observed in our patient remains to be identified, as numerous endogenous factors may regulate the proliferation of melanocytes.

#### **Conclusion:**

In conclusion, we reported an unusual case of isolated nail discoloration with a zebra-like pattern occurring in a patient with cholangiocarcinoma and reappearing on relapse and we highlighted the need of an early recognition

of this rare entity.

## Breast cancer cutaneous metastases involving the scalp and the retroauricular region

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# **Introduction & Objectives:**

Skin metastases represent an uncommon presentation of internal malignancies. As for women, the most common malignancy that can develop skin metastases is breast cancer, apart from melanoma, with frequent localisation on the ipsilateral thoracic wall with the primary tumour. The rate of metastasis formation for this type of cancer is around 30%. Unique localisations are: scalp, the nail bed, face, neck, back and arms. Breast cancer cutaneous metastases commonly present as firm, papulonodular lesions, flesh to red coloured, with or without ulceration and crusts. Classic patterns are carcinoma erysipeloides, carcinoma telangiectoides, and carcinoma en cuirasse. Herein, we report the case of a 78 year old woman who was previous diagnosed and treated for breast cancer that presented to our Dermatology department with skin metastases involving the scalp and the retroauricular region.

#### **Materials & Methods:**

A 78 year old woman, with a prior diagnostic of breast cancer treated 7 years ago, presented to our Dermatology department with a firm, ill defined, infiltrated, central atrophic, round-oval alopecic plaque, adherent to the deep tissues, with teleangiectasies and a hematic crust above, measuring 4,5/3 cm, localised on the vertex and a second round, erythematous, ill defined, ulcerative with hematic crust above, measuring 2 cm in diameter lesion, localised in the retroauricular region. The first lesion had an one year evolution, whereas the second one was present for a few months at the examination moment. A punch biopsy was performed from both lesions together with an immunohistochemical test for the most common and important molecular markers for breast cancer.

#### **Results:**

The anamnestic data collaborated with the biopsy and immunohistochemical testing results revealed the diagnostic of breast cancer skin metastases positive for ER, PR, AE1/AE3, BREP4 and mammoglobin. The metastasis on the scalp, producing alopecia neoplastica, presented the classic pattern of carcinoma telenagiectoides, while the second one followed an ulcerative model. The patient was afterward referred to the Oncology Department.

#### **Conclusion:**

To draw to a conclusion, breast cancer skin metastases represent a rare form of presentation, but also one of the most frequent forms of skin metastasis among women. The diagnostic needs to be confirmed by a positive biopsy result. The particularity of this case is drawn by the unique localisation of the lesions and also by their appearance as erythematous, telangiectatic or ulcerative plaque and not with the classic papulonodular description.

Usefulness of lymphovascular invasion in the risk stratification of cutaneous squamous cell carcinoma and implications for staging systems.

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# **Introduction & Objectives:**

Cutaneous squamous cell carcinoma (cSCC) is the second most common skin cancer in humans and it exhibits a significant impact on mortality. Tumor size, thickness, perineural invasion, poor differentiation grade, or invasion beyond subcutaneous fat are factors associated with a higher risk of cSCC recurrence. The presence of lymphovascular invasion (LVI) has been recognized as an aggressive histological feature in cSCC. Although it is currently excluded from staging systems, it might help refining upcoming staging editions.\*\* The objective of this study is to evaluate the impact of LVI on cSCC outcomes.

#### **Materials & Methods:**

We analyzed a retrospective cohort of 614 patients diagnosed with cSCC at the Dermatology Department of the Complejo Asistencial Universitario de Salamanca between 2010 and 2021. Of these, 15 patients presented LVI. The characteristics of tumors with and without LVI were compared using Chi-square test/Fisher's exact test or Mann-Whitney U test as appropriate. Multivariate analysis was performed using logistic regression with an adjusted model. A P-value below 0.05 was considered significant.

#### **Results:**

LVI was significantly associated with poorly differentiated tumors (P=0.002), invasion beyond subcutaneous fat (P=0.010), thicker tumors (P=0.001), larger tumors (P=0.015), as well as higher stage tumors [T2b-T3; BWH staging] (P=0.0001). Tumors with LVI were significantly associated with a higher risk of cSCC-related events, including local recurrences, lymph node metastasis, distant metastasis, and disease-specific death (P=0.0001). In the multivariate analysis, high-risk stage and LVI were independent risk factors associated with adverse events and disease-specific death. cSCC with LVI had a higher risk of developing adverse events related to cSCC (OR=13.572 [95% CI: 2.881-63.936]; P=0.001), including local recurrences (OR=3.193 [95% CI: 1.033-9.868]; P=0.044) and lymph node metastasis (OR=7.555 [95% CI: 2.369-24.096]; P=0.001), as well as a higher risk of disease-specific death (OR=11.393 [95% CI: 3.349-38.754]; P=0.0001).

# **Conclusion:**

Lymphovascular invasion is independently associated with poor prognosis in CSCC and should be included in future staging systems.

# Osteonaevus on Nanta - - uncommon ectopic bone formation in an intradermal naevus in a changing mole on the left cheek

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# **Introduction & Objectives:**

A 49 year old lady presented with concerns about a long-standing naevus on her left cheek, which in the preceding 8 weeks grew in size and became tender.

## **Materials & Methods:**

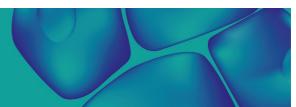
On clinical examination, it was 1 cm in diameter nodule with unusual dermoscopic features, including pale and milky red areas with telangiectasia. The differential diagnoses included amelanotic malignant melanoma, Merkel cell carcinoma, and basal cell carcinoma, therefore it was removed with an excision with 2 mm margins.

## **Results:**

Interestingly, histopathology showed an intradermal cellular naevus with focal calcification in keeping with Osteonaevus of Nanta. A foreign body type giant cell reaction and granulomatous chronic inflammation was also present. Mitotic activity was not obvious and there is some maturation of the melanocytic cells. Immunostains for Melan A/Ki67, HMB45, SOX10 and P16 showed no evidence of malignancy.

# Conclusion:

Our case describes an case of Osteonevus of Nanta, which is an extremely rare benign histopathological variant of an intradermal naevus, characterised by ectopic bone formation insterspread with melanocytic cells.



## Exraocular sebaceous carcinoma: a case report.

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# Exraocular sebaceous carcinoma: a case report.

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**Introduction:** Cutaneous sebaceous carcinoma is a rare malignant tumor derived from the adnexal epithelium of the sebaceous glands, preferentially located in the palpebral region. Extra-palpebral involvement is rare, representing only 25% of cases, and is often difficult to diagnose due to its clinical and histological polymorphism. Its prognosis depends to a large extent on early diagnosis and treatment. Indeed, this tumor is aggressive in 29% of cases and the risk of lymphatic and visceral metastases is not rare. We report a case of extraocular sebaceous carcinoma.

Case report: An 81-year-old man, with no previous history, consulted for an ulcerating lesion of the nose that had been evolving for 1 year. The skin examination had noted a budding lesion of (4\*5) cm in diameter, occupying the nostril threshold, the left nostril wing and the columella, of a coarse pedicle shape with a wide base of implantation, obstructing the left nostril orifice. Clinical examination including lymph node examination was normal. The diagnosis of sebaceous carcinoma was confirmed by pathological and immunohistochemical examination. A local and distant tumor evaluation (CT scan of the face, ultrasound of the lymph nodes and a thoracic-abdominal-pelvic CT scan) was negative. A large surgical excision was performed with simple postoperative follow-up.

**Discussion:** Extraocular Sebaceous carcinoma is a rare malignancy. Indeed, less than 150 cases of extraocular Sebaceous Carcinoma have been published in the literature, 75% of which were located on the head and neck. Extraocular sebaceous carcinoma occurs in subjects over 40 years of age, particularly between the 6th and 7th decade without any sex predominance. Their diagnosis is often difficult because of their great clinical and histological polymorphism.

Their prognosis is unpredictable but often described as better than the ocular forms. Recurrences are quite frequent. Metastases are rare, mainly regional lymph nodes, more rarely visceral. The treatment of choice is surgical and consists of a large exeresis. Radiotherapy and chemotherapy are very controversial.

**Conclusion:** Extraocular sebaceous carcinomas are uncommon tumors with a high incidence of local recurrence and regional metastases. Surgery with large excision of these tumors is the usual treatment.

#### New horizons in diagnosis and management of melanoma: the role of ultra-high frequency ultrasound.

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# **Introduction & Objectives:**

Early malignant melanoma (MM) detection is crucial to improve prognosis and survival rates. The use of ultra-high frequency ultrasound (UHFUS) system is a promising new tool for the assessment of MM.

Objective: Evaluate the correspondence between the ultrasonographic thickness and the Breslow thickness in MM using UHFUS.

#### **Materials & Methods:**

Ultrasonographic images of MMs were acquired using the 70 MHz probe of VevoÒMD (Fujifilm, Visualsonics, Toronto, Canada), a peculiar UHFUS with a resolution of 30 µm. The ultrasonographic features were recorded and the maximum depth of the lesions was measured and compared with the histopathological thickness after the surgical removal.

#### **Results:**

MMs appeared as hypoechoic fusiform or oval inhomogeneous areas at the ultrasonographic examination, with a variable degree of vascularization. An excellent agreement between the Breslow thickness of the MMs and the ultrasonographic thickness was recorded.

## **Conclusion:**

UHFUS can be helpful to reduce the diagnostic delay and perform a surgical excision with negative margins in case of MM. In addition, with UHFUS it is also possible to evaluate the presence of any satellite or in transit lesions. Moreover, in the case of suspected atypical melanocytic nevus, an ultrasonographic depth ≥0.8 mm indicates a high priority in the waiting list for elective surgery. The clinician can also identify with UHFUS the point of maximum depth and guide the pathologist, reducing the variability in the analysis of the histopathological Breslow thickness. UHFUS can be considered a non-invasive tool that provides important information in the preoperative evaluation of melanocytic lesions.

# Acquired resistance to vemurafenib in cutaneous melanoma cells impacts ribosome biogenesis and signaling towards translation

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**Introduction & Objectives:** Translation, a vital and constantly changing procedure, undergoes rewiring due to abnormal signals transmitted by the BRAFV600E mutant, the prevalent mutation found in cutaneous melanoma. While targeted therapy can effectively suppress these signals, the cells rapidly adjust and lose sensitivity, resulting in a recurrence of melanoma in patients. However, there is limited understanding regarding the specific program of translation rewiring that occurs after the development of resistance to vemurafenib.

**Materials & Methods:** A375 and SK-MEL-5 melanoma cell lines resistant to vemurafenib (referred to as VR cell lines) were created, and their IC50 values were determined. The phosphorylation status of effectors of MAPK and PI3K signaling pathways were investigated. To measure translation rates without the use of radioactive substances, 1  $\mu$ M puromycin was added to the culture medium, and the levels of puromycylated nascent peptides were assessed through immunoblotting. It has been established that the levels of puromycylated peptides are indicative of global translation levels. Ultracentrifugation was employed to separate 40S and 60S ribosomal subunits, and the 60S/40S ratio was calculated.

**Results:** The development of resistance to vemurafenib resulted in a significant 10-fold increase in the IC50 of the A375VR and SK-MEL-5VR cell lines. These resistant cell lines exhibited continual activation of the MAPK pathway, even when exposed to high concentrations of vemurafenib. The mTOR kinase and its downstream substrates, S6K and 4EBPs, were differentially affected in the two VR cell lines, indicating differential effects on the signaling towards translation. The 60S/40S ratio indicated impaired ribosome biogenesis and further strengthens the significance of translation rewiring due to acquired resistance in melanoma.

**Conclusion:** Melanoma cells rapidly undergo adaptive changes in response to widely used targeted therapies in clinical practice. These adaptations primarily involve the rewiring of translation, which is influenced by the modulation of intracellular signaling events. Combination therapy has been established as an effective approach to enhance treatment effectiveness and hinder the development of drug resistance. However, in order to discover new therapeutic targets, it is essential to gain a deeper understanding of the specific molecular events that govern this resistance phenomenon.

# Carcinoma en cuirasse mistaken for allergic and infectious diseases - case report

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# Carcinoma en cuirasse mistaken for allergic and infectious diseases - case report

# **Introduction & Objectives:**

Carcinoma en cuirasse (CEC) is an extremely rare form of cutaneous metastases of breast cancer, or less common lung, stomach or kidney cancer. It initially presents with erythema and pitting oedema of the skin overlying the breast, usually accompanied with intense pruritus. Gradually it develops into coalescing papules, plaques or nodules that form woody induration of the skin. CEC represents a late stage cancer and has poor prognosis, which is why it is important to avoid misdiagnosing it as benign skin conditions.

Here we report a case of carcinoma en cuirasse that was mistaken for allergic and infectious skin diseases.

## **Materials & Methods:**

A 66-year-old female patient with no previous history of chronic diseases or personal and familial malignancies, presented with pruritic erythema on the skin of her left breast. During the next three months the erythema progressed into sharply demarcated and substantially indurated erythematous plaque, up to 8 cm in diameter, which eventually developed ulceration on the whole surface, besides the crusty rim. The plaque was surrounded by multiple erythematous papules and erythema that spread on the rest of the breast and around it. Throughout the development of the condition patient was treated with oral antihistamines and systemic antibiotic (cefalexin) due to the suspicion of allergic (eczema) and infectious disease (bacterial skin infection), with no improvement and further progression. After the first examination by a dermatologist patient was admitted to inpatient dermatology department for further assessment.

#### **Results:**

Clinical examination revealed tender left breast with enlarged lymph nodes in the left axilla. Dermoscopy of the erythematous papules showed pink-red background with curved blood vessels in the centre. Histopathologic analysis of the ulcerated plaque and surrounding papules revealed cutaneous metastasis of an adenocarcinoma of uncertain origin. Ultrasound showed an expansive tumour in the left breast with pathological lymphadenopaty. Needle biopsy of the left breast confirmed diagnosis of triple negative breast cancer (negative for estrogen, progesterone and HER2 receptors) (TNBC) with lymph node involvement of both axillae. Patient was then referred to oncologist for further assessment and treatment.

