Abstract N°: ID-7

Topic: Dermatopathology

Treating Palmar Hyperhidrosis: A Comprehensive Systematic Review of Efficacy, Safety, and Patient-Centred Outcomes

Foteini Moniati*[1], Marianna Vassiliou[2], Christos Costa[3], Constantina Chatzimatthaiou[4], Marios Chatzimatthaiou[2]

[1]Sandwell and West Birmingham NHS Trust, Birmingham, United Kingdom
[2]Barts and the London School of Medicine and Dentistry, London, United Kingdom
[3]Oxford University Hospitals NHS Trust, Oxford, United Kingdom
[4]Medway NHS Foundation Trust, Gillingham, United Kingdom

Introduction

Primary palmar hyperhidrosis (PH) is a chronic autonomic disorder characterised by excessive palmar sweating that disproportionately affects psychosocial functioning, manual performance, and overall quality of life.[1,2] Although multiple therapeutic options exist, their long-term efficacy, tolerability, and patient-centred outcomes remain insufficiently defined.[3] Given the increasing emphasis on personalised dermatological care, a comprehensive evaluation of available treatments is essential to guide evidence-based management. This systematic review assesses the efficacy and safety of current therapeutic modalities for PH, with a focus on patient-reported outcomes.

Materials and Methods

A systematic review was conducted according to PRISMA guidelines. PubMed, Embase, and the Cochrane Library were searched from inception to March 2025 for prospective and retrospective studies evaluating treatments for PH. Eligible studies were published in English with full-text availability. Two reviewers independently performed study selection, data extraction, and quality assessment. Owing to heterogeneity in study designs, interventions, and outcome measures, results were synthesised descriptively.

Results

Fourteen studies met inclusion criteria, incorporating 1,733 patients aged 4–77 years. Interventions included oral and topical oxybutynin, iontophoresis, photodynamic therapy (PDT), botulinum toxin A injections, and endoscopic thoracic sympathectomy (ETS). Oral oxybutynin demonstrated clinical improvement in 60–97% of patients but frequently caused anticholinergic adverse effects, including dry mouth and, less commonly, urinary retention. Topical oxybutynin formulations showed similar efficacy with fewer systemic effects. Botulinum toxin A produced significant sweat reduction and quality-of-life improvements, though results were temporary and often limited by injection pain and grip weakness. Iontophoresis achieved moderate, maintenance-dependent efficacy with minimal adverse effects. PDT improved HDSS scores in short-term assessments, but evidence remains limited. ETS yielded the highest rates of complete sweat cessation; however, compensatory hyperhidrosis occurred in up to 94.6% of patients, representing a major barrier to patient satisfaction. Across studies, subjective tools such as HDSS, DLQI, and QOL questionnaires predominated, while objective measures were inconsistently applied. Table 1.0 provides a summary of the selected studies.

Conclusions

Although several therapeutic modalities demonstrate meaningful efficacy in managing primary palmar hyperhidrosis, each is constrained by notable limitations related to adverse effects, durability, or feasibility. Oral oxybutynin and endoscopic thoracic sympathectomy remain highly effective but are tempered by significant systemic side effects and high rates of compensatory hyperhidrosis. Less invasive options, including botulinum toxin A, iontophoresis, and topical agents, provide safer alternatives with variable long-term outcomes. These findings underscore the absence of an optimal standard therapy and highlight the need for unified outcome measures and high-quality longitudinal studies to inform more consistent, evidence-based, and patient-centred clinical decision-making.

References

1. Lear W, Kessler E, Solish N, Glaser DA. An epidemiological study of hyperhidrosis. *Dermatol Surg.*2007;33(S1):S69–S75.
2. Stolman LP. Treatment of hyperhidrosis. *Dermatol Clin.* 1998;16(4):863–869.
3. Rzany B, Bechara FG, Feise K, Heckmann M, Rapprich S, Wörle B. Update of the S1 guidelines on the definition and treatment of primary hyperhidrosis. *J Dtsch Dermatol Ges.* 2018;16(7):945–952.

Table 1.0: Summary of the selected studies

Study/Year	Study Type	Sample size	Age (years)	Intervention	Outcome Measures	Reported results	Adverse Effects	Extra notes
Markantoni et al. 2023 (15)	Observational retrospective study	102	Mean age was 42.48 +/- 25.66 years	Oral Oxybutynin +/- Botulinum toxinA injection + topical anticholinergics	Patient HDSS and treatment duration and tolerability	Overall increased sweat reduction with oral oxybutynin, with a survivability over 2 years for 76.2% of patients with most common sites: palms/soles (80.4%) and axillae (62.7%)	Not systematically reported, but systemic anticholinergic therapy requires monitoring for cognitive disorders	Patients included had Multifocal Hyperhidrosis (MFH)
Saki et al. 2023 (16)	Double-blind randomised controlled trial	30	Age ranged from 18 to 49 years with a mean age of 28.86 years	1% oxybutynin topical gel or 1% oxybutynin topical nanoemulgel every 12 h for one month	Patient HDSS, VAS and DLQI	Gel and nanoemulgel groups were similar in HDSS, VAS, and DLQI scores. Both improved patient QOL with no significant statistical difference	Anticholinergic side effects (6) Dry mouth (3) Urinary retention (1)	Patients were assessed before treatment and at the end of study
Zhang et al. 2022 (17)	Long-term retrospective	367	Mean age was 25.1+/- 4.5 years	Endoscopic thoracic sympathectomy (ETS)	QOLQ before and after treatment. Evaluation of hyperhidrosis in each area before/after surgery Satisfaction with surgical results Compensatory hyperhidrosis post-operative	Palmar sweating disappeared in 60.22% patients, alleviated in 36.1% patients. 90.7% patients reported improved QOL after surgery. 24.5% were very satisfied, 44.4% satisfied, 4.9% were not satisfied after procedure. Compensatory hyperhidrosis present in 94.6% cases after ETS	Compensatory sweating Bodily pain	Median follow-up of 14 months
Shabaik et al. 2021 (18)	Single-centre clinical study	20	Age ranged from 15 to 50 years with a mean age of 21.3 ± SD 10.13 years	Photodynamic Therapy (PDT) for a maximum of eight sessions	Patient HDSS and Sweating Intensity Visual Scale of Minor's test	Dropping of HDSS with achievement of Grade 1 in 60% and Grade 2 in 40% of cases at week 8.	Slight pain and transient discoloration in 95% of patients	N/A
Campanati et al. 2020 (19)	Prospective, randomized case-control analysis	70	-Group 1: 38.01 ± 12.7 -Group 2: 37.01 ± 14.6	-Group 1 was treated with BTX-A injections at T0, followed by oral administration of oxybutynin chloride at the time of hyperhidrosis relapse. -Group 2 was treated from the beginning with oral oxybutynin chloride in monotherapy.	Patient HDSS and DLQI scores Efficacy was evaluated and compared between two groups through the patients' assessment of the tolerability of sweating and interference effect of sweating on daily activities	-Group 1: 82% (27/33) of patients were successfully treated with low dosage of oxybutynin chloride (7.5 mg/die) -Group 2: 31% (8/26) patients were able to control symptoms with low dosage of oxybutynin chloride, and difference was significant between groups (P = .001).	-Group 1: Withdrawal of two patients (2/35 = 5.71%) (1 for xerophthalmia, and 1 for vaginal dryness) -Group 2: Withdrawal of 9 patients (9/35 = 25.71%) (2 for dizziness, 1 for constipation, 5 for xerophthalmia, 1 for vaginal dryness)	Patients were assessed at baseline, 4 weeks (T4), 24 weeks (T24), and 52 weeks (T52) after treatments
Kim et al. 2017 (20)	Randomized, sham-controlled, single-blind,	29	Mean age was 30.2 +/- 11.7 years	Iontophoresis for 20 minutes 5 times/week for 2 weeks	Gravimetry and patient QOLQ	Starch-iodine test showed increased clinical improvement, reduced sweating and improved QoL in treatment group	Mild localized hand erythema (1)	Patients were evaluated before treatment and at 2,3 and 4 weeks

	and parallel - designed study							

Artzi et al. 2017 (21)	A Randomized Double-blind Placebo-controlled Split Area Study	61	Age ranged from 18 to 52 years with a mean age of 31.6 ± 1.4 years	Topical oxybutynin 10% gel for 4 weeks	Patient HDSS and DLQI scores and satisfaction questionnaires Minor starch-iodine test A blinded visual grading of the photographs taken before and after 30 days of treatment was the primary endpoint.	Overall increased sweat reduction in treated vs non-treated areas. 79% patients correctly identified the treated side. 66% patients reported a 1-point reduction in HDSS. 74% patients were moderately to highly satisfied following treatment	Transient headaches (2) Erythema and pruritus (11)	Change in perspiration was noted in the treated and control areas as well as in other distant sites
Schollhammer et al. 2015 (22)	Prospective, randomized, placebo-controlled trial	62	Age ranged from 18 to 62 years with a mean age of 33.5 years	Oral Oxybutynin	Patient HDSS and DLQI	60% of patients experienced improvement in HDSS treated with oxybutynin, compared with 27% of patients treated with placebo	Dry mouth in 43% of the patients	N/A
Bell et al. 2014 (23)	Retrospective uncontrolled study	93	Age ranged from 11 to 77 years, with a median age of 28 years	Endoscopic thoracic sympathectomy	Written and telephone QOLQ	97% of patients reported near-complete symptom resolution of PH	Compensatory sweating in 68% of patients	Patients were given 1-month post-surgery to complete the questionnaire
Wolosker et al. 2014 (24)	Prospective uncontrolled study	570	Age ranged from 4 to 61 years with a mean age of 22 years	Oral Oxybutynin	Patient QOLQ and clinical questionnaire	97.2% of patients experienced improvement in their pH	Dry mouth in 49.6% of patients	Patients were evaluated before treatment and at 6 and 24 weeks
Chia et al. 2012 (25)	Prospective uncontrolled study	25	Age ranged from 13 to 51 years with a mean age of 23.9 years	Iontophoresis	Gravimetry and patient QOLQ	81.8% of patients experienced improvement in their pH	Dry mouth in 100% of patients	Patients were evaluated before treatment and 1 week after starting 4 weeks of treatment
Wolosker et al. 2011 (26)	Prospective uncontrolled study	180	Age ranged from 18 to 56 years with a mean age of 24.4 ± 9.6	Oral Oxybutynin	Patient QOLQ and clinical questionnaire	80% of patients experienced improvement in their pH	Dry mouth in 70.5% of patients	Patients were evaluated before treatment and at 6 and 12 weeks
Loscertales et al. 2004 (27)	Retrospective uncontrolled study	113	Age ranged from 14 to 50 years of age	Endoscopic thoracic sympathectomy	Patient QOLQ	100% of patients reported complete symptom resolution of PH	Compensatory sweating in 67% of patients	Patients were evaluated 1 month and 1 year after surgery
Schnider et al. 1997 (28)	A Randomized Double-blind Placebo-controlled Split Area Study	11	Age ranged from 23 to 54 years with a mean age of 33.2 ± 9.6 years	Botulinum toxinA injection	Patient VAS, Satisfaction questionnaire, and Digitalized ninhydrin-stained sheets	Patients reported a 38% improvement at 13 weeks of treatment	Mild hand and grip weakness in 27% of patients	Patients were evaluated before, 3, 8, and 13 weeks after treatment

VAS: Visual Analogue Scale, **HDSS:** Hyperhidrosis Disease Severity Scale, **DLQI:** Dermatology Life Quality Index, **QOLQ:** Quality of Life Questionnaire, **ETS:** Endoscopic thoracic sympathectomy, **PDT:** Photodynamic Therapy

Abstract N°: ID-20

Topic: Dermatopathology

Invasive BRAF Wild-Type Malignant Melanoma Arising in a Chronic Venous Ulcer: A Diagnostic Pitfall.

Ricardo Davila*[1], Fernando Carrillo[2], Diego Carrillo[1], Adriana Broce[3], Lorena Madrid[2], Jairo Rivera[2]

[1]Hospital Santo Tomas, Panama, Panama
[2]Caja de Seguro Social, Panama, Panama
[3]Universidad de Panama, Panama, Panama

Introduction
Chronic venous ulcers are common in elderly patients with vascular comorbidities, yet malignant transformation within these lesions remains rare. Melanoma arising in a chronic ulcer represents a diagnostic challenge due to overlapping clinical features and delayed recognition.

Materials and Methods
A 79-year-old man with long-standing diabetes mellitus, chronic venous insufficiency, and a history of splenectomy presented with an ulcerative lesion on the right medial malleolus, persisting for over two years despite wound care. He noted progressive dark nodular growth within the ulcer over the past year. Examination revealed an exophytic tumor on a hyperpigmented ulcerated plaque with irregular borders, asymmetry, and variegated pigmentation. Hyperpigmented satellite lesions extended toward the dorsum of the foot. Histopathology revealed invasive malignant melanoma with a Breslow depth of 1.2 mm, ulceration, and lymphovascular invasion. BRAF wild-type genotype was confirmed. A diagnosis of nodular malignant melanoma stage cT2b N0 M0 was made. He refused surgical treatment. Therapy with pembrolizumab was initiated.

Results
The development of skin cancer in chronic venous ulcers involves several interconnected mechanisms. Chronic venous insufficiency creates a state of persistent inflammation, tissue hypoxia, and repetitive trauma-healing cycles. The most common malignancies associated with venous ulcers are keratinocytic, classically squamous cell carcinoma. Melanoma arising within chronic venous ulcers represents an uncommonly documented yet clinically significant complication.

Conclusions
This case underscores the importance of maintaining high clinical suspicion for malignancy in non-healing chronic wounds, especially in patients with vascular and metabolic comorbidities. Early biopsy of evolving lesions within ulcers is critical, as malignant melanoma in this context is associated with delayed diagnosis and poor prognosis. Dermatologists must remain vigilant and advocate for timely histopathologic assessment of atypical or non-healing ulcers. To our knowledge, this is the first reported case of cutaneous melanoma arising within a chronic venous ulcer to undergo BRAF mutational analysis.

Abstract N°: ID-21

Topic: Dermatopathology

Immunohistochemistry in a Spindle Cell Lesion: A Case of Cellular Dermatofibroma

Shama Naaz*[1], Ruben Bhasin[2]

[1]C K Birla Hospital, Gurugram, Haryana, India
[2]C K Birla Hospital, Gurugram, India

Introduction
Dermatofibroma (DF) is a common benign fibrohistiocytic tumor clinically presenting as a solitary, firm, subcutaneous nodule. It is prevalent in patients of all ages but commonly seen in adults between the second and fifth decade of life. There are several variants of DF, distinguished by their distinct clinical and histological features. Cellular DF is a morphological variant of DF known for its deeper involvement and recurrences. Cellular DF may be confused with malignant spindle cell tumors such as dermatofibrosarcoma protuberans (DFSP), atypical fibroxanthoma, or spindle cell squamous cell carcinoma (SpSCC) as clinical and microscopic features can overlap. Therefore, immunohistochemistry (IHC) plays a significant role in distinguishing benign from aggressive entities. We present a diagnostically challenging spindle cell lesion where the role of IHC was essential in confirming a diagnosis of cellular dermatofibroma.