#### **Conclusion:**

CEC is a form of metastatic cutaneous carcinoma that usually occurs in breast cancer patients after mastectomy, but in rare cases it can be the first sign of more aggressive breast cancer, as shown in the presented case. CEC can be mistaken for other, usually benign skin conditions. In early stages, due to erythema and pruritus, it can resemble eczema or fungal skin infections and in later stages differential diagnoses include morphea, lichen planus, bacterial infections, Paget's disease and other. Although skin biopsy and histopathologic examination can easily differentiate CEC from other skin conditions, thorough clinical examination and dermoscopy are usually

enough to suspect a cutaneous metastasis. Timely diagnosis by a dermatologist is paramount for early treatment initiation and possibly better outcome for patient.

## Long-standing basal cell carcinoma developed into squamous cell carcinoma. A case report

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# **Introduction & Objectives:**

Basal cell carcinoma is one of the most frequently occurring types of cutaneous neoplasm. Despite having a generally positive prognosis, in some cases its evolution might be severe. Therefore, when facing tumours which either are recurrent or have an advanced local invasion, surgically unapproachable, therapeutic options become a real challenge.

#### **Materials & Methods:**

We present the case of a 74-year-old woman, with a diagnosis of Gorlin-Goltz Syndrome, which was severely undertreated throughout the evolution of the disease. She was admitted into our Dermatology department presenting several erosive tumours, having different levels of epithelization, central ulceration, covered with a layer of white malodorous deposits suggesting bacterial superinfection. The histopathological examination confirmed the basal cell carcinoma diagnosis. The surgical approach was excluded, thus we decided to initiate systemic treatment with vismodegib, an inhibitor of the "Hedgehog" signalling pathway.

## **Results:**

The largest lesions were seen in both left and right frontal-lateral areas, posterior thoracic area and antero-lateral abdominal area. After 12 months of undergoing systemic treatment, some of the lesions significantly improved, decreasing in both depth and diameter. However, we decided to take a biopsy from one of the highly resistant lesions and the pathological examination showed the diagnosis of squamous cell carcinoma. Therefore, we decided to initiate systemic cemiplimab. The patient will be evaluated after 3 months of undergoing the new proposed treatment.

#### **Conclusion:**

Basal cell carcinoma is known for its slow progressive nature, however, if left untreated, it might become inaccessible from a surgical point of view, the management of such cases being rather burdensome. Moreover, a long-standing basal cell carcinoma, might develop into a squamous cell carcinoma, thus setting more barriers to the therapeutic approach.

## Rare case of leukemia cutis in a patient with chronic myelomonocytic leukemia

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**Introduction**: Chronic myelomonocytic leukemia (CMML) is a clonal hematopoietic stem cell disorder with characteristics of both myelodysplastic syndrome and myeloproliferative neoplasms. Furthermore, it has a tendency to transform to acute myeloid leukemia. Leukemia cutis (LC) is a specific cutaneous manifestation and rare extramedullary infiltration of the skin with neoplastic leukocytes. Leukemia is extremely rare in patients with CMML. Systemic disease is almost always present at the time of diagnosis of LC. The clinical features of LC is polymorphic and can present as nodules, maculopapules, papules and plaques composed of blast cells.

**Results:** We present a case of a 71-year-old male patient presenting with a 2 week history of violaceus, red to brown papules, nodules of varying size, predominately on the chest and abdomen. Patient's past medical history included CMML which was diagnosed in October 2021. At the time of diagnosis complete blood count (CBC) showed leukocytosis (19.6×10<sup>9</sup>) with monocytosis (45%). Cytogenetic studies showed a normal diploid male karyotype, 46, XY. Peripheral blood flow cytometry (FCM) demonstrated an increase in the fraction of classical monocytes at 53% and myelomonoblasts at 0.1%. A bone marrow aspiration showed a predominant population of monocytes, including 16% dysplastic monocytes and 14% monoblasts (in line with diagnostic criteria of blast count <20%), consistent with CMML type 2. In January 2023, the patient's disease progressed. CBC revealed an increase in white blood cell count (152x 109) and fractional monocytes (49%), as well development of anemia and thrombocytopenia. Due to worsening of the disease, patient was treated with mercaptopurine (50 mg QID per os) for 7 days, which caused an initial regression of WBC (<30x109). The patient was referred to a dermatologist, where leukemia cutis was suspected and a biopsy of a livid nodule was taken. Histology reveled dense dermal infiltrate consisting of medium sized, atypical cells with eosinophilic cytoplasm and hyperchromatic nuclei. The neoplastic cells expressed CD45+, CD68+, CD13+, HLA-DR+, CD 14+, CD3-, CD20-, CD34-, MPO-, CD117-, CD115- which confirmed the diagnosis of leukemia cutis in CMML. Unfortunately, the patient died 10 days after dermatological examination, so further intervention was not possible.

**Conclusion:** Leukemia cutis is a rare occurrence in patients with CMML, associated with blast transformation and poor prognosis. LC is also a predictive factor in CMML patents, for progression to acute myeloid leukemia (AML). Histopathology is essential for establishing the diagnosis, especially as the dermatological manifestation can be polymorphic and imitate other diseases. Clinicans should be aware of this rare manifestation, because its early diagnosis has important prognostic implications, so further hematological intervention can be instituted.

Personalized follow-up in cutaneous squamous cell carcinoma: integrating a clinicopathological model for absolute metastatic risk into current staging systems

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Personalized follow-up in cutaneous squamous cell carcinoma: integrating a clinicopathological model for absolute metastatic risk into the staging systems.

# **Introduction & Objectives:**

Cutaneous squamous cell carcinoma (cSCC) is the second most common skin cancer, causing a staggering death toll comparable to that of melanoma, despite its low propensity to metastasize (2%-5%). However, since cSCC has been long perceived as a non-life-threatening tumor, current clinical practices have remained suboptimal: in fact, clinical staging systems cannot consistently and reliably identify patients at high risk of metastasis, and they do not provide absolute metastatic risk. Therefore, intensive long-term follow-ups are generally recommended for most cSCC patients, including a large fraction of patients with relatively low metastatic risk. This represents a high burden for healthcare systems and causes unnecessary anxiety in these patients.

## **Materials & Methods:**

We sought to improve the risk stratification as defined by the American Joint Committee on Cancer (AJCC) and the Brigham and Women's Hospital (BWH), by integrating a recently developed clinicopathological (CP) model for estimating absolute metastatic risk in cSCC patients. More specifically, we tried to discriminate, within the low-risk group as defined by the staging systems (namely, AJCC: T1-T2 and BWH: T1-T2a), a large fraction of patients with very low metastatic risk; from a smaller group with an increased risk. We performed our analysis in a Dutch nested case-control cohort (n=390); there, we binarized the 5-year metastatic risk into CP High-Risk and CP Low-Risk, by selecting a threshold that would ensure, for the CP Low-Risk, a metastatic risk less than half of the risk of the T1-T2 (AJCC) and T1-T2a (BWH). We computed statistics and performance metrics in the intended-use population using weighted metrics, as required by a nested case-control cohort design.

#### **Results:**

In the low-risk group as per AJCC and BWH, the metastatic risk is about 1%. Within this group, CP Low-Risk patients represent roughly two-thirds of the entire group and have a very low metastatic risk of about 0.4% (see Figure 1). For these patients, it is foreseeable that these patients would be subjected to a much less intense follow-up regimen (and potentially no follow-up at all). The CP High-Risk patients, representing the remaining one-third of the AJCC and BWH low-risk patients, have an estimated metastatic risk of about 3%, so about three times higher than the low-risk group. These patients could potentially adhere to the more intense follow-up schedules.

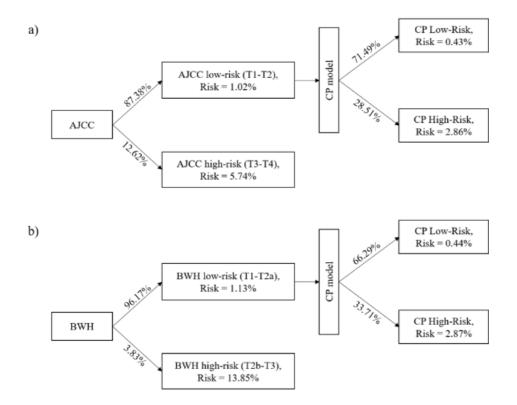


Figure 1. Risk stratification of cSCC patients with the CP model in combination with AJCC (a) and BWH (b) staging systems.

#### **Conclusion:**

Our data show that our risk model can enhance the AJCC and BWH staging systems, by refining the risk stratification in the low-risk group as defined by the low T stages. Two-thirds of the low-risk patients could potentially forgo intensive follow-up regimens. This has the potential to help clinicians, in making more personalized decisions about the follow-up schedules of their cSCC patients, as well as help to improve the management of healthcare resources, which is very relevant for a cancer with such a high incidence.

## Complete Regression of Merkel Cell Carcinoma After Incisional Biopsy: A Case Report

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# **Introduction & Objectives:**

Merkel cell carcinoma (MCC) is a rare primary cutaneous tumor of neuroendocrine origin characterized by an aggressive locoregional behavior and by its capacity for distant metastasis. It tends to debut in elderly and immunocompromised individuals and it is usually located in photoexposed areas, especially on the head and neck. Its incidence is increasing. It usually presents as a fast-growing, painless, nodular lesion. Despite its aggressive behavior, few cases of complete regression of the tumor have been described in literature.

#### **Materials & Methods:**

We present the case of an 80-year-old female patient with multiple cardiovascular risk factors, who presented a fast-growing 3 cm mass in the left malar region. Incisional biopsy revealed small, round, bluish cells with positive staining for cytokeratin 20, anti-cytokeratin (CAM) 5.2 and synaptophysin, with a diagnosis of MCC. An extension study was performed with lymphoscintigraphy, brain magnetic resonance imaging and full body computed axial tomography, with no evidence of primary tumor in other organs or distant dissemination. Of note was the finding of a 0.8 cm microadenopathy in the parotid gland ipsilateral to the tumor. A wide resection of the lesion was performed one month later. Histopathological study of the residual lesion showed scar fibrosis and chronic inflammation, with no evidence of residual lesion.

#### Results:

MCC was described by Toker in 1972. Merkel cell polyomavirus has been described in up to 80% of cases, demonstrating its involvement in tumorigenesis. Its presence could be associated with a better prognosis. The mechanism of complete regression in MCC is unknown. Cases of partial and complete regression have been described, both in primary tumors and after recurrence or metastasis. A review of 32 cases of complete tumor regression showed a female tendency with a predilection for tumors located in the head and neck, usually occurred after biopsy. This would support the hypothesis that biopsy could induce a T-cell mediated antitumor immune response.

## **Conclusion:**

We present the case of a completely regressed MCC after incisional biopsy. Further studies would be necessary to analyze possible factors involved that may condition tumor cells to be more susceptible to the host immune response.

#### Primary cutaneous mantle cell lymphoma: A rare case.

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# **Introduction & Objectives:**

Mantle cell lymphoma (MCL) is a mature B-cell neoplasm characterized by uncontrolled proliferation of small to medium-sized lymphoid cells within the mantle zone. However, skin involvement in MCL is rare, and most cases occur due to secondary cutaneous dissemination by widespread disease. Primary cutaneous MCL is even rarer.

Here, we report a rare case of primary cutaneous MCL.

#### **Materials & Methods:**

## **Results:**

A 65-year-old woman referred to our department presenting severe thick erythematous infiltrations located on all her face and the ears as well as slight hyperpigmentation around the eyes. Skin lesions on the face started as erythema resembling photosensitivity and progressively enlarged. Mantle cell lymphoma was diagnosed in a skin biopsy specimen while histopathological examination of bone marrow specimen was normal. Computed tomography (CT) scans of the chest, abdomen and pelvis revealed no abnormalities. Also, there wasn't any peripheral blood involvement.

On the basis of the histological and immunohistochemical data, the diagnosis of primary cutaneous MCL was made.

#### **Conclusion:**

Skin involvement in MCL has been described in several cases, whereas primary cutaneous MCL have only exceptionally been reported. Skin involvement is described to occur in 17% of cases with stage IV.

To correctly diagnose primary cutaneous MCL, it must be ensured that no other parts are involved, and these cases require close follow-up to monitor the possible progression to systemic disease and treat relapsed cutaneous disease. Correct diagnosis is crucial for clinical treatment and prognosis. The prognosis of primary cutaneous MCL is relatively favorable, and treatment options should comply with the clinical condition of the patient

Although systemic chemotherapy is the standard treatment for MCL, the therapy of choice for primary cutaneous MCL is difficult to confirm as this condition has been not reported frequently; it is thus unclear whether the standard treatment for systemic disease can be applicable to a localized manifestation with radiotherapy or surgery which already have shown great results.

it is important to remember that skin involvement may be the first or the only manifestation of MCL and the dermatologist may be the first-line doctor establishing the diagnosis.

# Lentigo Maligna (Melanoma) Presurgical Mapping with Reflectance Confocal Microscopy: A Systematic Review and Single Arm Meta-Analysis

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**Introduction & Objectives:** Lentigo maligna/lentigo maligna melanoma (LM/LMM) arises on chronic sundamaged skin and is difficult to define preoperatively due to its subclinical extension. Reflectance confocal microscopy (RCM) can be used to assess LM/LMM margin extension. We performed a single arm systematic review and meta-analysis to evaluate the proportion of agreement between RCM and the gold standard histopathology.

**Materials & Methods:** We searched PubMed, Cochrane, Embase and ClinicalTrials.gov up until April 2023 for studies assessing LM/LMM margin mapping with RCM and comparing it with histopathologic results in the same population. Data for overall proportion of true negative (TN) margins and of negative predictive value (NPV) was extracted and plotted using RStudio. Heterogeneity was assessed using the Cochran Q test and I2 statistics.

**Results:** Of 939 search results, 5 studies were included, with 185 LM/LMM patients. As shown in Table 1, 55.7% were females, mean age ranged from 67.9 to 74 years. Lesions were predominantly located on the face. The prevalence of TN in all evaluated lesions, meaning no subclinical extension detected by RCM and also confirmed by histological margins, was 74.7% (95% CI 62.1 - 87.3; Figure 1). Additionally, NPV, defined as the probability that clear margins detected by RCM are indeed free of LM/LMM, was 89.3% (95% CI 81.4 - 94.1; Figure 2).

**Conclusion:** The results demonstrated that RCM has a high TN rate and NPV, supporting its use as an effective and important tool for presurgical LM/LMM margin delimitation.