Materials and Methods
A 56-year-old woman presented with a solitary brown nodule on the left forearm, gradually increasing in size over two years. During the last six months, the lesion had suddenly increased in size and became firmer. Examination revealed a well-defined, firm, dome-shaped dermal nodule with a central crater filled with keratin debris on the extensor aspect of the forearm. The firm adherence and resistance raised concern for a deeper pathology. Histopathological examination showed a well-circumscribed, non-encapsulated dermal spindle cell proliferation. The lesion consisted of densely packed spindle cells arranged in fascicles and short whorls. There were no significant atypia, necrosis, or atypical mitoses. Importantly, there was no honeycomb infiltration into subcutis which is a characteristic feature of DFSP. Immunohistochemistry revealed spindle cells showed focal S100 positivity. CD34, AE1/AE3, STAT6, SOX10, desmin, SMA, caldesmon, calponin, and ERG was negative. The overall findings supported a diagnosis of cellular dermatofibroma. Complete excision was recommended for cosmetic reasons and to prevent recurrence. The patient is under ongoing follow-up with no evidence of regrowth.

Results
Cellular DF is a variant of benign fibrohistiocytic tumor, characterized by increased cellularity and a fascicular growth pattern. Histopathology of cellular DF can resemble certain malignant spindle cell tumors such as DFSP, SpSCC, solitary fibrous tumor, neural or smooth muscle tumors. DFSP typically shows diffuse CD34 positivity and infiltrates the subcutis in a honeycomb pattern. In contrast, cellular DF remains confined to the dermis and is CD34-negative. In the present case, the absence of subcutaneous infiltration and negative CD34 staining were key distinguishing features. The focal S100 positivity seen in some cases of DF may mimic neural tumours, however the lack of diffuse S100 positivity and SOX10 negativity can help to exclude these entities. SpSCC is an important differential due to its spindle-shaped tumor cells, but cytokeratin expression is essential for its diagnosis. The negative AE1/AE3 staining in this case helped exclude SpSCC. Solitary fibrous tumors show strong nuclear STAT6 positivity due to NAB2-STAT6 fusion, and this marker is invaluable in differentiation. Smooth muscle tumours display eosinophilic cytoplasm and are positive for SMA, desmin, and caldesmon, all of which were negative in this case. The diagnostic value of IHC lies not only in confirming the benign nature of the lesion but also in preventing over-treatment. DFSP requires wide local excision due to its infiltrative nature and high recurrence rate, whereas cellular DF is benign and adequately treated with simple excision.

Conclusions

This case highlights the importance of immunohistochemical approach when evaluating spindle cell lesions of the skin. Relying solely on the morphology of the lesion and histopathology may lead to misdiagnosis and unnecessary aggressive surgical intervention.

Abstract N°: ID-62

Topic: Dermatopathology

Lymphomatoid papulosis in a young female: a case of mixed types A and E

Nadeesha Dinaratne*[1], Thuwaraha Gunasekaran[2], Fathima Rahna[2], Chandu De Silva[3], Janaka Akarawita[4]

[1]Senior Registrar in Dermatology, National hospital of Sri Lanka, Colombo 10, Sri Lanka
[2]Registrar in Dermatology, National hospital of Sri Lanka, Colombo 10, Sri Lanka
[3]Professor in Histopathology, Faculty of Medicine, University of Colombo, Colombo 10, Sri Lanka
[4]Consultant Dermatologist, National hospital of Sri Lanka, Colombo 10, Sri Lanka

Introduction
Lymphomatoid papulosis (LyP) is a chronic, recurrent CD30-positive cutaneous lymphoproliferative disorder characterized by self-healing papules, plaques, or nodules. Although clinically benign, its histopathology may mimic cutaneous T-cell lymphomas. Approximately 10–20% of patients may develop secondary lymphomas, including mycosis fungoides and CD30+ anaplastic large cell lymphoma, underscoring the need for accurate diagnosis and long-term surveillance.

Materials and Methods
A 19-year-old female with a 10-day history of a painful erythematous ulcerated nodule on the left breast and prior spontaneously resolving lesions was clinically evaluated. Previous histology from an excised lesion was reviewed. A new dermatologic punch biopsy was performed with differentials including LyP, pyoderma gangrenosum, and insect bite–induced pseudolymphoma. Immunohistochemistry (IHC) for CD30, CD68, and T-cell markers was conducted. The patient's clinical history, histopathology, and IHC findings were correlated.

Results
Clinical examination revealed an erythematous nodule with central necrotic crusting, along with post-inflammatory hyperpigmented macules and varioliform scars on the trunk, face, and upper limbs. No systemic abnormalities or lymphadenopathy were detected.
A prior excised lesion had shown suppurative granulomatous inflammation with dense histiocytic infiltration.
Biopsy of the current lesion demonstrated a mixed inflammatory infiltrate with epidermotropism and angioinvasion by lymphocytes. IHC showed strong CD30 and CD68 membranous positivity and CD8 expression in a subset of T cells, supporting a diagnosis of lymphomatoid papulosis (mixed types A and E).
The patient was commenced on low-dose methotrexate and scheduled for regular long-term follow-up.

Conclusions
LyP is a rare CD30-positive lymphoproliferative disorder with histologic features suggestive of malignancy but a clinically benign, recurrent course. Diagnosis requires careful clinicopathologic and immunophenotypic correlation. Early recognition, appropriate management, and lifelong surveillance are essential due to the risk of progression to overt lymphoma.

Abstract N°: ID-102

Topic: Dermatopathology

Granulomatous Demodicosis Presenting as a Large Indurated Plaque of the Forehead: An Unusual Clinical Presentation

Ela Gazal*[1], Ayça Cordan Yazıcı[1], Ümit Türsen[1], Yasemin Karabulut[2]

[1]Mersin University, Medical Faculty Hospital, Dermatology, Mersin, Türkiye
[2]Mersin University, Medical Faculty Hospital, Pathology, Mersin, Türkiye

Introduction

Demodicosis is a parasitic dermatosis caused by excessive proliferation of Demodex mites within pilosebaceous units and is most commonly associated with rosacea-like eruptions and follicular disorders. Granulomatous reactions related to Demodex infestation are rare and usually present as papules or nodules on the central face. Plaque-forming presentations are exceptional and may clinically mimic other facial granulomatous dermatoses.

Materials and Methods

A 63-year-old male presented with a slowly progressive, asymptomatic erythematous plaque on the forehead that had been evolving for approximately three years. The lesion gradually enlarged and showed no sustained response to multiple courses of topical and systemic corticosteroids, with reported exacerbation after sunlight exposure. There was no history of systemic disease and no accompanying facial features suggestive of rosacea, such as flushing, telangiectasia, or phymatous changes.

Dermatological examination revealed a solitary, indurated erythematous plaque measuring approximately 10 × 10 cm, extending from the mid-forehead to the frontoparietal region. A punch biopsy was performed. Histopathological examination demonstrated dense perifollicular infestation by Demodex folliculorum involving nearly all follicular ostia. The dermis showed prominent granulomatous inflammation composed of epithelioid histiocytes and multinucleated giant cells, surrounded by lymphoid infiltrates, without polymorphonuclear leukocytes. Laboratory investigations and imaging studies performed to exclude systemic granulomatous and infectious diseases were unremarkable.

Following discontinuation of corticosteroids, treatment with oral and topical metronidazole combined with topical permethrin was initiated. Marked clinical improvement was observed within one month, with significant flattening of the plaque and reduction of erythema.

Results

The long-standing plaque-like morphology, absence of typical rosacea features, and granulomatous histological pattern initially raised consideration of other facial granulomatous dermatoses, including cutaneous sarcoidosis and granuloma faciale. However, the striking density of Demodex mites within follicular structures, the granulomatous reaction pattern lacking neutrophilic infiltrates, and the favorable response to anti-parasitic therapy support a diagnosis of granulomatous demodicosis. Unlike previously reported cases, which most often present as papules or nodules, this case demonstrates that Demodex-associated granulomatous inflammation may manifest as a large solitary indurated plaque, expanding the recognized clinical spectrum of demodicosis.

Conclusions

Granulomatous demodicosis may present as an atypical plaque-forming lesion closely resembling other facial

granulomatous dermatoses. Recognition of this uncommon presentation and its characteristic histopathological features is essential for accurate diagnosis and appropriate management.

Abstract N°: ID-176

Topic: Dermatopathology

ERYTHRODERMA IN THE SETTING OF INDERMINATE DENDRITIC CELL NEOPLASM

Wei Qiang Chng[1], Laura Hui*[2]

[1]National Skin Centre, Singapore, Singapore
[2]Singapore General Hospital, Singapore, Singapore

Introduction
This is a report a case of a patient with indeterminate dendritic cell tumor (ICDT) presenting with erythroderma. ICDT is an exceedingly rare diagnosis with less than 50 cases. Erythroderma as a presentation is not reported before.

Materials and Methods
A 66-year-old Chinese male with no past medical history presented with an acutely worsening widespread rash of two weeks. On examination, he had scaly reddish-brown papules coalescent into larger plaques diffuse over trunk and limbs and was erythrodermic. Clinically, he had palpable widespread lymphadenopathy with splenomegaly. New-onset peripheral eosinophilia with an absolute count of 6.77x10(9)/L was present.

Results
Lymph node biopsy demonstrated a histiocytic dendritic cell neoplasm, favoring an indeterminate type. Sections showed effacement of paracortical areas and sinuses with sheets of neoplastic cells with ovoid vesicular nuclei, inconspicuous nucleoli and nuclear groove. Immunohistochemistry demonstrated positivity for S100, CD1a and CD68. T-lymphoid cells demonstrate no atypia with preservation of T-cell antigens including CD2, CD5 and CD7.

Skin biopsy revealed a diffuse dermal infiltration of large epithelioid cells with grooved nuclei resembling Langerhan cells. Immunohistochemistry was positive for S100 protein and CD1a, but not Langerin, and had focal expression of CD68. T-cell receptor clonality studies showed no distinct clone.

A bone marrow aspiration showed infiltration of S-100 positive dendritic cells with secondary eosinophilia.

The overall diagnosis was consistent with ICDT with skin and bone marrow involvement.

Conclusions
IDCT is a proliferative disease composed of indeterminate cells, a dendritic cell subset displaying histological, ultrastructural and immunophenotypic features of Langerhan cells, except they lack Birbeck granules. It is thought to be caused by tissue-resident dendritic cells, which are en-route from the skin to the lymph nodes. Patients often present with cutaneous manifestations.

Diagnosis is based on the presence of dendritic cells with positive expression of both Langerhan cell markers (S-100 and CD1a positive) and non-Langerhan cell markers (CD8 positive), with negative Langerin (CD207). It is limited to the skin in most cases and follows an indolent course. There is no standardised treatment due to its rarity.

Our patient was treated successfully with mid-potency topical corticosteroids. Hematology adopted a watch-and-wait approach. Recognising clinico-pathological features of IDCNs is important.

EADV Symposium 2026 – Athens
07 MAY - 09 MAY 2026
POWERED BY M-ANAGE.COM

Abstract N°: ID-187

Topic: Dermatopathology

A Rare Case of Pediatric-Onset Linear Psoriasis

Tunahan İnan[1], Laden Elkiran*[1], Semiha Elif Şişmanoğlu Dalkılıç[1], Emre Keskin[2], Selda Pelin Kartal[1]

[1]Etlik Şehir Hastanesi Ortopedi Ve Nöroloji Hastanesi, Dermatology and Venereology, Dermatology and Venereology, Ankara, Türkiye
[2]Etlik Şehir Hastanesi Ortopedi Ve Nöroloji Hastanesi, Pathology, Pathology, Ankara, Türkiye

Introduction

Psoriasis is a chronic autoimmune disease affecting 2-4% of the population, with the most prevalent clinical presentation being plaque psoriasis. Linear psoriasis (LPs) is an exceedingly rare variant of the disease and is usually distributed along the lines of Blaschko. Herein, we report a case of pediatric-onset LPs treated exclusively with topical corticosteroids.

Materials and Methods

The patient's medical history and records were acquired, and a meticulous literature review was performed, using the keywords "linear psoriasis", "pediatric-onset" and "Blaschko lines".

Results

An 11-year-old male patient, otherwise healthy, presented with mildly pruritic streaks of erythematous papules and plaques with silvery-white scales in a linear pattern on the right side of the anterior trunk, exhibiting a sharp demarcation at the midline. The patient had similar lesions since the age of two, and the lesions showed a trend of resolution and recurrence when topical corticosteroid treatment was initiated and discontinued, respectively. On dermatologic examination, no other lesions were noted on the body. Mucosal and nail involvement were not present. The patient did not report accompanying joint complaints. There was no history of prior trauma to the affected site, and family members did not have a history of psoriasis or similar lesions. A punch biopsy was performed, with linear psoriasis and inflammatory linear verrucous epidermal nevus (ILVEN) as differentials. Histopathology revealed parakeratosis, loss of the granular layer, and neutrophil accumulation in the residual granular layer. Regular elongation of the rete ridges and thinning of the suprapapillary epidermis were also documented. In the light of clinicopathologic correlation, the patient was diagnosed with linear psoriasis. Topical corticosteroid therapy was initiated with mometasone furoate 0.1%. After two months, the lesion had almost completely resolved with a few remaining papules, and hardly any post-inflammatory hyperpigmentation was present on the former site of the lesion.

Conclusions

Linear psoriasis is an infrequent and possibly underdiagnosed entity, first described in 1951. It is generally an asymptomatic or slightly pruritic condition, responding well to antipsoriatic treatment regimens. Lesions of linear psoriasis mainly follow the Blaschko lines. Concomitant nonsegmental plaque-type psoriasis vulgaris may or may not be present. Late-onset presentation is much more common, although early childhood-onset cases have also been documented. Pathogenesis remains poorly understood, but genetic mosaicism could help explain underlying pathophysiological processes. Happle suggested that loss of heterozygosity in somatic cells in the course of early embryogenesis might cause somatic recombination, meaning the affected individual would be homozygous for one of the genes predisposing to psoriasis. The most important differential diagnosis to consider is ILVEN, as it tremendously

resembles LPs, both clinically and histopathologically. Extremely pruritic lesions appearing in the first months of life, showing very slow progression and no response to antipsoriatic treatment, favour the diagnosis of ILVEN. To our knowledge, only a few cases of pediatric-onset linear psoriasis have been reported, and it is crucial to keep this condition in mind for the differential diagnosis of linearly distributed erythematous and scaly papules and plaques. Moreover, pediatric patients with LPs also require regular surveillance for classic psoriatic lesions that may develop later in life.

EA SYMPOSIUM DV 2026 ATHENS 7 - 9 MAY

Abstract N°: ID-246

Topic: Dermatopathology

Skin Alpha-Synuclein as a Biomarker for Synucleinopathies

Alicia Kwan Su Huey*[1, 2], Ece Karabulut[1, 3], Ronald Parfait Kamaha Kamaha[1, 4], Mert Uzun[1, 5], Thea Maria Nader[1, 6], Olivier Uwishema[1]

[1]Department of Research and Education, Oli Health Magazine Organization, Kigali, Rwanda
[2]Manchester University NHS Foundation Trust, Greater Manchester, United Kingdom
[3]Vakfikebir State Hospital, Trabzon, Türkiye
[4]United States International University Africa, Nairobi, Kenya
[5]Karadeniz Technical University, Trabzon, Türkiye
[6]Lebanese American University, Jbeil, Lebanon

Introduction
Synucleinopathies such as Parkinson's disease and related disorders lack widely adopted, minimally invasive biomarkers for early diagnosis and longitudinal monitoring. Skin is an accessible, repeatable sampling tissue with dense peripheral innervation, making cutaneous pathology a practical target for biomarker development. This review evaluates skin-based α-synuclein detection and the emerging role of AI in improving reproducibility.