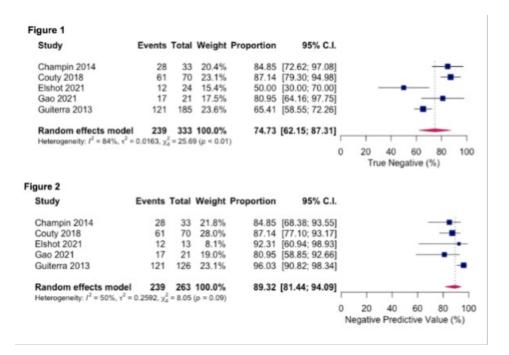


Table 1 Baseline Characteristics of Included Studies.

Study, year	Country	No. of patients	Age ‡	Sex	No. of lesion per location	RCM Device	Final histopathologic diagnosis	Threshold for RCM LM diagnosis
Champin, 2014	France	33	74 years (39–90)	16 females 17 males	5 temple 19 check 1 upper eyelid 5 nose 1 glabella 2 lower eyelid	VivaScope 3000	27 LM/ 6 LMM	At least one bright, large (>20 µm), round or dendritic cell in the epidermis.
Couty, 2018	France	70	72.6 years ± 11' (39–93)'	33 females 37 males	40 cheek 17 nose 10 forehead 2 ear 1 other sites	VivaScope 3000	59 LM/ 6 LMM	Presence of round or large dendritic pagetoid cells or of atypical cells at the demo- epidermal junction and at the dermis.
Elshot, 2021	Netherlands	24	69.5 years ± 10.1° (48.90)	17 females 9 males	12 cheek 5 periorbital 3 scalp 2 nasolabial 4 other	VivaScope 3000	18 LM/ 11 LMM	Presence of epidermal round large/pleomorphic pagetoid cells, follicular or dermo epidermal junction localization of atypical cells (round or dendritic).
Gao, 2021	United Kingdom	21	67.9 ± 12.5	11 females 10 males	15 cheek 1 nose 1 periorbita 3 forehead 1 ear	VivaScope 3000	21 LM	Presence of three or more large atypical bright round or dendritic cells in the epidermis and/or dermoepidermal junction.
Guitera, 2013	Australia	37	71 years (47-88)	26 females 11 males	27 cheek 5 nose 2 temple 1 eyebrow 1 shoulder 1 lower leg	Vivascope 1500	32LM/ 5 LMM	Presence of epidermal round large/plcomorphic pagetoid cells, follicular or dermo-epidermal junction localization of atypical cells (round or dendritic).

<sup>‡</sup> Mean, a Range, b Standard Difference, LM: Lentigo maligna, LMM: Lentigo maligna melanoma, No.: Number, RCM: Reflectance confocal microscopy.

## Dermatooncological index in the structure of the oncological service of Tashkent city

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**Introduction & Objectives:** Malignant skin diseases occupy a leading position in the overall structure of oncological morbidity (USA, Australia, Germany), and require a detailed study of the composition. The main aim of the work to establish the place of primary registered malignant skin diseases (PRMSD) in the general oncological structure; study of the nosological, pathomorphological and epidemiological profile of PRMSD.

**Materials & Methods:** a retrospective analysis of data was carried out from the Cancer Register of Tashkent city in 2021.

**Results:** According to the Cancer Registry of Tashkent, in a multinational city with a population of 3 million, in 2021, 248 cases of malignant skin lesions (including 8 cases of primary multiple cancer) were initially registered, which accounted for the overall structure of oncological morbidity - 5.6%. Intensive indicators of PRMSD take the 4th place after breast cancer (30.5 cases per 100 thousand of the population), lung cancer (10.5) and cervical cancer (10.2). In the histological spectrum of PCCC, as expected, skin cancers proper predominated - basal cell - 70.8% and squamous cell - 14.4%, with a ratio of 5:1. Further, melanoma of the skin was in the lead - 10.8% and Kaposi's sarcoma - 3.6%. Dermatofibrosarcoma occurred in a single case in a man - 0.4%. The youngest age was established in the case of melanoma in an 18-year-old girl, the most advanced age was established in a 94-year-old woman with basal cell carcinoma. Against the background of the general prevalence of women - 57.3%, there was a slight gender predominance of men in the group of Kaposi's sarcoma - 11.1%. The predominance of women is most pronounced in the group of basal cell carcinoma - 18.2% more than men (squamous cell carcinoma - 11.1%), the least in melanoma - 7.7%.

**Conclusion:** the analysis of the data confirmed the global trend of the undisputed leadership of basal cell carcinoma in the structure of PRMSD, with some advantage in affecting older women, and also indicated a sensitively high number of primary registrations of melanoma - every 10 cases of PRMSD, which requires the introduction of knowledge and mechanisms for early diagnosis into the system for outpatient care of the population.

## desmoplastic melanoma - another great imitator or a diagnostic challenge?

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## **Introduction & Objectives:**

Desmoplastic melanoma (DM) known for its clinical resemblance to a wide spectrum of benign and malignant dermatological conditions is a rare variant of melanoma accounting for <4% of primary cutaneous melanomas. It typically presents as a slow-growing, non-pigmented or poorly pigmented lesion, often leading to a delayed or incorrect diagnosis. Histopathological examination with immunohistochemistry remains the gold standard for definitive diagnosis. However, it is essential for dermatologists to recognize the clinical features of DM to ensure early detection and appropriate management. Since desmoplastic melanoma represents a true clinical, dermoscopic, and histopathological diagnostic challenge, a case of desmoplastic melanoma is reported aiming to emphasize the importance of recognizing its presentation and the significance of clinical evaluation in DM.

#### **Materials & Methods:**

A comprehensive review of the patient's medical records, imaging studies, and histopathological findings was conducted. The data collected were analyzed to provide a thorough understanding of the diagnostic challenges associated with DM.

#### Results:

The patient, a 65-year-old male, presented to the Dermatology Department with a solitary, subcutaneous, fluctuant mass on the left parietal scalp, with soft consistency on palpation, with no epidermal changes, present for almost 10 years. Lately the lesion was painful on palpation. Lipoma was suspected and the lesion was removed with clear margins with the histopathological examination revealing glomangioma. After three recurrences and three surgical interventions, the histological revision revealed a low -grade spindle cell tumor with the differential diagnosis of desmoplastic melanoma and malignant peripheral sheath tumor, immunohistochemistry being positive for S100 and SOX-10 and negative for Melan-A, with retention of Histone (H3K27me3).

## **Conclusion:**

Desmoplastic melanoma represents a significant diagnostic challenge due to its varied clinical presentation and histopathological features. Dermatologists should maintain a high index of suspicion for desmoplastic melanoma, especially in non-pigmented or poorly pigmented lesions. This case report emphasizes the importance of recognizing the clinical features of DM and considering it in the differential diagnosis, even without relying solely on histopathological examination.

## Keratoacanthoma-like cutaneous metastases: a dermoscopic and histopathological point of view

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## **Introduction & Objectives:**

Skin metastases are a rare occurrence in patients with colorectal adenocarcinoma. They usually interest the abdominal region and have a heterogenous clinical presentation, mimicking various skin disorders. Among these are keratoacanthomas, which can be solitary or generalized eruptive (keratoacanthomas of Grybowski). We often rely on dermoscopy for the differential diagnosis, with pathology having the final say.

#### **Materials & Methods:**

A 65-year-old man diagnosed with colorectal adenocarcinoma, undergoing treatment with trifluridine and tipiracil presented for multiple cutaneous nodular lesions, with recent onset, rapid progression, localized on the face, upper limbs and posterior trunk; on clinical presentation, the lesions were well-defined, firm, with an erythematous periphery and slightly keratotic center, varying in size from 1 to 2 cm. Dermoscopy revealed serpentine vessels, arborizing vessels, white circles in the center of the lesions and white structureless areas. Given the clinical and dermatoscopic features, the differential diagnosis between multiple eruptive keratoacanthomas and cutaneous metastases was considered.

#### **Results:**

The histopathological findings lead to the diagnosis of cutaneous metastasis originating from the patient's colorectal neoplasia.

## **Conclusion:**

When faced with newly developed cutaneous lesions in a patient with a known diagnosis of colorectal adenocarcinoma, clinicians should always consider a comprehensive differential diagnosis, based on both clinical and dermoscopic characteristics. Although the clinical presentation is suggestive primarly for a diagnosis in the context of the underlying disease, it is essential to consider the possibility of an alternative diagnosis, which can offer the patient both treatment possibilities and an increase in quality of life.

#### Use of TCA peels in field cancerization

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# **Introduction & Objectives:**

Actinic keratosis (AK) results from hyperproliferation of atypical keratinocytes on sun damaged skin. Above the age of 65 more than 50 % of Caucasian males and at least 30 % of females are affected.

Treatment of actinic keratosis is vital as it can help reducing the risk of developing skin cancer and helps with the cosmesis. Multiple therapeutic options are available, either office based or home-administered. The choice of therapy may be influenced by several factors, as patients preference and tolerance, number of lesions and treatment cost among others.

In cases of field cancerisation treatment with 35 % TCA and Jessner solution is a well known and efficacious method.

## **Materials & Methods:**

We wanted to see if in milder cases of field cancerisation (AKASI less then 8) 15% TCA may be efficacious enough as it is more tolerable for the patients with less downtime and pain.

6 immunocompetent patients (5 male, 1 female) with mean age 73,3 years were included. All patients were pretreated with azaleic acid 20% daily in evening (home-administered) and SPF50 during the day for 4 weeks and in the office TCA 15% peel was applied. The end-point was frosting. Post-treatment included re-epthelisation cream with SPF50 until scaling ceased.

## **Results:**

None of the patients experienced any significant adverse events during or after the treatment. Redness, mild pain during the procedure and scaling were observed. The overall experience was satisfying. They all welcomed the cosmetic improvement and their 1 month and 3 month after treatment AKASI scores were lower.

## **Conclusion:**

In selected patients suffering from multiple AK, 15 % TCA peeling is a cheap, safe and efficacious method of treatment.

## Atypical nevi - precursors of melanoma or not?

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# **Introduction & Objectives:**

Atypical nevi are benign melanocytic lesions that may be considered precursors of melanoma, as they are one of its most important simulants. Some studies attest that under various mutational factors there could exist a linear progression from common, atypical nevi, to melanoma. The aim of this paper is to discuss whether atypical nevi are precursors of melanoma or not.

#### Materials & Methods:

We have reviewed a number of 20 of the latest articles regarding nevi and melanoma to establish if atypical nevi are indeed precursors of this skin cancer and if a linear progression from nevi to melanoma could be possible. We have made a summary of all the data that we have gathered, and we have obtained the main following results.

## Results:

Atypical nevi are frequently described as a grey line between common nevi and melanoma, as they are biologically and morphologically similar to these two entities. Some studies attest to a linear progression, from common, atypical nevi, to melanoma, that may occur under certain mutational factors. This linear progression, although rare, could apply to melanomas developing on preexisting nevi (nevus-associated melanomas), as most melanomas develop de novo. A nevus-associated melanoma is histologically defined by the coexistence of nevus and melanoma components. However, some studies attest that definitive histological features of common and atypical nevi are not observed in the same lesion (nevus-associated melanoma), which suggests that a progression from common to atypical nevi, and later to melanoma, is probably rare. Certain authors stated that the histology of nevus-associated melanomas may present an abrupt histologic transition between the nevus and melanoma components. This may also contradict the linear progression theory. In a recent study that we have published we have analyzed 200 melanocytic lesions out of which 21 were atypical nevi, with 12 out of 21 lesions (57.14%) having at least one dermoscopic criteria specific to melanoma, with polygons/angulated lines being the most encountered criterion. This could suggest that atypical nevi are one of melanoma's most important simulants and possible precursor lesions of this cancer, similar to the studies that report the existence of a biological and clinical link between the formation of nevi and the occurrence of melanoma.

# **Conclusion:**

Atypical nevi are classified as risk factors for melanoma and could be considered precursor lesions of this neoplasm. However, whether nevi are precursors of melanoma remains controversial and needs to be furtherly studied. A linear progression from nevi to melanoma could be possible, but it is mostly considered a rare event, which leads to the conclusion that being precursor lesions of melanoma cannot be the primary role of atypical nevi in relation to this skin neoplasm.

#### The dermatologist's role in diagnosing a rare disease: male breast cancer

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# **Introduction & Objectives:**

Male breast cancer is an extremely rare malignancy, accounting for less than 1% of all cancers in men and breast cancers overall. Cutaneous manifestations in male breast cancer are more frequent and occur earlier compared to women

#### **Materials & Methods:**

Herein, we present two cases of male breast cancer diagnosed in our dermatology department between 2021 and 2022.

#### **Results:**

Case 1: A 36-year-old previously healthy male presented with a palpable subareolar swelling on the right side, noticed for the past 4 days. Physical examination revealed a 2 cm painless, hard, fixed nodule with nipple retraction on the right side. No lymphadenopathies werefound. The rest of the clinical examination was unremarkable. Dermoscopy showed red clods and polymorphic vascular structures. Mammography revealed a suspicious lesion. Histopathological examination confirmed a non-specific type breast carcinoma, grade SBRII. The patient was referred to the oncology department for further management.

Case 2: A 73-year-old man presented with a 5-year history of an ulcerated tumor on the right nipple. Physical examination revealed a firm, bleeding tumor with a central ulcer and surrounding hard subcutaneous nodules. Multiple axillary lymphadenopathies were also detected. Histopathological examination showed a high-grade adenocarcinoma of the breast with intense expression of estrogen and progesterone receptors, with cutaneous metastases. Further staging investigations revealed pulmonary and skeletal metastases.

## **Conclusion:**

Diagnosing male breast cancer is often delayed, resulting in later-stage diagnoses and lower survival rates compared to female breast cancer. Male breast cancer typically presents as a subareolar fixed and painless cutaneous nodule. Other clinical signs that raise suspicion include nipple discharge and skin alterations, such as nipple retraction, ulceration, or eczematous changes. Differentiating male breast cancer from conditions such as Paget's disease, Bowen's disease, basal cell carcinoma, or melanoma can be challenging due to overlapping clinical presentations. Dermatologists play a vital role in recognizing the cutaneous manifestations of male breast cancer and should actively participate in its early detection. Prompt evaluation and appropriate management are crucial in improving outcomes for male breast cancer patients.

# Is S100B protein useful in the follow up of cutaneous melanoma patients? A cohort study in real practice settings.

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# **Introduction & Objectives:**

Several biomarkers, such as the S100 protein, have been proposed to detect eventual recurrences in cutaneous melanoma. However, its role in early metastases detection is still controversial.