Materials and Methods
A literature review was conducted using major biomedical databases, focusing on English-language studies published in recent years that examined cutaneous α-synuclein detection methods (immunohistochemistry/immunofluorescence and seed-amplification assays) and computational approaches to biomarker interpretation and stratification.

Results
Phosphorylated α-synuclein is detectable in skin biopsies and has been associated with disease presence and severity measures in multiple cohorts. Conventional staining approaches demonstrate **variable sensitivity (~50–90%, depending on site and protocol)** with generally **high specificity (often >90%)** when pathology-enriched targets and nerve-fibre co-staining are used. Seed-amplification assays applied to skin homogenates show **high diagnostic performance (reported sensitivity ~90–98% and specificity ~95–100%)** in selected studies and may detect prodromal pathology. A meta-analytic signal supports overall diagnostic utility for Parkinson's disease versus controls (with pooled performance in the literature), while an important limitation is **reduced specificity for differentiating closely related synucleinopathies** in some comparisons. Key barriers to translation include pre-analytical and analytical heterogeneity (biopsy site, fixation, antibodies, thresholds), inter-reader variability, and the need for external validation. AI-enabled digital pathology and automated kinetic-trace classification may reduce variability and improve scalability, but require diverse datasets and prospective, multicentre testing to mitigate bias and dataset shift.

Conclusions
Cutaneous α-synuclein assays are a promising route to accessible biomarker testing that could be performed alongside routine skin biopsy workflows, but clinical deployment will require harmonised protocols, quality control frameworks, and validated AI-assisted interpretation integrated into multidisciplinary pathways.

Abstract N°: ID-374

Topic: Dermatopathology

Linear Porokeratosis, a rare clinical presentation

Stephanie Farrugia*[1], Lawrence Scerri[1]

[1]Mater Dei Hospital, Department of Dermatology, L-Imsida, Malta

Introduction

A 65-year-old Caucasian male presented with a lesion consisting of multiple hyperkeratotic papules in a linear fashion on his right forearm, extending from the wrist to the elbow which could be appreciated clinically and dermoscopically. This has been present since childhood and persisted throughout time. He denied any pruritus, pain or extension of the lesion. Examination of the hair, nails and mucous membranes were unremarkable. His past medical history was unremarkable except for previous surgical excision of three basal cell carcinomas (one from his neck and two from his chest).

Materials and Methods

A skin biopsy revealed keratin-filled epidermal invagination containing a cornoid lamella comprising of an angulated parakeratotic tier. The underlying dermis revealed a sparse perivascular lymphocytic infiltrate, with mild lymphocytic exocytosis into the epidermal invagination. The histological findings were in keeping with linear porokeratosis.

Results

Linear porokeratosis is a rare clinical variant of porokeratosis of Mibelli, which is a disorder of keratinization that arises from aberrant terminal keratinocyte differentiation. The clinical features of linear porokeratosis include hyperkeratotic plaques or papules surrounded by raised borders called cornoid lamellae. The disease most often presents unilaterally on the trunk or distal extremities, in a Blaschkoid pattern. Linear porokeratosis commonly presents in infancy or childhood and is thought to arise from mosaicism during embryogenesis. This is thought to be due to loss-of-function mutations in mevalonate pathway genes, which in turn may be implicated in the possible pathogenesis of superimposed basal cell carcinomas, adnexal neoplasms and squamous cell carcinomas The histological features of linear porokeratosis include epidermal invaginations containing a cornoid lamella comprising a distinctive parakeratotic tier. The subjacent epidermis may lose the granular layer. A patchy lymphocytic infiltrate is often observed in the papillary dermis and lichenoid inflammation may be seen. The differential diagnoses for linear porokeratosis include linear verrucous epidermal naevus, lichen striatus, linear Darier disease and porokeratotic eccrine ostial and dermal duct nevus (PEODDN). They all manifest in a linear blaschkoid distribution, however certain clinical features and histologic features may help distinguish between these conditions and linear porokeratosis.

Conclusions

There are no standard therapy guidelines for linear porokeratosis, however various case reports and case series report the use of topical corticosteroids, topical 5-fluorouracil, topical tacrolimus 0.1%, topical imiquimod 5%, topical/systemic retinoids, pulse dye laser, carbon dioxide laser, cryotherapy and surgical excision. In our case, the patient was followed up regularly at the dermatology clinic for skin checks to look for any signs of basal cell carcinoma or squamous cell carcinoma. We urge our colleagues to consider linear porokeratosis in their differentials when faced with patients who present with a linear hyperkeratotic papular rash, especially due to its association with skin cancer.

EADV Symposium 2026 – Athens
07 MAY - 09 MAY 2026
POWERED BY M-ANAGE.COM

Abstract N°: ID-376

Topic: Dermatopathology

Human-eye versus Artificial Intelligence Evaluation of CD8 Lymphocytes in CDKN2A-Mutated Melanomas

Luana-Andreea Nurla*[1], Emma Gheorghe[1], Mariana Aşchie[2], Gabriela Bălţătescu[2], Cristian Orăşanu[2], Mădălina Boşoteanu[2]

[1]"Sf. Apostol Andrei" Emergency Clinical County Hospital, Dermatovenereology Clinic, Constanța, Romania
[2]"Sf. Apostol Andrei" Emergency Clinical County Hospital, Clinical Service of Pathology, Constanța, Romania

Introduction

In the context of rising cutaneous and mucous melanoma incidence, CDKN2A mutations mark familial cases. CD8-positive tumor-infiltrating lymphocytes (TILs) impact survival rates. This study aims to validate CD8-positive T cell counts using "naked eye" evaluation versus AI-powered software for precise assessment within intratumoral and peritumoral areas.

Materials and Methods

Over a 5-year period (2018–2022), this retrospective cross-sectional study centered on individuals with mucous and/or cutaneous melanoma, positive family melanoma history, or previous primary malignant melanocytic lesions. Histopathological diagnosis, CDKN2A mutation testing using fluorescent hybridization in situ, and CD8 immunohistochemistry were conducted on 23 selected cases. Slide evaluation for quantifying CD8-positive TILs occurred manually (naked-eye examination) and automatically (via QuPath platform).

Results

This study marks the first exploration of immunophenotypic correlations among CD8 immunoreaction, familial melanoma, and multiple primary melanoma within a cohort of Romanian patients. The research revealed the superior accuracy of CD8-positive tumor-infiltrating lymphocytes (TILs) identified through AI-assisted examination (45.49%) compared to human-eye evaluation (24.23%). The covariance matrix indicated a positive linear relationship between "QuPath" and "Human," with substantial covariance (99,236), signifying their synchronized deviation. Both exhibited significant variance, emphasizing considerable individual variability. The intraclass correlation coefficient (ICC) for single measures stood at approximately 0.134, suggesting a relative correlation within the same method. For average measures, the ICC was around 0.236. However, the p-values indicated no statistically significant correlation, suggesting observed correlations were likely random. Despite clinical trial variability, the computerized whole-slide image analyzer demonstrated stable results, instilling confidence compared to inter-examiner variability in human-eye pathological evaluations. Moreover, differences in counts between human and AI assessments could arise from colorimetry, depth perception, image interpretation, figure complexity, and quality variations. Regardless of variances, the QuPath software exhibited promising accuracy, especially with a higher CD8-positive intratumoral lymphocyte percentage correlating with increased metastatic sites.

Conclusions

In the era of advancing digital pathology, this study suggested that differences in counts between the naked eye and AI-assisted evaluations could arise from analytical parameters. Future research, expanding the number of cases examined, aims to

substantiate changes in statistical significance.

Abstract N°: ID-383

Topic: Dermatopathology

Acute kava-associated DRESS-like eruptions with a distinctive sebotropic pattern: a case series

Tristen Ng*[1], Adeline Hillan[2], Mathew Ghodsian[1], Nima Mesbah Ardakani[3], Genevieve Sadler[2], Benjamin Wood[3]

[1]Royal Perth Hospital, Perth, Australia
[2]Sir Charles Gairdner Hospital, Nedlands, Australia
[3]Pathwest Laboratory Medicine, Dermatopathology, Nedlands, Australia

Introduction

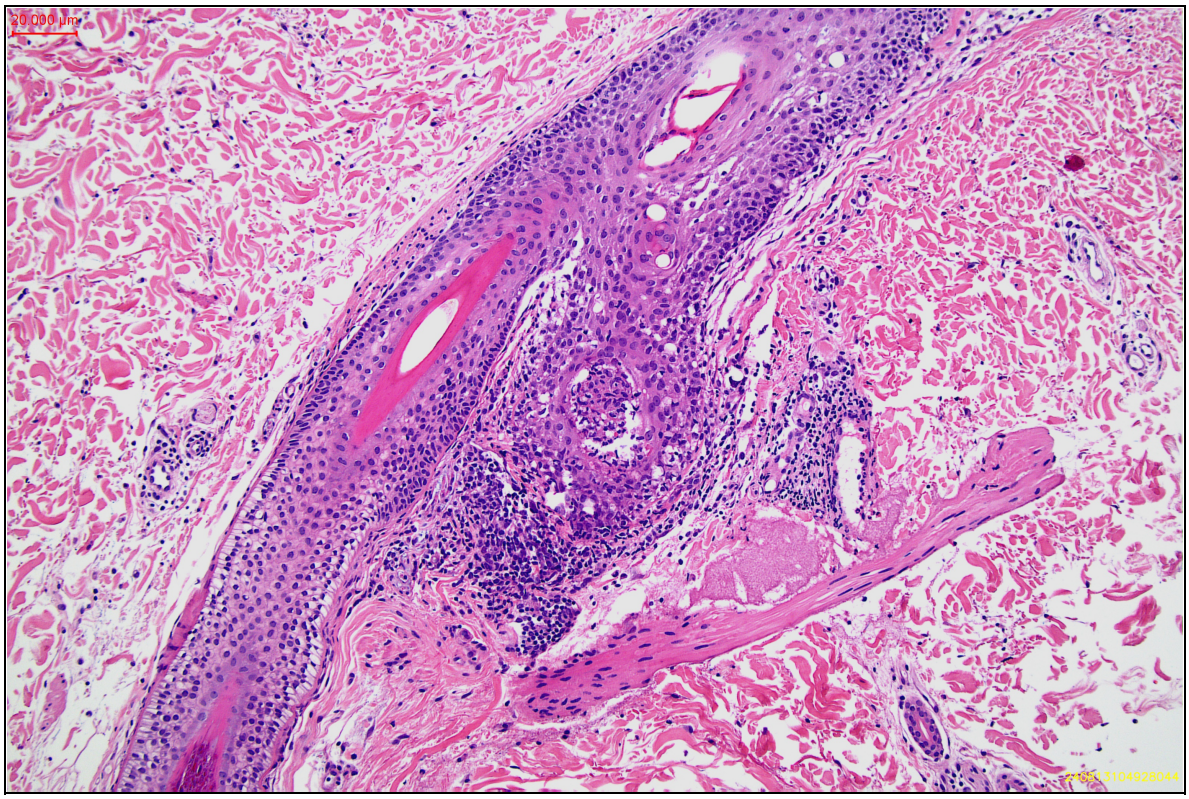
Kava (*Piper methysticum*) use has increased in some settings following regulatory changes expanding access. While chronic kava dermopathy is recognised, acute systemic hypersensitivity-type reactions are less well characterised and may clinically resemble drug reaction with eosinophilia and systemic symptoms (DRESS). We describe a reproducible clinicopathologic pattern in patients with acute kava-associated eruptions.

Materials and Methods

Three patients without Pacific Islander background developed acute widespread erythematous/morbilliform eruptions with systemic features following new kava ingestion. Clinical features, laboratory findings, and histopathology were reviewed. Clinicopathologic correlation was performed; special stains were used to exclude infection where clinically indicated. Deeper sections were examined when initial levels were non-diagnostic.

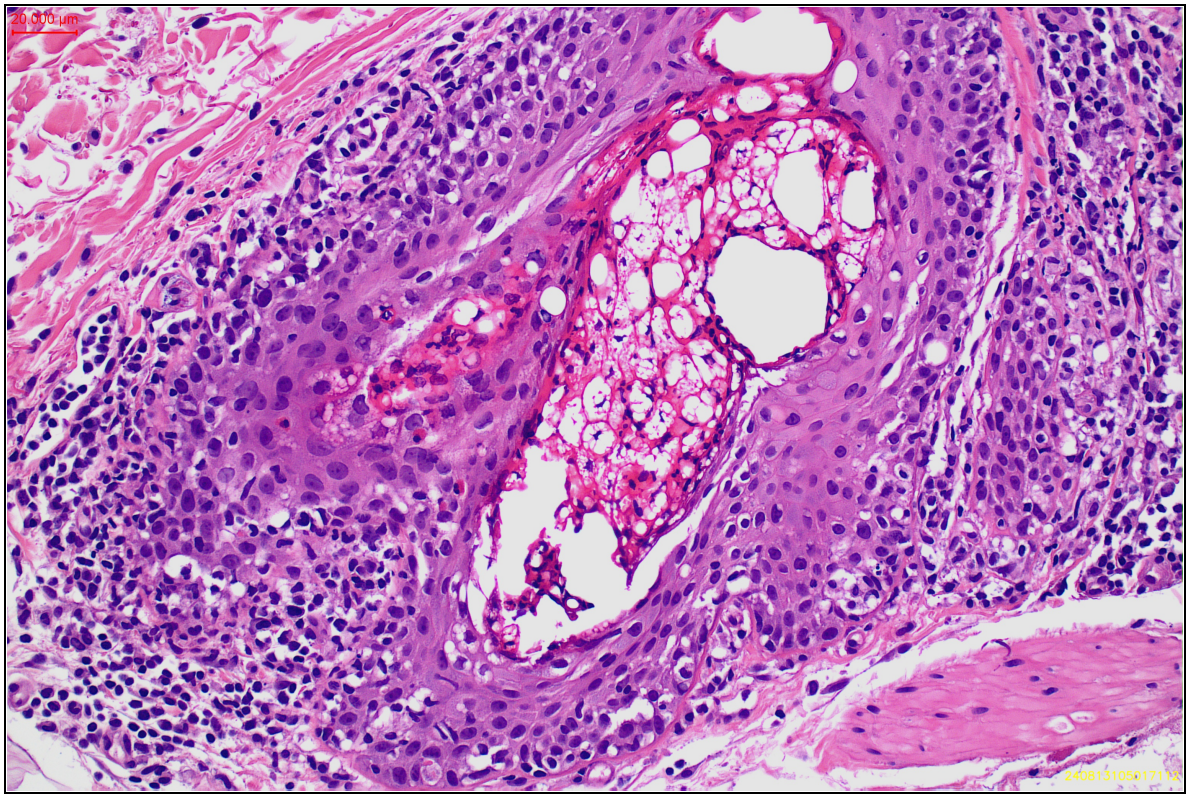
Results

All three patients developed facial oedema and widespread erythematous eruptions temporally associated with initiation of kava ingestion, accompanied by peripheral eosinophilia and elevated hepatic transaminases. Skin biopsies demonstrated a reproducible folliculocentric, sebotropic inflammatory pattern centred on sebaceous glands and ducts, composed of lymphohistiocytic inflammation with admixed eosinophils. A key feature across cases was sebaceous adenitis with vacuolar change and conspicuous single-cell apoptosis/necrosis. In one patient, the diagnostic sebotropic process was evident only at deeper levels. Clinical improvement occurred following cessation of kava and systemic therapy.