#### **Materials & Methods:**

We ran a retrospective cohort study to assess S100 usefulness in real clinical practice settings at Hospital Universitario de la Princesa (Madrid) in between 2015 and 2020.

#### **Results:**

We included non-metastatic melanomas (stages I-III) who had at least 12 months of follow-up. Out of 226 patients included, the most frequent melanoma subtype was superficial spreading melanoma (52.7%), located mainly in the trunk (42.7%). During follow-up, 69 patients presented with metastases: 12.8% were lymph nodes metastases; 10.7%, visceral; and 7.1%, in transit ones. They were suspected by: imaging tests (in 53.3%), the patient himself (24.4%), the physician (18.8%) and only 4.4%, by the elevation of the s100 protein. We found a rate of true positives (elevation of s100 corresponding with the appearance of metastases) of 8.4%, and a rate of true negatives (without elevation and without metastases founding) of 67.6%. In our series, the sensitivity and specificity values were 43% and 84%, respectively; with a positive and negative predictive value of 40% and 86%. A possible statistical relationship was observed between the true s100 elevation and the presence of mitosis in the primary melanoma and the acral location.

**Conclusion:** our findings suggest that the usefulness of s100 in non-metastatic melanoma for detecting early recurrences is limited, although its complementary use to physical examination and imaging tests may add some value.

## Deciphering a recurring penile lesion amidst a pre-existing dermatosis

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# **Introduction & Objectives:**

Penile squamous cell carcinoma (PSCC) is a rare cancer accounting for under 1% of cancers in men in high-income countries and up to 10% in developing ones. Risk factors for PSCC include the absence of circumcision, chronic inflammation, phimosis, poor hygiene, smoking, immunosuppression and HPV infection, as well as PUVA therapy.

Genital psoriasis lesions can occur in over 60% of patients with psoriasis at some point over the course of the disease. Of note, they can be difficult to treat because of the skin particularities in that region and subsequent sensitivity to some therapies.

#### **Materials & Methods:**

A 60-year-old male patient was referred from the urology department for an erythematous, scaly plaque with prominent crusting located on the glans penis, around the urethral opening, of uncertain duration and occasional burning sensation.

The patient had been diagnosed with squamous cell penile carcinoma (pT1G1) through a prepuce biopsy roughly 2 years prior. After initially refusing surgical intervention and undergoing 2 cycles of chemotherapy, 3 months later he consented to a glansectomy with ventral prepuce resection and scrotal flap reconstruction, the histopathology of the glans also encompassing a condyloma acuminata.

The present examination revealed an ill-defined, erythematous, slightly burgeoning periurethral plaque with overlying serous crusting and small areas of hemorrhage. The patient also presented well defined, erythematous, slightly squamous annular plaques primarily on the abdomen and pubic region, accounted for by the history of psoriasis under prolonged use of ultrapotent topical corticosteroids.

Dermoscopy of the penile lesion highlighted numerous glomerular vessels uniformly distributed on a pink structureless background, as well as fine scaling, light yellow crusts and adherent fibers admixed with sparse homogenous red areas. Upon suspicion of a local recurrence rather than a genital psoriasis plaque, he was referred back to the urologist for surgical treatment.

## Results:

Six months later, biopsy results were compatible with an intraepithelial differentiated neoplasia (PeIN). Topical Imiquimod 5% 5 days a week was initiated, with a 3-month follow-up consultation in urology set up.

# **Conclusion:**

The peculiarity of our case lies within the concurrence of genital psoriasis and HPV infection, the non-sparing use of corticosteroid creams interfering with lesion morphology, as well as the non-specific features of the glans lesion

prompting histopathological examination in order to distinguish between an inflammatory disease and a recurrent neoplasm.

#### Melanoma associated-leukoderma: report of a case.

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# **Introduction & Objectives:**

Cutaneous malignant melanoma is classically an immunogenic tumor, where induced cytotoxic T-cell react against normal and transformed melanocytic autoantigens. This fact leads to primary tumor regression, emerge of halo nevus and melanoma-associated "vitiligo" or leukoderma. We present a case of the latest phenomenon.

## Case report:

A 62-year-old, otherwise healthy man, was diagnosed of a cutaneous melanoma IA (Breslow 0.2 mm) located in abdomen, in 2015. He received no treatments. Five years later, in 2020, during his two-step method digital dermatoscopic follow up, we observed that several melanocytic nevi in the patient's upper trunk presented with regression features. These features became more prominent and were noticed in more melanocytic nevi in the patient's trunk during the next two years, leading to a complete regression of the mayority of nevi in the patient in 2023. No melanoma recurrence was diagnosed.

## Results:

Melanoma associated "vitiligo", leukoderma o depigmentation presents as whitish macules far from the primary tumor. These lesions can emerge in the context of immunotherapy or in a spontaneous way, as in our case. Prevalence in melanoma patients is variable: from 2% to 16%, where immunotherapy is on course, and leukoderma usually appears in the first few years from the diagnosis, as the case we present. These lesions affect primary woman and younger melanoma patients with other autoimmune diseases. White macules are disposed usually in a bilaterally and symmetric manner, and have no relation with the original melanoma location. Melanoma patients with this leukoderma lesions are supposed to have a better prognosis.

## Conclusion:

We present a case of melanoma-associated leukoderma in an adult patient with a low risk cutaneous melanoma.

metastatic basal cell carcinoma: report of two cases

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# **Introduction & Objectives:**

Basal cell carcinoma (BCC) is the most common skin tumour. Usually is a slow-growing, locally invasive neoplasm that rarely metastasize

The possibility of metastatic basal cell carcinoma, although rare, can't be forgotten and there are targeted therapies available.

The aim of this study was to review our cases of metastatic basal cell carcinoma.

#### Materials & Methods:

The cases of documented metastatic BCC were included. Those cases presented a primary BCC of the neck and metastasis were confirmed by pathology.

#### **Results:**

Two cases were available for review.

A 94 year-old man had a persistent nodular, ulcerated, infiltrated lesion of the neck. The histopathological examination disclosed a basal cell carcinoma. He had been treated locally with radiotherapy for an inoperable lesion seven years before (morpheiform BCC). He developed metastases to the lungs and bones. He didn't tolerate systemic treatment and he died 9 months after.

A 74 year-old woman attended our hospital for a recurrent basal cell carcinoma of the neck (infiltrating

subtype). After complete excision, a subcutaneous nodule appeared near the scar and she developed lung metastases confirmed by pathology. She took vismodegib 150 mg daily for 10 months with complete response.

# **Conclusion:**

We report two cases of metastatic basal cell carcinoma. Although rare it can occur and may have different courses and outcomes and we enfatize the importance of the diagnosis.

# Primary cutaneous large B-cell lymphomas of the "leg type", a dorsal localisation

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#### **Introduction:**

Primary cutaneous large B-cell lymphomas of the "leg type", are rare but high-grade aggressive forms of LCBP according to the EORTC/WHO classification, mainly affecting the lower limbs of elderly subjects, we report the case of a Primary cutaneous B-cell lymphoma of the leg type of unusual location.

#### **Case report:**

A 68-year-old patient presented with a back mass that had been evolving for a year and had rapidly increased in size, on clinical examination the mass measured 17 cm on the long axis, it was hard on palpation, erythematous, traversed by telengiectasis with a weeping central ulceration. The lymph node areas were free and the rest of the clinical examination was without abnormalities.

On the balance sheet: Complete blood count: leukocytes 8660, lymphocytes 790, Platelets 417000, hemoglobin 13.1 LDH: 306.

The skin biopsy had objectified the presence of an undifferentiated tumor proliferation infiltrating the skin tissues, with immunohistochemistry:

Ac anti CD 20 and anti CD 10: positive

Ac anti Bcl6 (clone LN22) and Ac anti MUM1 (clone BC5): positive

Ac anti Bcl2: negative

Ac anti Ki67 (SP6 clone): Marking estimated at 90%

The results were in favor of a cutaneous localization of a malignant non-Hodgkinin lymphoma type B with diffuse large cells of the leg type.

A cervico-thoraco-abdomino-pelvic CT scan was performed, returned without abnormalities, a PET-scan was performed with no evidence of lymph node involvement

R-CHOP polychemotherapy treatment was instituted with excellent progress

#### **Discussion:**

Cutaneous large B cell lymphomas leg type are defined as diffuse proliferations, consisting of sheets of large B cells with rounded nuclei, immunoblasts and/or centroblasts. They were initially individualized in their most frequent clinical form which affects the lower limbs. The rarer occurrence of identical tumors in other anatomical sites (cephalic extremity or trunk in particular) justifies the extended terminology of BCL leg type, retained in the WHO-EORTC classification

Cutaneous diffuse large cell B-cell "leg-type" lymphoma is defined by histological, phenotypic and gene expression criteria rather than by the anatomical location of the skin lesions

Immunohistochemically, our case fits into a cutaneous large B-cell lymphoma of the lower limb type defined by the following immunohistochemical criteria: a B profile (CD20+) of the "activated" type, bcl2, Mum-1/IRF4+ and FoxP1 positive and a high proliferation rate. The absence of expression of bcl2 and Mum-1 is however observed in 10% of cases. Bcl6 is expressed in 50-68% of cases but CD10 expression is exceptional (0-2%)

# **Conclusion:**

The clinical descriptions of diffuse large cutaneous B-cell lymphomas of the lower limb type are fairly stereotyped, but our case illustrates the sometimes atypical manifestations in terms of presentation and location. Despite the differences with nodal B lymphoma at the nosological level, the therapy remains the same.

## Malignant proliferating trichilemmal tumor: an entity not to be ignored

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# **Introduction & Objectives:**

Proliferating trichilemmal cyst (PTC), or trichilemmal proliferating tumor, is a rare adnexal tumor, developed from the hair follicle [1] and characterized histologically by a trichilemmal keratinization. Generally benign in evolution, only about fifty cases with malignant transformation are described in the literature [3, 4]. We report two new cases of malignant KTP.

#### **Results:**

A 72-year-old woman, without any particular pathological history, who consulted for a tumor in the parietal region of the head evolving for 3 months, on a pre-existing cyst that had been evolving for about 20 years.

The skin examination showed a budding tumor of about 10 cm in diameter with an ulcerated surface, painful, superinfected, with other satellite cystic lesions on the head and neck.

The 1st biopsy was in favor of a squamous cell carcinoma,

Other skin biopsies were repeated: compatible with a malignant proliferating trichilemmal tumor (KTP) and satellite trichilemmal cysts;

The cerebral CT scan showed a large tumor mass partially calcified under the left parieto-occipital scalp on metastatic osteo-condensing remodeling of the vault. There was no adenopathy or secondary distant localizations. After a "RCP" (Dermatology, oncology, anatomopathology, maxillofacial surgery, plastic surgery), a carcinological procedure was considered difficult due to the underlying bone involvement, hence the indication of neoadjuvant chemotherapy.

The patient received 08 sessions of standard chemotherapy, while waiting for the reduction of the tumor volume in order to facilitate the post-surgical repair of the tumor and the affected bone. She responded well at the beginning with regression of the tumor size but the patient died due to sepsis.

#### **Conclusion:**

Malignant KTP is a rare adnexal tumor as it remains under-diagnosed. Its aggressiveness can sometimes be life threatening and suggests a close follow-up and an anatomopathological study of any scalp cyst, even of banal appearance, especially in elderly women.

# Tumour lysis syndrome: a life-threatening adverse event associated with immunotherapy in metastatic melanoma - a case report and literature review

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# **Introduction & Objectives:**

Tumour lysis syndrome (TLS) is a life-threatening oncological emergency commonly observed in haematological malignancies, occurring as a consequence of massive cell destruction, characterized by hyperuricemia, hyperkalaemia, hyperphosphatemia, and hypocalcaemia, inducing severe complications such as acute renal failure, cardiac arrhythmias, or seizures, ultimately leading to death. TLS has rarely been reported in solid tumours such as melanoma, occurring spontaneously, or induced by treatment. Being an uncommon, yet deadly condition, the objective of our presentation is to raise awareness about its recognition and management.

#### **Materials & Methods:**

The authors report a case of TLS induced by immune checkpoint inhibitors (ICIs) in a patient with metastatic melanoma, followed by a literature review.

**Results:** \*\* A 68-year-old female presented with lower back and right groin pain associated with important weight loss in a short period. Imaging revealed intense metabolism in three large necrotic retroperitoneal masses and multiple lymphadenopathies. An inguinal lymph node biopsy confirmed a BRAF V600E mutated melanoma. No primary tumour was found on the skin or mucous membranes. The cerebral MRI showed no abnormalities. LDH level before treatment was 1398 U/L (normal range [NR] 135-214). Hepatic and renal functions were normal. Combined immunotherapy with ipilimumab 3 mg/kg and nivolumab 1 mg/kg was initiated. Four days after the infusion, the patient developed a fever accompanied by worsening lethargy. Blood tests showed hyperkalaemia (4.8 mmol/L, NR 3.5-4.5), hyperphosphatemia (1.62 mmol/L, NR 0.85-1.50), hyperuricemia (599 mmol/L, NR 150-350), an elevated creatinine level (356 mmol/l, NR 45-84) and an elevated LDH level of 1443 U/L. Infection and obstructive uropathy were ruled out. Based on the clinical and laboratory findings, the important tumour burden and the recent initiation of immunotherapy, the diagnosis of TLS was made. The patient received intensive hydration, diuretics and 0.2 mg/kg/day of rasburicase, resulting in normalization of renal function and uric acid levels within five days. Serial ECGs showed no abnormalities. Melanoma treatment was resumed, ICIs being switched with targeted therapy (dabrafenib 300 mg/day plus trametinib 2 mg/day). The patient responded favourably, with good tolerance and achieving partial remission at two months.

Overall, 21 melanoma-associated TLS cases were reported since 1991. These cases were mainly induced by chemotherapy, rarely by targeted therapy and in only four instances by ICIs (anti-PD1 alone: three, anti-PD1 plus anti CTLA4: one). The TLS-induced mortality rate was 71%. Commonly accepted risk factors include a high tumour burden and an elevated pre-treatment LDH level, as seen in our case. Other risk factors include liver metastases, a rapid response to anticancer treatment, and pre-existing renal insufficiency.

#### **Conclusion:**

Physicians should be aware of this life-threatening adverse event and its management, as ICIs are increasingly being used in cancer therapy. Rapid recognition of TLS, followed by prompt treatment with intensive hydration and the use of uric acid-lowering medication, such as rasburicase, improves the chances of survival. Intensive hydration and close monitoring could also serve as preventive methods for at-risk individuals.

## Maculopapular cutaneous mastocytosis with pseudoxanthomatous nodules of the vulvain an adult patient

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## **Introduction & Objectives:**

Mastocytosis is a heterogeneous group of diseases associated with excessive proliferation and accumulation of mast cells (MSc) in different organs. Purely cutaneous mastocytosis (CM) is the most common form of mastocytosis in children, whereas indolent systemic mastocytosis (ISM) with skin involvement is the most common in adults. CM encompasses maculo-papular cutaneous mastocytosis (MPCM), diffuse cutaneous mastocytosis (DCM) and mastocytoma. Pseudoxanthomatous lesions can be observed in patients with DCM as well as in those with other forms of CM. Pseudoxanthomatous lesions presents as yellowish to brownish papules and nodules varying in size resembling xanthomas. Darier's sign is usually negative. Histology shows dense infiltrate of mast cells in the deep dermis. Diagnosis is based mainly on histopathological findings.

#### **Materials & Methods:**

We report a rare case of pseudoxanthomatous nodular lesions of vulva in an adult patient. A 24-year-old woman was consulted at our department due to nodular, asymptomatic lesions on her vulva. Patient suffered from MPCM, which was diagnosed at the age of 12 years. After puberty there was no spontaneous regression of CM. Therefore, the patient was checked for SM. Finally, SM was excluded. Clinical examination showed well-defined, round to oval, yellowish nodules on the labia majora bilaterally. Darier's sign of these lesions was negative. Moreover, brownish maculopapular lesions typical for MPCM were observed on the trunk and limbs. Dermoscopy of nodular lesions showed central white-yellowish structureless areas and brownish blotches at the periphery. A biopsy of a nodular lesion of vulva was taken and histology revealed diffuse MC infiltration in the dermis. The infiltrating cells were positively stained for CD117. Based on clinical presentation and histological findings, the diagnosis of MPCM with presence of pseudoxanthomatous nodular lesions of vulva was established.

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## **Conclusion:**

So far, only three case reports of pseudoxanthomatous mastocytosis of the vulva have been published. In all cases the lesions occurred in children. In the literature there is no data on the tendency to spontaneous regression of this type of CM lesions around puberty. We present the first case report of pseudoxanthomatous mastocytosis of vulva in an adult patient.

## Sister Mary Joseph nodule: About two cases from cholangiocarcinoma

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# **Introduction & Objectives:**

The Sister Mary Joseph nodule (SMJ) is a rare umbilical metastasis of an intra-abdominal or pelvic tumor with a poor prognosis due to its delayed diagnosis.

It can be a symptom of progression or the presenting sign, thus revealing the malignancy. We present 2 cases of SMJ revealing a cholangiocarcinoma. This presentation is extremely rare, with less than a dozen cases reported in the literature.

#### Case reports:

#### Case 1

A 75-year-old patient presented with an umbilical skin lesion that appeared 9 months ago. The interrogation reveals a notion of chronic abdominal pain without digestive bleeding or transit disorder. The clinical examination revealed a round, firm, erythematous and slightly oozing umbilical tumefaction, with a regular border, measuring 2 cm, painful to palpation. An abdominal CT scan revealed a lesional process of the gallbladder with hepatic infiltration, associated with peritoneal carcinosis. A skin biopsy was performed in favor of a cutaneous localization of adenocarcinoma. Due to the delay in diagnosis, the patient was treated with chemotherapy.

# Case 2

A 61-year-old patient presented with cholestatic jaundice that had been evolving for 3 weeks. The examination revealed a rounded swelling with regular edges measuring 2 cm in length, brownish in color with erythematous contours centered by an ulceration with pus. The abdominal CT scan showed distended gallbladder with luminal projections and adjacent liver parenchymal infiltration. A skin biopsy was performed in favor of adenocarcinoma. The patient was diagnosed with metastatic gallbladder carcinoma and the treatment was palliative.

#### Discussion

The SMJ nodule is rare, with approximately 1-3% of cases of abdominal-pelvic malignancy metastasizing to the umbilicus. It is usually associated with a primary neoplasm of the gastrointestinal tract (35-65%) and genitourinary tract.

Umbilical metastases of cholangiocarcinoma are extremely rare, with less than a dozen cases reported in the medical literature.

It presents as a rounded, irregular, indurated, often painful and oozing swelling. It can take on different colors: white, purple, red, brown. It usually measures between 5 and 20 mm in diameter. Sometimes ulcerated, fissured or necrotic, with discharge of blood, pus.

The discovery of such a nodule must imperatively lead to the realization of an abdomino-pelvic scanner and a biopsy.

This secondary neoplastic lesion is generally associated with an advanced oncological situation with the presence of deep metastases, in particular liver metastases.

The prognosis is generally poor with an average survival of eleven months and the management is often palliative.

# **Conclusion:**

An umbilical lesion must be taken seriously by the practitioner, since it represents a neoplasm in two-thirds of cases. Its discovery should lead to performing an abdominopelvic scanner and skin biopsy. The management is often palliative due to the delayed diagnosis.

## Trichogerminoma - a FBI Profile of a Rare Cutaneous Neoplasm

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# **Introduction & Objectives:**

Trichogerminoma is a rare cutaneous neoplasm characterized by clinically indistinctive, solitary, slowly growing cutaneous lesions in middle-aged patients, without predilection for specific sites. The origin of trichogerminoma remains controversial, with two main hypotheses suggesting either hair germ epithelial cell differentiation or basaloid neoplasms with follicular differentiation.

#### **Materials & Methods:**

This study aims to contribute to the understanding of trichogerminoma by presenting a comprehensive analysis of a case, including clinical, dermatoscopic, histopathological, and immunohistochemical findings.

## **Results:**

We present the case of a previously healthy 73-year-old woman with an asymptomatic pink papule accompanied by a palpable subcutaneous nodule. Dermoscopy revealed irregularly distributed black dots and globules, predominantly in the center, with a retiform vessel pattern. Surgical excision of the lesion confirmed the presence of characteristic features of trichogerminoma, including a well-circumscribed and highly cellular deep dermal lesion composed of monotonous basaloid cells showing round nuclei with peripheral palisading, keratinization, and differentiation towards various pilosebaceous structures. Additionally, numerous "cell balls" resembling hair bulbs were observed throughout the neoplasm as micronodular aggregates of neoplastic cells with internal concentricity and peripheral condensation.

Immunohistochemical analysis demonstrated intense and diffuse positivity for p63 and positivity for cytokeratins 8/18, 20, and EMA in the follicular ducts. Immunohistochemistry was negative for CEA, BerEP4, and beta-catenin. The proliferative index, as indicated by Ki-67, was low (10%). Due to the uncertain prognosis and potential risk of distant metastasis, the patient underwent surgical intervention with a widening of margins procedure.

#### **Conclusion:**

The present study provides the first description of dermoscopic findings for trichogerminoma, distinguishing it from trichoblastoma and resembling a basal cell carcinoma pattern. Immunohistochemical markers such as p63 and CEA lean toward a well-differentiated tumor, and the expression profile of ki-67 and beta-catenin further support the hypothesis of a benign prognosis for this tumor, considering their association with lower invasion potential. However, the specific nature of trichogerminoma as a hair follicle tumor or a subtype of basal cell carcinoma remains inconclusive based on the expressed cytokeratin profile. Further evaluation and reporting of new cases are crucial for clarifying the nature and potential

#### A case of sarcoma on congenital giant nevus associated with vitiligo

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# **Introduction & Objectives:**

Congenital giant nevus is a benign proliferation of melanocytic cells, larger than 20 cm in diameter. It is a rare pathology. Malignant degeneration is its seriousness. Its association with vitiligo is even rarer as well as with sarcoma. We report here a case of sarcoma on giant congenital nevus associated with vitiligo.

#### Materials & Methods:

#### **Results:**

This is a 48-year-old man who presented with a giant congenital nevus and, for the past 7 years, an acrofacial vitiligo. He consulted for an oozing swelling of the gluteal region, which had evolved for 6 months, associated with asthenia and a weight loss of 15 kg in 6 months. The examination revealed a large blackish pigmented placard covering the back, the lumbar region, the buttocks and the thighs with hypertrichosis and similar small scattered lesions on the upper limbs. He also presented soft lumbo-gluteal swellings surmounted by a voluminous oozing ulcerating swelling, not epidermalized, of 9 cm in length with a discharge of foul-smelling serous fluid. In addition, he had well-limited achromic lesions suggestive of vitiligo on the face and hands. Biological examinations showed normocytic normochromic anemia with a hemoglobin level of 101g/l, thrombocytosis and an inflammatory syndrome with a sedimentation rate of 81 mm. The ultrasound of the swelling showed an irregular hypervascularized mass. Histology showed signs suggestive of sarcoma. The diagnosis of sarcoma on congenital giant nevus associated with a non-segmental vitiligo was retained.

# **Conclusion:**

Giant nevus can cause major aesthetic damage as well as vitiligo. The occurrence of malignant degeneration is 4.5 to 10%, mainly melanoma. Sarcoma is rarely reported.

## Analysis of Immunosuppression as a Prognostic Factor in Cutaneous Squamous Cell Carcinoma

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# **Introduction & Objectives:**

Cutaneous Squamous Cell Carcinoma (SCC) is the second most common tumor in humans and accounts for the majority of skin cancer deaths in elderly patients. Several factors have been associated with an increased risk of recurrence or worse prognosis in SCC, such as tumor size, thickness, perineural invasion, poor differentiation grade, and invasion beyond the subcutaneous fat. Immunosuppression has been classically associated with worse prognosis in SCC, although there are conflicting data regarding its actual prognostic impact. While some studies have shown a worse prognosis, others have not associated it with a higher number of deaths or metastases adjusted by tumor stage. We aimed to evaluate the impact of immunosuppression on the prognosis of SCC in a retrospective cohort of patients.

## **Materials & Methods:**

A retrospective cohort study was conducted on 725 patients with SCC who presented with high-risk factors at the University Healthcare Complex in Salamanca, diagnosed between 2010 and 2021. Of these, 190 were immunosuppressed patients. Tumor characteristics and clinical outcomes of the patients in the cohort were analyzed and compared between the two groups (immunosuppressed and immunocompetent). The median follow-up for these patients was 40 months (IQR 54). Chi-square tests, Fisher's exact test, and Mann-Whitney U test (as appropriate) were performed to compare both groups. Univariate analysis using Kaplan-Meier curves and multivariate analysis using Cox proportional hazards regression were conducted considering competing risks (P<0.05 was considered significant).

## Results:

Both in the univariate and multivariate analysis, immunosuppressed patients with SCC had a higher risk of distant metastasis only (univariate analysis - HR=2.376 [95% CI: 1.026-5.499]; p=0.043 and multivariate analysis - HR=3.061 [95% CI: 1.300-7.207]; p=0.010), but not of local recurrence, lymph node metastasis, or death. Furthermore, the mean time (months) until the occurrence of distant metastasis in immunosuppressed patients with SCC was lower than that of immunocompetent patients (p=0.043).

# **Conclusion:**

In this study, immunosuppression does not appear to be an independent risk factor for the development of local recurrences, lymph node metastases, or death in patients with SCC, but it does seem to be independently associated with the development of distant metastasis. This could be due to the alterations in immune control mechanisms experienced by immunosuppressed patients, highlighting the need for closer monitoring of these patients.

#### Atypical cutaneous metastasis revealing a gastric adenocarcinoma

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## **Introduction & Objectives:**

Cutaneous metastasis as the initial and only manifestation of underlying gastric adenocarcinoma are very rare and not commonly reported in the literature. The most common metastatic sites of gastric cancer are the liver, the peritoneum and lymph nodes.

To our knowledge, such a clinical aspect of cutaneous metastasis has not been reported for gastric adenocarcinoma.

The objective of this study is to describe a rare manifestation of cutaneous metastasis revealing a gastric adenocarcinoma.

#### Materials & Methods:

We report a case of an atypical aspect of cutaneous metastasis revealing a primary gastric adenocarcinoma collected at the Department of Dermatology and Venereology in Ibn Sina University Hospital of Rabat.

## **Results:**

A 42-year-old male patient, with no particular history, developed atypical cutaneous lesions progressively increasing in size, since 6 months, with no other functional symptom initially.

Clinical examination showed multiple infiltrated and slightly erythematous cocardial plaques with a nippled and hypertrophic center, located on the face, trunk and back. He also presented a nodule in the median line of the scalp, measuring 2x2cm. These lesions were painless and gradually increasing in size. The rest of the examination found no adenopathy, no hepatomegaly and no other associated lesions. A skin biopsy was performed on a lesion located in the back and showed neoplasic cells whose primary origin is to be determined.

Cerebral and thoraco-abdomino-pelvic scanner showed an antro-pyloric parietal thickening extending to the first portion of the duodenum.

An esophagogastro-duodenal fibroscopy with a biopsy of gastric and duodenal mucosae showed a poorly differentiated gastric adenocarcinoma with a non-specific chronic interstitial duodenitis.

The patient received 6 cures of a chemotherapy based on an association of 5 fluoro-uracil, folinic acid and oxaliplatin.

The evolution showed a clinical regression of the size of skin lesions and a stationary state of the gastric neoplasia in the scanner of control. 6 months after the last cure, the skin lesions has increased progressively in size and a protocol of 12 cures of chemotherapy has been started. He has just received the first cure.

## **Conclusion:**

In the literature, gastric cancers are rarely reported as primary malignancies for cutaneous metastasis. In most

cases, skin metastases develop after the initial diagnosis of the primary internal malignancy and late in the course of the disease, making the prognosis poor. In very rare cases, skin metastases may occur before the primary cancer has been detected, as in our patient. If the patient is treated early and correctly the prognosis should be better.

#### Non-surgical combined treatments of basal cell carcinoma: about 41 lesions

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## **Introduction and objectives:**

Non-invasive treatments have proven to be effective therapeutic alternatives in the management of basal cell carcinoma (BCC), particularly the superficial subtype. However, a combination of these therapies may also be indicated in the nodular form, especially when functional prognosis is at stake.

We report our department's experience in treating different clinical forms of BCC using non-surgical combined therapies.