Conclusions

Acute kava exposure may trigger a DRESS-like clinical phenotype with a distinctive and reproducible sebotropic histologic signature characterised by sebaceous adenitis and single-cell apoptosis. Recognition of this pattern and targeted exposure history-taking may prevent misdiagnosis and support appropriate management as kava use becomes more widespread.



Abstract N°: ID-416

Topic: Dermatopathology

Borst-Jadassohn Phenomenon: A Diagnostic Challenge

Adil Ozcanli*[1], Nesimi Buyukbabani[2], Esra Sarac[1]

[1]Koc University School of Medicine, Department of Dermatology and Venereology, Sarıyer, Türkiye
[2]Koc University Hospital, Department of Pathology, Sarıyer, Türkiye

Introduction
The Borst-Jadassohn phenomenon represents a distinctive intraepidermal growth pattern rather than a separate tumour entity. It is characterized by well-demarcated nests of epithelial cells within an acanthotic and/or verrucous epidermis. This morphological phenomenon has been described in a variety of benign and malignant epidermal lesions, including clonal seborrheic keratosis, clonal Bowen's disease, hidroacanthoma simplex, and porocarcinoma. In clonal seborrheic keratosis, the presence of intraepidermal clonal proliferation may result in clinically and dermoscopically atypical features, often raising suspicion for malignancy and leading to diagnostic excision.

Materials and Methods
A male patient with a pigmented lesion underwent dermatological and dermoscopic examination followed by complete excision and histopathological evaluation for definitive diagnosis.

Results
A 55-year-old male patient presented with a long-standing pigmented lesion on the abdominal region that had demonstrated rapid growth in recent months. Clinical examination revealed a well-circumscribed plaque measuring approximately 2 cm in diameter on the right flank, initially suggestive of seborrheic keratosis.
Dermoscopic assessment demonstrated asymmetrically distributed dark brown to black pigmentation with irregular structures, consistent with a chaotic appearance. Due to suspicious dermoscopic features, complete surgical excision was undertaken.
Histopathological examination demonstrated orthokeratotic hyperkeratosis, marked acanthosis, and well-circumscribed intraepidermal nests of keratinocytes with enlarged nuclei and abundant eosinophilic cytoplasm, consistent with clonal seborrheic keratosis exhibiting the Borst-Jadassohn phenomenon.

Conclusions
The Borst-Jadassohn phenomenon may result in misleading clinical and dermoscopic features, even in benign lesions. Awareness of this diagnostic pitfall is essential, and histopathological examination remains the gold standard for accurate diagnosis in suspicious lesions.

Abstract N°: ID-594

Topic: Dermatopathology

Granular Cell Tumor of the Upper Extremity: A Rare Diagnostic Pitfall

Canan Dere*[1], Alper Kınay[1], Hazel Ezgi Kaya[1], Deniz Altınel[2], Ilknur Altunay[1]

[1]University of Health Science, Şişli Hamidiye Etfal Training and Research Hospital, Department of Dermatology, Istanbul, Türkiye
[2]University of Health Science, Şişli Hamidiye Etfal Training and Research Hospital, Department of Pathology, Istanbul, Türkiye

Introduction
Granular cell tumors are rare soft tissue neoplasms showing neuroectodermal differentiation. They most commonly occur between the fourth and sixth decades of life and may involve the skin, oral mucosa, and gastrointestinal tract. Cutaneous involvement is most frequently observed in the head and neck region. Clinically, granular cell tumors may mimic other benign and malignant skin tumors, posing diagnostic challenges due to their rarity. Herein, we aimed to present a case of an upper-extremity granular cell tumor that should be considered in the differential diagnosis.

Materials and Methods
The clinical, dermoscopic, histopathological, and immunohistochemical findings of the case were evaluated.

Results
A 49-year-old female patient with no known comorbidities presented with a painless lesion on the right arm that had been present for approximately 3–4 months. Dermatological examination revealed an erythematous nodular lesion approximately 1.5 × 2 cm in size, with a central crust, located on the extensor surface of the right arm. There was no history of spontaneous bleeding. Dermoscopic examination showed a central hyperkeratotic crust and an erythematous background at the periphery, without prominent vascular structures or a pigment network. A 4-mm punch biopsy was performed with the preliminary diagnoses of squamous cell carcinoma and keratoacanthoma. Histopathological examination revealed a dermal tumor composed of large polygonal cells with abundant granular eosinophilic cytoplasm. Immunohistochemical analysis demonstrated positive staining of tumor cells for S-100, SOX-10, and CD68. Based on the clinical, histopathological, and immunohistochemical findings, the diagnosis of a granular cell tumor was established, and an excisional biopsy was performed for treatment.

Conclusions
The diagnosis of granular cell tumor requires the combined evaluation of clinical, histopathological, and immunohistochemical findings. Although the majority of cases follow a benign course, malignant variants have been reported in approximately 1–2% of cases. This case emphasizes that granular cell tumor should be considered in the differential diagnosis of solitary nodular lesions mimicking dermatofibroma, neurofibroma, melanoma, and non-melanoma skin cancers, to ensure appropriate diagnosis and optimal management.

Abstract N°: ID-606

Topic: Dermatopathology

Panniculitis: Expanding the Etiological Spectrum and Challenging the Classification Based on Three Distinct Clinical Cases (Cryolipolysis, Post-COVID, Lupus)

Alina Eroshenkova*[1], Olga Grabovskaya[1]

[1]First Moscow State Sechenov Medical University, Rakhmanov Department of Dermatology and Venereal Diseases, Moscow, Russian Federation

Introduction

Panniculitis is a heterogeneous group of diseases characterized by inflammation of the subcutaneous adipose tissue. The etiology and pathogenesis of this group are not fully understood. Research highlights the etiological significance of bacterial and viral factors, trauma, medication use (such as vemurafenib, ibrutinib), hormonal and immune disorders (including during pregnancy), association with pancreatic diseases, and various rheumatological conditions (e.g., systemic lupus erythematosus, systemic vasculitis, systemic sclerosis, dermatomyositis, and Behçet's disease).

Currently, there is no unified classification for panniculitis. Diagnosis and classification most commonly rely on histological examination, which categorizes panniculitis into lobular and septal types, with or without associated vasculitis.

Materials and Methods

From January 2023 to January 2025, clinic patients with a histologically confirmed diagnosis of Panniculitis were analyzed.

Results

Our retrospective study identified 20 patients diagnosed with Panniculitis. Three clinical cases were of particular interest:

Panniculitis induced by a cryolipolysis procedure (Coolsculpting device) on the abdomen of a 60-year-old woman. This condition is extremely rare, with few cases reported internationally. Histology revealed: "Lobular panniculitis with a mixed inflammatory infiltrate (lymphocytes, histiocytes, eosinophils) and characteristic hibernoma-like adipocyte changes (membranous cytolysis). The findings correspond to cold-induced panniculitis following cryolipolysis." The patient was treated with: Betamethasone 2 ml intramuscularly once weekly for 3 weeks + 5% diclofenac gel topically. The lesions resolved completely. However, after undergoing cryolipolysis at another clinic, she developed a new lesion on the chin without abdominal recurrence. She returned, received the same treatment, and was counseled on contraindications. No further relapses occurred.

Panniculitis associated with alpha-1 antitrypsin deficiency, occurring after COVID-19 in a 64-year-old man. After severe COVID-19 (90% lung involvement) in December 2022, he developed extensive nodules on his limbs in February 2023. Histology showed: "Lobular panniculitis with a massive neutrophilic infiltrate and collagen 'liquefaction' (colliquative necrosis)," confirming alpha-1 antitrypsin deficiency-related panniculitis. Treatment with Methylprednisolone (4 mg, 6 tablets/day for 1 month, tapered over the next month) led to complete lesion regression with no relapse for 6 months.