#### **Materials & Methods:**

A prospective study conducted over 6 months from november 2022 to april 2023, including BCC cases followed in oncodermatology consultation, who received non-surgical combined therapy for their BCC.

### **Results:**

A total of 8 patients with 41 BCC lesions (5 males and 3 females) were included, with a mean age of 50 years. Multiple lesions were observed in 2 patients, one with a history of xeroderma pigmentosum and the other with Gorlin syndrome. Histological confirmation of BCC diagnosis was obtained for only 5 lesions, while the remaining cases were confirmed through dermoscopic examination, with a total of 21 superficial BCCs and 19 nodular BCCs. The treatment protocols used included: pre-treatment with fractional ablative laser (ND-YAG or CO2 lasers) for all patients, combined with (1) methyl aminolevulinate photodynamic therapy (MAL-PDT) in 3 patients, (2) LED light and 5-fluorouracil (5-FU) in 3 other patients, (3) LED light followed by imiquimod in one patient, and (4) 5-FU alone in one patient. The average number of sessions was 2, repeated at 15-day intervals. All initially treated superficial BCC lesions showed complete response, with persistence of some gray-blue points in dermoscopy for nodular BCC lesions, requiring additional sessions. The reported side effects were minimal and did not lead to treatment discontinuation in all patients.

#### **Discussion:**

Several non-surgical therapeutic modalities are described for the treatment of BCC, including PDT, which is commonly used to treat superficial BCC, especially when they are multiple, or nodular lesions when surgery is not appropriate or contraindicated. Complete response rates between 92% and 97% have been reported for superficial BCC, with recurrence rates of 9% at 1 year, and a clearance rate of 91% at 3 months for nodular BCC, with a recurrence rate of 14% after 5 years. This therapeutic approach has comparable efficacy to surgical excision, cryotherapy, and topical imiquimod for superficial BCC, with potentially better cosmetic outcomes compared to surgery, but has been found to be inferior to surgical excision for nodular BCC. Several studies have demonstrated that clinical efficacy can be improved by using fractional ablative laser as a pretreatment to enhance percutaneous penetration of topical chemotherapies and increase photosensitizer release when PDT is employed. This combination treatment (PDT-laser) has increased the response rate from 80% to 93% for nodular BCC. The combination of PDT with imiguimod or 5-FU has also been used and has shown a higher clearance rate of 75%

compared to 60% with PDT alone.

## **Conclusion:**

Non-surgical combined treatment of BCC is a good therapeutic alternative for patients with multiple lesions or when functional prognosis is at stake. These therapeutic modalities act synergistically, thereby increasing their efficacy and achieving better aesthetic outcomes. However, long-term monitoring of these patients is necessary to detect any recurrence, which may indicate the need to initiate these therapies again.

#### Sebaceous Carcinoma: A Rare Extraocular Presentation of the back

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## **Introduction & Objectives:**

Sebaceous carcinoma (SC) is a rare aggressive cutaneous malignant tumour derived from the epithelium of the sebaceous gland. It accounts for less than 1 % of all cutaneous malignant tumours. Sebaceous carcinomas are divided into ocular and extraocular constituting 75 % and 25 % respectively. The most common extraocular site is parotid gland. The back is a rare site of this tumour.

We present a case of a woman with a nodule of the trunk eventually diagnosed as sebaceous cell carcinoma

#### **Materials & Methods:**

A 47-year-old male presented with a nodular lesion over her back. It was 5-cm round erythematous proliferating lesion medial to left scapular region.

On physical examination, the patient did not have regional lymph node involvement. she had a history of small swelling over the same region, which was excised by local practitioner 2 months back. The details of the procedure and histopathology were not available. she is non-smoker, non-alcoholic with no history of malignancy in family.

Histopathological of tissue biopsy from lesion confirmed sebacepus carcinoma.

Computed tomogram (CECT) of chest abdomen and pelvis was done. There was no evidence of malignancy or metastasis to other organs.

She underwent wide local excision of the lesion with 2-cm margin and modified rhomboid f lap coverage along with

This patient was followed up for eight months with no signs of recurrence

### **Results:**

The clinical presentation is not a pathognomonic and is often non-specific. The tumour is usually firm, slow enlarging, yellowish to red-brown plaque, friable, crusted and often ulcerated.

The size of extraocular tumour varies.

Most of the literature indicates that SCs has female predominance and it commonly occurs

at age range of 45-72 years.

The definitive diagnosis of this tumor is by histology results. The presence of sebocytes characterized by multivacuolated cytoplasm and pleomorphic nuclei suggests the diagnosis of SCs on

microscopy However, immunostains are needed to confirm diagnosis because of the variations. EMA stain shows sebaceous differentiation.

The rate of metastasis in sebaceous tumour is about 14–25 %, which is similar for both extraocular and ocular types

Surgical excision with wide margins is the standard treatment. In case of regional lymph node or distant metastases, radiotherapy used alone or with chemotherapy may reduce morbidity.

#### **Conclusion:**

Sebaceous Cell Carcinoma is a rare and aggressive malignancy. It is to be considered as a differential diagnosis in any ulceroproliferative growth over the skin.

The patient should be followed up for long periods because of late reccurence and metastases are known.

#### Desmoplastic Melanoma simulating Dermatofibroma. A case report.

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#### Desmoplastic Melanoma simulating Dermatofibroma. A case report.

## **Introduction & Objectives:**

Desmoplastic melanoma is an uncommon subtype of spindle cell melanoma characterized by the presence of abundant fibrous matrix. It is most often presents as a normochromic, indurated lesion in chronically sundamaged skin with predilection for the head and neck in older patients. Clinical recognition is difficult and the diagnosis is often delayed due the lack of clinical characteristics and dermoscopy features. Histopathological diagnose requires positive immunohistochemistry for S-100 protein and other antigens of melanocytic differentiation.

#### **Methods:**

A comprehensive review of the literature was carried out for this case.

#### **Results:**

A 65 years old man, with historic of excisions of multiples Basocelular carcinomas, appeared at Dermatology appointment for control. Upon examination was founded a hypopigmented light pink, painless nodule with an erythema area in left shoulder. Dermoscopy showed white scarlike patch shiny, white structureless areas and atypical vascular patterns. Histopathology of the lesion revealed proliferation of atypical melanocytes distributed in the basal layer. The dermis exhibited proliferation of epithelioid melanocytes in the superficial portion and deep fusiform melanocytes with desmoplasy, neurotropism e mitotic structures. The histopathological study was complemented with by immunohistochemistry, which was diffusely positive for S-100 protein and SOX10, Melan-A and HMB-45(in superficial derme), thus characterizing o diagnose of Desmoplasic Melanoma, Breslow 4,6 millimeters with perineural invasion and positive lateral surgical margins. Treatment was surgery with sentinel lymph node biopsy and mensal follow-up.

#### **Conclusion:**

Desmoplastic Melanoma is a rare variant of melanoma that can simulating dermatofibroma, to get a solid diagnosis by morphologic and dermoscopy criteria is a challenge, immunohistochemistry should clarify the diagnosis. Desmoplastic melanoma is most commonly founded on chronically sun-damaged skin of elderly individuals. Attentive examination and follow-up of patients, especially those at high risk, are required to improve early detection of rare melanomas variants.

Cephalic eccrine poroma and clinical polymorphism: about two cases

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Cephalic eccrine poroma and clinical polymorphism: about two cases

**Introduction & Objectives:** 

**Materials & Methods:** 

Eccrine Poroma is a benign tumor arising from the intraepidermal portion of the eccrine sweat duct. It is located preferentially on the lower limbs. We present two cases of poroma eccrine in the cephalic region that present with two different clinical pictures, which emphasizes the clinical polymorphism of this tumor.

The first patient is 47 years old, he has a history of small cell endocrine carcinoma of the anterior mediastinum treated by radio-chemotherapy with prophylactic radiotherapy on the skull. He presented an exophytic tumor with posterior enhancement at the occipital level evolving for 1 year.

The second patient was 82 years old and had a history of generalized vitiligo. She presented with an erythematous plaque with a keratotic surface, of progressive extension evolving for more than one year. The dermoscopy has objectified several types of vessels (glomerular vessels, hairplin vessels, milky red areas) separated by thin spans giving an aspect of frog eggs.

In both cases, there were no local or distant adenopathies and the skin biopsy found a well-limited tumor growing from the epidermis, forming anastomosing epithelial trabeculae, composed of regular cells with signs of sweat differentiation. No histological evidence of malignancy was found. Both patients had a complete removal of the lesion without recurrence.

The poroma was first described by Pinkus et al. in 1956 and classified as a tumor originating from the eccrine sweat gland and more precisely from the keratinocytes adjacent to the intraepidermal portion of the sweat duct. Its different clinical presentations and locations make it a tumor almost always mistaken for a malignant lesion.

On dermoscopy, a polymorphous vascular pattern (including at least 2 types of vascular structures) is found in almost all cases. The diagnosis of certainty is based on histology.

Early management is justified by the risk of malignant transformation into porocarcinoma which is possible after years of indolent evolution. The management is based on simple excision, shaving or electrosurgical destruction for superficial lesions and excision for deeper lesions.

Recognition of these different clinical presentations and dermoscopic aspects would allow early diagnosis and guidance of management.

**Results:** 

**Conclusion:** 

#### Persistent Racial Disparities in Mycosis Fungoides: US National Database Analysis

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## **Introduction & Objectives:**

This study aimed to investigate the persistent racial disparities in the survival outcomes of patients diagnosed with Mycosis Fungoides (MF), the major subtype of cutaneous T-cell lymphomas (CTCLs), leveraging the Surveillance, Epidemiology, and End Results (SEER) database for analysis. Specifically, the study seeks to include and focus on the Hispanic ethnicity, which has previously been unexplored, in order to understand potential differences in disease presentation, treatment response, and survival outcomes among different racial groups.

#### **Materials & Methods:**

Using the SEER\*STAT database, we selected confirmed cases of MF from 2004 to 2017, excluding unknown or non-specific races and patients lost to follow-up, yielding 4,185 patients from an initial pool of 8,578. We collected data on clinicopathologic, epidemiologic, demographic, and socioeconomic variables. Comparative statistical analysis across racial groups was performed using ANOVA testing and Kaplan-Meier survival analysis with Ederer II.

#### Results:

Results indicated non-Hispanic White patients were older at disease onset and more likely to be male. Non-Hispanic Asian or Pacific Islander patients were more likely to be in the highest income quartile. Regarding survival rates, non-Hispanic Asian or Pacific Islander patients showed the most favorable outcomes, while non-Hispanic White and Hispanic patients exhibited similar survival rates. Non-Hispanic Black patients showed significantly worse survival outcomes compared to other races, aligning with previous studies. These differences remained significant after adjusting for socioeconomic factors and disease characteristics.

#### **Conclusion:**

The study found significant racial disparities in survival outcomes for MF patients, with non-Hispanic Black patients faring the worst. Despite this, non-Hispanic Asian/Pacific Islanders had better survival outcomes than all other racial groups. Furthermore, when considering Hispanics as a separate racial group, they exhibited similar survival outcomes to non-Hispanic Whites. These findings underscore the urgent need to address racial disparities in survival outcomes, possibly by investigating disparities in access to care, socioeconomic factors, and genetic factors. Future research should focus on these aspects to improve survival outcomes for MF patients across all racial groups.

## TOX, IL17 and IL-12 expression discriminates early Mycosis fungicides from benign inflammatory dermatoses?

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## **Introduction & Objectives:**

The definite diagnosis of mycosis fungicides (MF) in early stages (eMF) and its differentiation from other clinical mimickers such as parapsoriasis might be challenging. The lack of specific marker may lead to a delay in early disease management and may rise mortality and morbidity of Cutaneous T Cell Lymphoma. In Immunohistochemistry (IHC) study we aimed to investigate the expression of TOX, IL17and IL-12 genes as a potentially specific marker to discriminate eMF from other inflammatory and non-inflammatory dermatoses.

#### Patients & Methods:

TOX, IL17and IL-12 expression protein on 100 paraffinized sections of MF chronic dermatitis, psoriasis and parapsoriasis lesions (41 men and 59 women) was stained with a specific rabbit polyclonal antibody against human TOX, IL17and IL-12 (Standard IHC protocol, Vector Elite ABC standard kit). The medical profiles of the patients were carefully studied and we did physical examinations for all of them. The collected data were analyzed by Fisher's exact test via SPSS vs. 16.

#### **Results:**

In MF biopsies, TOX, IL17 and IL-12 expression was significantly upregulated higher than chronic dermatitis, psoriasis and parapsoriasis (P<0.0001). TOX staining pattern was related to the type of the disease including the early epidermotropic cells in Pautrier's microabscesses. Moreover TOX, IL17 and IL-12 expression of parapsoriasis lesions was 10-50% in comparison to groups of chronic dermatitis and psoriasis (<10%). The specificity of a negative TOX, IL17 and IL-12 result in discrimination MF from other benign inflammatory dermatoses was estimated 92% and with sensitivity of 85% respectively.

#### **Conclusion:**

TOX. IL17and IL-12 gene expression might be used as a good diagnostic marker to identify early patch and plaque MF from benign inflammatory and non-inflammatory dermatoses of similar clinical significance.

A Rare Case of Papillomatosis Cutis Carcinoides Arising from Seborrheic Keratosis in the Face of a 72-yearold Filipino Female

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A Case of Papillomatosis Cutis Carcinoides Arising from

Seborrheic Keratosis in a 72-year-old Filipino Female

#### **Introduction & Objectives:**

Papillomatosis Cutis Carcinoides is a rare type of Verrucous carcinoma (VC) found on the skin, usually on the lower extremities. The incidence of VC is 0.075 per 100,000 with only 1 published case on the face. Cutaneous verrucous carcinomas are slow growing, exophytic, warty growths, studded, in some areas, with hyperkeratotic crusted debris. It is longstanding, progressive and with little metastatic potential. Etiopathogenesis is not completely known, and this is the first known case of Papillomatosis Cutis Carcinoides arising from Seborrheic Keratosis.

#### Materials & Methods:

A 72- year old Filipino female presented with a 1 year history of hyperpigmented papules coalescing into an irregularly shaped plaque  $\sim$ 2 cmx 2 cm in size on the right temporal area. In the interim, persistent scratching and manipulation lead to increase in size of plaque to 6.5 cm x 6 cm and appearance of a rapidly growing, flower-like, pedunculated, exophytic mass on the edge of the plaque, with pruritus (5/10) and intermittent bleeding.

Dermoscopy of the plaque showed well-defined border, multiple comedo-like openings and milia-like cysts; histopathology showed whorled islands of small keratinocytes within the epidermis forming clones, consistent with seborrheic keratosis. Dermoscopy of the exophytic mass showed deep grooves with central keratin, white structureless areas, and looped vessels on pink background; histopathology showed marked verrucous and papillary surface epithelium, marked keratosis composed of cytologically bland squamous epithelium with occasional mitotic figures, dyskeratotic cells and subtle, pushing infiltration of the underlying dermis consistent with verrucous carcinoma.

## Results:

The mass was excised with a 6mm margin to avoid recurrence of lesion. Serial electrodessication of the surrounding seborrheic keratosis provided 80% improvement from baseline.

#### **Conclusion:**

Papillomatosis Cutis Carcinoides is rarely diagnosed due to its unusal site and presentation. Its course is slow and localized, but relentless. Surgical treatment and lack of distant metastases provide favorable prognosis of the disease.

#### Angiomatoid fibrous histiocytoma and Spitz naevus: a novel combination

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#### **Results:**

Collision tumours are classified as two independent neoplasms that occur at the same anatomical site in close proximity to one another, yet maintain distinct boundaries. We report a rare case of an angiomatoid fibrous histiocytoma (AFH) and a Spitz naevus arising at a single site .A 25 year old healthy woman presented to the Dermatology Department with an itchy pigmented lesions on the left flank that had been present since infancy experiencing a recent rapid growth. She reported a familial history of malignant neoplasm in a context of parental consanguineous marriage. On examination she had a cluster of 4pinkish, red brown dome-shaped papules with well -defined borders surrounding a violaceous nodule. On dermoscopy, papules showed a homogeneous pink color, white areas, and brown globules. The nodule presented a milky pattern with purple-red dots/globules. No pigment network was evident. A pinkish papule was excised, on pathology the lesion was well circumscribed, consisting of large junctional and dermal melanocytic nests formed by spindled cells. Positive stains Melan A,PS100,p16 and Ki <1% .Another lesion was excised featuring an(AFH) patterns,fibrous pseudocapsule, dense pericapsular cuff of lymphoplasmacytic cells, presence of pseudoangiomatous spaces and a syncytial proliferation of bland spindle shaped cells.Desmin,EMA and CD68 stains were positive.Full body CT scan showed no evidence of metastasis The hole lesion was removed with clear margins showing both histopathological patterns. Hence the diagnosis of collison cutaneous tumor was made. AFH was described as "angiomatoid malignant fibrous histiocytoma". Its precise line of differentiation remains unknown, but it is no longer regarded as malignant because of its benign appearance and favorable prognosis. In the 2013 WHO classification, it was placed in the category of "intermediate tumors of uncertain differentiation". AFH is a neoplasm that most commonly affects children and young adults. Presentation usually involves a painless, slow growing mass within the deep dermis and subcutis. It commonly arises in sites of normal lymphoid tissue. Differential diagnosis include vascular tumors, such as hemangioendothelioma and angiosarcoma, or simply organized hematoma .Diagnosis can be challenging due to nonspecific features compounded by rarity of this tumor. Although the prognosis is good, it recurs in up to 15% of cases and metastasizes in less than 1%. Therefore, it is often resected with wide margins and post-excisional monitoring is warranted. Spitz nevus is an uncommon, benign, melanocytic nevus that is usually acquired and has histologic features that overlap with those of melanoma. They tend to grow rapidly, reaching a size of approximately 1 cm within 6 months and thereafter remaining static, which may be worrisome to patients. These lesions are more common in the younger population. The management is controversial, each patient should be evaluated individually (a partial biopsy or a complete excision with a clear margin). Certain atypical features such as a diameter greater than 1 cm, asymmetry, or ulceration warrant a wider margin of normal skin during the initial excision. To our knowledge, This is the first description of a collision tumor combining spitz naevus and AFH with an atypical presentation. We'd like to emphasize on the misleading clinical presentation, the rarity of this entity and the importance of the pathology that led to the right diagnosis.

non-melanoma skin cancer of the head, distribution and treatment. four-year retrospective epidemiological study in a dermatology department.

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**Introduction & Objectives:** Skin cancer is the most frequently occurring type of cancer worldwide and based on literature data, the incidence rate in the population is constantly increasing. Non-Melanoma Skin Cancer (NMSC) mainly includes the two most common types, Basal Cell Carcinoma (BCC) and Squamous Cell Carcinoma (SCC).

**Materials & Methods:** Three hundred two patients who were diagnosed with non-melanoma skin cancer by biopsy and histopathological examination and treated between 2016 and 2018 were included in the study. Patients were retrospectively assessed by sex, age, skin cancer type, tumor location and treatment.

**Results:** 302 adult patients with non-melanoma skin cancer and 326 lesions were evaluated. One hundred and ninety four of them were men (n=194), (64%) and one hundred six of them were women (n=106), (36%). Age of the patients ranged from 48 to 94 years of age with a mean age of 75.73 ( $\pm$ 9.34) years.

Two hundred thirty four of the diagnoses were basal cell carcinoma (n=234), 71,8%. Squamous cell carcinoma were diagnosed for eighty six patients (n=86) 26,4% and 1,8% percent of them were diagnosed with basosquamous carcinoma (BSC). Twenty four patients of the above, were diagnosed with more than one skin cancer (7,94%). The mean age of these patients was 69,83 (±8,43) years of age. 61,63% of all patients diagnosed with basal cell carcinoma were men and 39,36% were women. The findings of distribution of basal cell carcinomas have not statistically significant differences between genders but 84.61% of ulcerative basal cell carcinomas were detected in men. 42.3% of basal cell carcinoma were nodular, 29.48% were ulcerative, 26% were superficial and 2,13% were infiltrative. From the total of 86 squamous cell carcinoma, the percentage was 74.41% men and 25.59% women. The main treatment of choice was surgical removal for all skin cancer. Only 29 superficial basal cell carcinoma (47,54%) were treated with curette and electrodesiccation or cryotherapy.

SKIN CANCER	Nasal		Auricular		Frontal		Orbital		Temporal		Perioral		Cheek		Scalp	
	n	%	n	%	n	%	n		n	%	n	%	n	%	n	%
Total (n=326)	85	26.07 %	25	7.66 %	19	5,83 %	11	3.3 7%	29	8.9%	16	4.9%	78	23,9 3%	63	19,3 2%
BCC (n=234)	75	32,05 %	3	1.28	7	2.3%	11	4.7 %	20	8.55 %	13	5.55 %	64	27.35 %	41	17.52 %
Nodular (n=99)	26	26.3 %		-	2	2%	5	5%	12	12,1 %	7	7,1%	37	37,4 %	10	10,1 %
Superficial (n=61)	25	41%	-	-	3	5%	3	5%	5	8,5%	3	5%	18	29,5 %	4	6,5%
Ulcerative (n=69)	21	30,4 %	3	4.3%	2	3%	3	4.3 %	3	4.3%	3	4.3%	9	13%	25	36,3 %
Infiltrative (n=5)	3	60%	-		-		-		-		-		-		2	40%
BSC (n=6)	2	33.3	-	-	-	-	-	-	-	-	-	-	3	50%	1	16,7 %
SCC (n= 86)	8	9.3%	22	25.5 %	12	14%	-	-	9	10.5	3	3,5%	11	12.8	21	24,4 %

Table 1. Detailed head incidence and localization of non-melanoma skin cancers.

**Conclusion:** In this study, most of the patients with skin cancer were over 60 years old which reinforces the knowledge, that skin cancer more often effect the elderly. The most common type of skin cancer was basal cell carcinoma, for both genders. For basal cell carcinoma the most common location was the nasal area, following by cheek areas both in men and women and scalp for men. The impact on men is greater, through the analysis of the data for squamous cell carcinoma. Especially in the auricular area and the scalp area, all cases of squamous cell carcinoma, affected men. This is a possible result of sort hair on men or balding men, combined with the insufficient sun protection of these areas. An impressive part of the study, is that almost one in ten patients had more than one skin carcinoma at the same time, and the mean age of this group of patients was found to be lower than the total mean age.

#### A case of Kaposi sarcoma with pulmonary metastasis: successful management with Paclitaxel

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#### Introduction:

Kaposi sarcoma (KS) is a rare angioproliferative spindle cell tumour that can affect the skin, mucosa or visera. The prevalence of human herpes virus (HHV) 8, which is closely associated with the pathogenesis of KS, is influenced by a variety of factors including genetics, environment and immunosuppression, such as that in Acquired Immunodeficiency syndrome (AIDS) or caused by immunosuppressive medication. We present a case of lung-metastasized Kaposi sarcoma. The pulmonary involvement was initially treated as Tuberculosis, but was later discovered to be due to KS.

#### **Case Report:**

A 74 years old male of Iranian descent presented with multiple violaceous raised lesions over both legs, right hand and left palm of 1 year duration. Some of the lesions had a tendency to ulcerate and bleed profusely in response to trauma. He had empirically received antitubercular medication from a local hospital for 6 months for chronic cough.

General physical examination revealed pallor. Rest systemic examination was normal. Dermatological examination revealed multiple shiny, non-tender violaceous papules and nodules on both legs, right hand and left palm with overlying areas of ulceration and crusting.

Patient had normocytic normochromic anaemia. Serological tests for HBsAg, anti HCV and HIV were negative. Contrast enhanced magnetic resonance imaging of both legs revealed few enhancing foci of subcutaneous edema and altered intensity of the muscles in the right leg. With the differentials of Acroangiodermatitis, Kaposi sarcoma and Bacillary angiomatosis (history of raising cats at home), histopathological examination was done and was suggestive of Kaposi sarcoma. Immunohistochemistry showed diffuse membrane positivity for CD34 and a Ki67 proliferation index of 30-40%.

Features of reactivated tuberculosis were seen on computed tomography scans of chest. Sputum tests and Bronchoalveolar lavage for acid fast bacteria and GeneXpert were negative. Positron emission tomography revealed thickening of both lower limbs and numerous fluorodeoxyglucose avid cutaneous based nodular lesions. There were scattered ametabolic nodules in the lungs that might be metastases.

Patient was managed as a case of Kaposi sarcoma with pulmonary metastasis and was started on injection Paclitaxel 130mg per week. After 12 weeks of chemotherapy, he showed improvement in the form of resolution of the preexisting cutaneous and pulmonary lesions.

## **Discussion:**

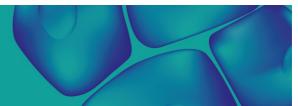
Males of Mediterranean, Eastern European and Jewish ancestry between the ages of 40 - 70 are most commonly affected. KS frequently affects the skin on the lower extremities but can also involve mucosa and visceral organs. KS is known to affect the lungs, pleura, tracheobronchial tree and to result in hemoptysis, dyspnea, cough.

HAART in AIDS related cases, surgical removal, cryotherapy, radiotherapy, intralesional and systemic

chemotherapy are beneficial in treatment. Antivirals Ganciclovir, Cidofovir and Foscarnet have been shown to be effective against KS associated Herpes virus infection. Some of the chemotherapy drugs used to treat include Vincristine, Bleomycin, Etoposide, pegylated Doxorubicin or Daunorubicin either alone or in combination with Paclitaxel as a second-line therapy. Recent therapeutic modalities include Sirolimus, iVEGF/VEGFR inhibitors, interferon alpha immunotherapy and immune checkpoint inhibitors.

#### **Conclusion:**

We present a case of KS with pulmonary metastasis successfully managed with Paclitaxel.



# The use of chlormethine gel as second-line therapy in mycosis fungoid and its relation with the development of contact dermatitis

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## **Introduction & Objectives:**

Among the topical therapies for mycosis fungoides (MF), chlormethine gel is recommended by all major guidelines as a first-line treatment option for patients with stage IA-IIA affected MF. Gel-based preparations showed an excellent diffusion of chlormetine in the epidermal layers, minimal absorption in the dermal one and no systemic dispersion, applying as an excellent choice as first-line treatment and maintaining treatment with no need for blood test follow-up.

With this data, we wanted to evaluate the efficacy of Chlormethine Gel when used as second-line therapy with a retrospective study based on our MF patient population.

#### **Materials & Methods:**

Patients with MF treated with chlormethine gel at the lymphoma outpatient clinic were included in the study. The data were collected from patients treated between April 2021-December 2022 and evaluated at 3 and 6 months after therapy.

Treatment efficacy was assessed through the comparison of the initial mSWAT reduction.

For all tests, a p-value < 0.05 was considered significant.

## **Results:**

Data from 21 patients were collected, 12 male and 9 female. The response to therapy with chlormethine gel occurred in 90% of patients (n=19); in particular, 33.3% (n=7) achieved a complete response (4 patients within the third month of therapy), while 57.1% obtained a partial response. 12 patients showed some form of contact dermatitis, and within this group fall, all patients with a complete response to the topical

### **Conclusion:**

In conclusion, from this study, including 21 patients with MF (stage IA-IIB), we can see that treatment with chlormethine gel appears as a very effective and safe solution even as second-line therapy. The development of contact dermatitis from chlormethine gel should not discourage its use. On the contrary, it indicates an immune activation against tumour cells, leading to a favourable clinical outcome.

#### Neutrophilic dermatosis in a patient with ctcl and poor outcome: is radiotherapy a potential trigger?

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#### **Introduction & Objectives:**

The association of Neutrophilic dermatoses (ND) to cutaneous T-cell lymphoma (CTCL) is rare and not-well established. Radiotherapy could be a potential trigger.

#### **Materials & Methods:**

A 74-year-old man was diagnosed with a stage IB pilotropic Mycosis Fungoides in 2016. He received 150 sessions of PUVA therapy with favorable response but relapsed 3 years later. He then received many treatments (Methotrexate combined with high-potent topical steroids, Interferon injections, oral retinoids) with no notable involvement.

Superficial radiotherapy on some face and back plaques resulted in the regression of the treated plaques, leaving residual hyperpigmentation.

In 2021, the patient presented with a new pattern of erythematous keratotic yellowish plaques on his trunk, along with his older eruption. Three months later, he deteriorated rapidly and presented with several painful well demarcated ulcerations with raised dusky violaceous border, pus-like discharge and bad smell. These ulcers were located on the side of the face that had received radiotherapy. Skin specimens exhibited extensive dermal abscess extending to the subcutaneous tissue containing a mixed lympho-histiocytic infiltrate with numerous neutrophils and eosinophils and scattered granulomas with multinucleated giant cells. No evidence for large-cell transformation was found. Cultures for bacteria, mycobacteria and fungi were negative. The diagnosis of pyoderma gangrenosum (PG) was retained, and a biopsy of the keratotic plaques was compatible with neutrophilic pustulosis, that, along with the PG, was another feature of a spectrum of ND associated with his MF.

The patient was initiated on systemic prednisone with rapid regression of pain, pus discharge and healing of the PG, as well as regression of the yellowish keratotic plaques. He then unfortunately caught COVID-19 infection and passed away.

## Results:

To our knowledge, there are only 7 reported cases of ND associated to CTCL. The pathophysiology of the neutrophilic activation and recruitment in CTCL is still not-well established.

CD30+ cells have been reported to play an important role in ND induction, as they can significantly increase IL-8 production, inducing chemotaxis and activation of neutrophils. Our patient has never had a large cell transformation.

On another hand, INF-alpha is known to be a potential trigger for neutrophils. However, CTCL patients reported to have INF-induced ND were still taking the medication at the time of diagnosis. In our case, 2 years had elapsed after INF cessation, which reasonably allows us to exclude this hypothesis as an explanatory mechanism for the ND development.

Interestingly, it is known that radiotherapy can also activate neutrophil recruitment. A few articles have indeed reported ND that developed on irradiated fields, years after cancer treatment, with no evidence of cancer relapse. In our patient, the hyperkeratotic plaques and the PG, initially and predominantly involved previously irradiated areas, namely the face and trunk. Thus, previous radiotherapy could have induced/facilitated the development of ND in our case.

#### **Conclusion:**

All cases of ND associated to CTCL were reported to have a poor prognosis, which was again the case in our patient. Resistance to conventional therapies was major and death was mainly attributed to pulmonary involvement or sepsis. Our patient died as a complication of his COVID infection. Remarkably, his ND could have partially led to his death.

## Primary cutaneous CD4+ small/medium T-cell lymphoproliferative disorder: looking for some dermoscopic clues

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## **Introduction & Objectives:**

Primary cutaneous CD4+ small/medium T-cell lymphoproliferative disorders are characterized by the presence of CD4+ small/medium-sized T-cells within the skin lesions, which may appear as papules, nodules, plaques, or tumors. These lesions can vary in size, colour, and texture, most commonly found on the trunk, extremities, or head and neck region. These abnormal lymphocytes are typically found in the epidermis and upper dermis, and the diagnostic process involves a combination of clinical evaluation, skin biopsy, and immunohistochemistry. The lesion's histopathology, immunophenotyping and molecular testing help differentiate it from other skin conditions.

During the diagnostic process, while dermoscopy can provide valuable information about the morphology and vascular patterns of many skin lesions, it has never been considered a valuable diagnostic tool for cutaneous CD4+ small/medium T-cell lymphoproliferative disorders due to the lack of known sensitive or specific characteristics and patterns.

With our cases wanted to evaluate, with a retrospective study, the possible recognition of dermatoscopic features endowed with sensitivity or specificity that could guide the diagnosis of a cutaneous CD4+ small/medium T-Cell lymphoproliferative disorder rather than other cutaneous lymphomatous pathologies

## **Materials & Methods:**

We collected two groups for a total of 32 patients; the first was made of 16 patients with a confirmed diagnosis of primary cutaneous CD4+ small/medium T-cell lymphoproliferative disorders, and the other one with randomly selected patients affected by other lymphoma types. The dermoscopic features of the lesions have been then compared using, among the criteria, the definitions of the International Dermoscopy Society for a more standardized approach.

### **Results:**

The analysis of the two samples reported a high sensitivity and specificity for vessel morphology and distribution of the group object of the study compared to the control one. Moreover, the colour background also showed a significant difference when compared to the control group

#### **Conclusion:**

Some dermoscopic clues, in particular the type of vessels, their distribution and the background of the lesion, could lead, especially if in the suspicion of a lymphoproliferative pathology, to a small cell lymphoproliferative cutaneous disorder rather than to other forms of lymphoma. Further validations of these data are needed to strengthen this claim.

# Topical chlormethine induces tumor micro-environment shift in early-stage mycosis fungoides by interstitial fluid immunophenotyping.

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## **Introduction & Objectives:**

Early stages of Mycosis fungoides (MF) can be treated effectively with topical chlormethine. However, insight into changes in the tumor-micro environment (TME) during treatment and how these changes contribute to therapeutic success is limited. In this study we aimed to characterize TME of MF on a cellular level by suction blister fluid analysis.

#### **Materials & Methods:**

In this exploratory, open-label, deep phenotyping trial a total of 21 early-stage (IA – IIA) MF patients were treated with chlormethine gel  $160\mu g/g$  QD for 16 weeks. Suction blister exudates were collected pre-treatment from lesional (LS) and non-lesional skin (NL) and after 16 weeks of treatment from LS and analyzed with flow cytometry. For all statistical analyses a Wilcoxon signed-rank test was used.\*\*

#### **Results:**

In blister exudate pre-treatment, statistically significant more absolute cells were observed in LS compared to NL (p<0.0001). Exudates from LS contained statistically significant more CD3+ cells (p<0.001), CD3+4+ T-lymphocytes (p<0.0001), activated CD4+HLA-DR+ effector T-lymphocytes (p=0.0001), CD3+8+ T-lymphocytes (p<0.0001), activated CD8+HLA-DR+ cytotoxic T-lymphocytes (p<0.001), CD14-CD16- dendritic cells (p<0.01) and CD68+ macrophages (p<0.01). After 16W chlormethine gel treatment significantly less aberrant T-cells (p<0.05), CD3+8+ T-lymphocytes (p<0.05), activated CD8+HLA-DR+ cytotoxic T-lymphocytes (p<0.01) and Tregs (p<0.05) were observed compared to LS baseline.

#### **Conclusion:**

We show for the first time the feasibility of suction blister fluid analysis to investigate TME in MF patients. These results suggest that CD8+HLA-DR+ cytotoxic and regulatory T-lymphocytes have a prominent role in disease improvement with chlormethine therapy in MF.

Real-world outcomes of brentuximab vedotin treatment in patients with CD30-expressing cutaneous T-cell lymphoma: 24-week interim analysis of a prospective, multicenter, observational study in Poland

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Introduction & Objectives: Cutaneous T-cell lymphomas (CTCLs) are a heterogeneous group of lymphomas primarily affecting the skin. Advanced stages of CTCL have an unfavorable prognosis as many patients are refractory to available treatments or have poor tolerance to them. The phase 3 ALCANZA trial showed significantly improved objective responses lasting ≥4 months and progression-free survival with the CD30-directed antibodydrug conjugate brentuximab vedotin (BV) vs physician's choice of methotrexate or bexarotene in CD30-expressing CTCL (Horwitz, et al. *Blood Adv.* 2021;5:5098–106). A recent retrospective chart review study in the United States showed favorable real-world outcomes with BV, consistent with ALCANZA results (Barta, et al. *Blood.* 2022;140(Suppl 1):5167–69). To better understand the real-world effectiveness of BV, we assessed the management and clinical outcomes in Polish patients with CTCL eligible for BV treatment in the National Drug Program B66 (NDP).

Materials & Methods: In this prospective, multicenter, noninterventional, observational open-label study, patients (≥18 years) with CD30-positive CTCL, consecutively enrolled between Nov 2020 and Apr 2023 in the BV CTCL NDP were included. This 24-week interim analysis measured the following effectiveness outcomes: modified severity-weighted assessment tool (mSWAT) score and disease activity (complete/partial response [CR/PR], stable/progressive disease [SD/PD]) during treatment and best overall skin response rate (BsORR), defined as the proportion of patients with either CR, PR, SD, or PD as the best response at any time between treatment initiation and cessation. Safety data were also analyzed.

**Results:** Overall, 22 patients (19 with mycosis fungoides; 3 with primary cutaneous anaplastic large-cell lymphoma) comprised the full analysis set. The median (range) age was 62.0 (28.0–81.0) years, 72.7% were male, the median (range) body mass index was 26.1 (20.4–30.9) kg/m2, and a majority (54.5%) were diagnosed with stage IIB CTCL. Median (range) time from diagnosis to BV treatment was 4.6 (0.5–16.9) years. Previous treatments included systemic (95.5%), skin-directed (59.1%), and radiation (40.9%) therapies, and surgery (9.1%). The median (range) mSWAT score improved from 61.5 (21.0–262.0) at week 0 to 15.6 (1.5–100) at week 24, with a median (range) change of –55.0% (–66.7– –31.8). Evaluation of disease activity at week 24 showed that of the 22 patients analyzed, 10 (45.5%) achieved PR, 8 (36.4%) had SD (2 of 8 patients terminated the study with SD before week

24), and 4 (18.2%) experienced PD (3 of 4 patients terminated the study with PD before week 24; Figure). None achieved CR at week 24. Five patients terminated the study before week 24 due to PD (3 patients, one of whom died), loss of contact (1 patient), and adverse event (AE; 1 patient). BsORR analyses showed that 12 (54.5%), 7 (31.8%), and 3 (13.6%) patients had PR, SD, and PD, respectively.

Overall, 12 (54.5%) patients experienced 6 nonserious AEs and 17 serious AEs (SAEs). Of the 19 BV-related AEs/SAEs, the most common were nervous system disorders (n=6; 31.6%)—2 cases of peripheral sensorimotor neuropathy (both reported as SAEs) and 4 cases of polyneuropathy (2 reported as SAEs).

**Conclusion:** The 24-week interim results of this prospective real-world evidence study assessing the effectiveness of BV treatment in patients with CD30-expressing CTCL demonstrated favorable clinical outcomes and a tolerable safety profile of BV.

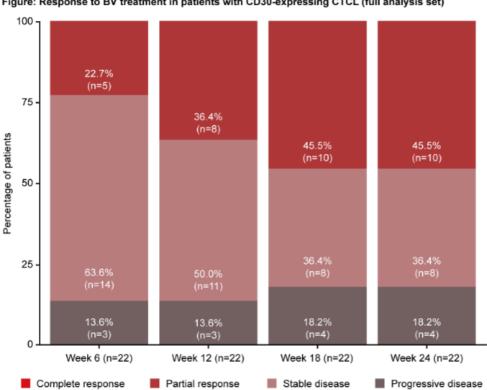


Figure: Response to BV treatment in patients with CD30-expressing CTCL (full analysis set)

Notes

CR: 100% clearance of skin lesions\*

PR: 50%-99% clearance of skin disease from baseline, no new tumors in patients without tumors at baseline (MF), no new tumors (pcALCL).

Stable disease: <25% increase to <50% clearance in skin disease from baseline, no new tumors in patients without tumors

Progressive disease<sup>b</sup>: ≥25% increase in skin disease from baseline, loss of response (in those with CR or PR, defined as an increase in skin score of greater than the sum of nadir plus 50% baseline score, or new tumors in patients without tumors at baseline (MF1).

A biopsy of normal-appearing skin is unnecessary to assign a CR; however, a skin biopsy should be performed on a representative area of the skin if there is any question of residual disease where otherwise a CR would exist. If histologic features are suspicious or suggestive of MF/Sézary syndrome, the response should be considered a PR only. <sup>b</sup>Whichever criterion occurs first

Response criteria for MF are per Olsen, et al. J Clin Oncol. 2011;29:2598-607 and those for pcALCL per Kempf, et al. Blood. 2011:118:4024-35.

BV, brentuximab vedotin; CR, complete response; CTCL, cutaneous T-cell lymphoma; MF, mycosis fungoides; pcALCL, primary cutaneous anaplastic large-cell lymphoma; PR, partial response.

## Efficacy and Safety of Rigosertib in Patients with Recessive Dystrophic Epidermolysis Bullosa (RDEB) Associated Advanced/Metastatic Squamous Cell Carcinoma (SCC)

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**Introduction & Objectives:** RDEB is a rare genodermatosis driven by mutations in the collagen VII gene (COL7A1). RDEB is characterized by severe skin and mucosal blistering with chronic wounding complicated by cutaneous SCCs (cSCCs). cSCC is the most common cause of death with a cumulative risk for premature demise of 70% by age 45. Evidence for effective treatment options for advanced (unresectable/metastatic) RDEB-associated SCCs is limited and scarce. It was previously demonstrated that RDEB SCC keratinocytes are specifically sensitive to inhibition of polo-like kinase-1 (PLK-1). Of eight PLK-1 inhibitors screened for cytotoxicity, rigosertib (RGS) was superior with the largest therapeutic window for distinguishing between tumor versus normal cells.

**Materials & Methods:** Safety and efficacy of RGS are being evaluated in two open-label, single arm phase 2 studies. RDEB patients with treatment resistant advanced SCC receive RGS either intravenously (1800 mg/24hr for 3d every 2 weeks) or orally (560 mg BID for 21 of 28 days). Route of administration is based on the individual extent of RDEB inherent cutaneous and mucosal involvement and patient preference. Secondary objectives include assessing biomarker analysis on tumor tissue.

**Results:** Four patients have been treated to date and were evaluated for efficacy. Patient 1, a 23-year-old female patient with a history of more than 29 SCCs, achieved cutaneous and histological remission with stable metabolic activity in PET-CT at week 12 of IV RGS. The duration of response was 16 months. Post recurrent CTCAE grade 2 irritative cystitis, the patient's dose of RGS was reduced, leading to symptomatic relief. Patient 2 was a 32-year-old female with a history of several cSCCs and nodal disease, who received oral RGS. The patient achieved a complete cutaneous remission, and completed the protocol defined 12 months of therapy. Patient 3 was a 21-year-old female patient with multiple SCCs on right thigh including a massive, ulcerated tumor, which had previously been partially amputated. Tumor necrosis of this lesion was temporally related to IV RGS administration, resulting in exposed bone prompting definitive surgical amputation. However, during week 9, metastatic progression of systemic tumor disease was determined by PET-CT.

Patient 4, a 21-year-old female with an SCC on her right knee and nodal disease received oral RGS. Due to limited blood levels with oral RGS exposure, the patient was switched to IV RGS and remains on study.

**Conclusion:** These preliminary results indicate RGS as a potential treatment for cSCC in RDEB patients. Eligible patients are being sought for this experimental approach.