Lupus panniculitis (lupus profundus) in a 50-year-old man presenting in February 2024 with nodules on the shoulders,

upper back, and chest. Based on clinical and histological findings ("lobular infiltrate with lymphocytic rims, hyaline necrosis, mucoid degeneration, lymphoid follicles, and calcification"), lupus panniculitis was diagnosed. Rheumatology consultation ruled out systemic lupus erythematosus. Treatment included: Prednisolone 5 mg (4 tablets) in the morning for 3 month with gradual taper, and Hydroxychloroquine 200 mg (1 tablet) twice daily for 6 month.

Conclusions

Despite being first described in the 19th century, panniculitis still lacks a unified, systematic classification. The presented clinical cases broaden the differential diagnostic spectrum and should be incorporated into a new classification system for panniculitis.

Abstract N°: ID-647

Topic: Dermatopathology

Successful Management of Ulcerative Necrobiosis Lipoidica with Impaired Glucose Tolerance Using Combined Antibiotic and Physical Therapy: A Case Report.

Alina Eroshenkova*[1], Olga Grabovskaya[1]

[1]First Moscow State Sechenov Medical University, Rakhmanov Department of Dermatology and Venereal Diseases, Moscow, Russian Federation

Introduction

Necrobiosis lipoidica (NL) is a chronic, idiopathic granulomatous dermatosis which can be associated with diabetes mellitus (predominantly type 1) in 10-60% of cases. No direct correlation has been found between the severity of diabetes and the severity of NL. The condition can progress even with well-controlled glucose levels. This case report presents a female patient with NL associated with impaired glucose tolerance, focusing on the clinical picture, diagnostic challenges, and treatment outcomes.

Materials and Methods

A 58-year-old female patient presented with a ten-year history of the disease. She dates the onset to 2016 when she first noticed ulcers on her left, and later right, shin. She associates the onset with prior trauma from a fall on both lower limbs. A thorough medical examination was conducted, including fasting glucose (6.6 mmol/L) and glycated hemoglobin (6.4%) tests, as well as a histological study.
The patient was prescribed a combined treatment regimen consisting of intramuscular ceftriaxone (1 gram twice daily for 10 days) and physical therapy (flowing gas insufflation 'in a boot' for 5 sessions, along with 5 sessions of systemic intravenous ozone therapy). Topical silver sulfadiazine dressings were also used.

Results

Clinical examination revealed lesions localized on the skin of both shins. On the anterior surface of the left shin, a rounded ulcerative defect with sharp borders, measuring 5 cm in diameter, reddish-brown in color, was noted. The ulcer base was covered with a grayish-yellow fibrinous coating. A characteristic zone of atrophy with a waxy sheen surrounded the ulcer. The perilesional skin was edematous, dry, and reddish-brown. Histopathological examination of a skin biopsy described foci of dermal collagen necrobiosis, a palisaded lymphohistiocytic infiltrate surrounding them, and obliterative changes in the microcirculatory vessels with lipid deposits.
The application of the combined treatment scheme (antibiotic therapy in combination with physiotherapy) led to significant clinical improvement, with partial regression of symptoms noted at a follow-up examination at 3 months and residual post-inflammatory hyperpigmentation at 6 months.

Conclusions

This clinical case illustrates the diagnostic and management challenges of necrobiosis lipoidica associated with impaired

glucose metabolism. Despite the classic clinical picture, association with trauma, and identified impaired glucose tolerance, the main confirming criterion remained the pathognomonic histological pattern. The absence of confirmed diabetes underscores that NL is a separate, though frequently associated, entity. The successful response to a combined treatment scheme (systemic antibacterial therapy and physiotherapy) aimed at controlling secondary infection and improving tissue trophism demonstrates the importance of a comprehensive approach targeting modifiable factors, even in the absence of direct therapies for NL itself. This case confirms the necessity of screening for carbohydrate metabolism disorders in all patients with NL and contributes data to the discussion on therapeutic options for infected or torpid lesions.

Abstract N°: ID-659

Topic: Dermatopathology

Artificial Intelligence in Dermatological Diagnosis and Treatment

Helena Rivetti*[1], Victoria Muniz[1], Bruna Pimentel[1]

[1]University Of Santo Amaro, São Paulo, Brazil

Introduction
Artificial intelligence (AI) has gained increasing relevance in dermatology, particularly through image analysis and diagnostic support. Despite its promising future in healthcare, several challenges still limit its full implementation in clinical practice, especially in developing healthcare systems. This study aims to analyze the integration of AI into dermatological practice, highlighting its potential benefits and critical limitations for practical application.

Materials and Methods
This study is a narrative literature review based on articles published between 2018 and 2025, retrieved from PubMed, Scielo, Google Scholar, Cochrane Library, and REASE databases. Studies exclusively focused on isolated dermatological diagnoses or lacking relevance to clinical integration were excluded. The selected literature was qualitatively analyzed to assess applications, performance, and challenges of AI in dermatology.

Results
The analyzed studies indicate that AI applications in dermatology rely primarily on image analysis and complex pattern recognition, supporting diagnostic accuracy, disease monitoring, and treatment recommendations. Reported applications include skin cancer classification, acne severity grading, and diagnosis of atopic dermatitis. Several studies demonstrated performance comparable to or exceeding that of dermatologists. However, AI is consistently described as a complementary tool rather than a replacement for medical professionals, enhancing efficiency particularly in teledermatology. Additionally, AI-based educational tools have shown positive impacts on dermatopathology training. Despite these advances, significant limitations persist, including underrepresentation of diverse skin tones in datasets, reduced diagnostic accuracy in heterogeneous populations, limited interpretability of algorithms (“black-box” models), restricted classification frameworks, and unresolved ethical and legal concerns related to data privacy and accountability.

Conclusions
Artificial intelligence presents a promising and beneficial tool for dermatological practice, with potential to improve diagnostic accuracy, clinical efficiency, and medical education. Nevertheless, substantial challenges must be addressed before its widespread clinical adoption, particularly regarding data diversity, transparency, ethical regulation, and legal responsibility. AI should be regarded as a supportive technology that complements, but does not replace, the role of the dermatologist. Continuous development and responsible implementation are essential to prevent bias amplification and ethical conflicts.

Abstract N°: ID-836

Topic: Dermatopathology

Role of N-Acetylcysteine in Treating Solar Purpura

Maria Christodoulou*[1], Petros Kakoullis[2], Panayiotis Vasiloudes[1]

[1]Academic Alliance in Dermatology & Olympian Clinical Research,, Tampa, United States
[2]Medical School of Patras, Patra, Greece

Introduction

Chronic solar purpura presents as recurrent purplish ecchymoses and bruises on the extensor forearms and shins, most commonly in older adults. It is associated with dermal connective tissue atrophy, chronic sun exposure, aging, and medication use, especially some anticoagulants, leading to increased vascular fragility and thinning of the skin. Lesions often occur without recognized trauma, resolve slowly, and leave persistent hemosiderin dyspigmentation. Affected skin appears thin, fragile, and prone to tearing. Despite its prevalence, the pathogenesis remains incompletely understood, and no standardized effective therapy exists.

Materials and Methods

Based on preliminary observations, discussions with colleagues, and use in other dermatologic indications, we decided to use N-Acetylcysteine, an oral supplement available over the counter, previously prescribed as a mucolytic for lung diseases in a dose of 600 mg BID as an intervention. After very encouraging initial results of a pilot study, we performed a meta-analysis of our data and then performed a long-term observational study. Over the past decade, patients with recurrent purpura were evaluated for major co-morbidities, associated symptoms, signs, demographics, and dietary patterns. Patients who qualified and, upon review of possible drug interactions, were placed on N-Acetylcysteine 600 mg BID and monitored for improvement and possible adverse reactions. Parameters observed were reduction of bruising, time to heal, and skin appearance.

Results

Observational outcomes demonstrated consistent clinical improvement following supplementation with N-Acetylcysteine. Patients experienced a reduction in new purpuric episodes, decreased lesion size, and faster resolution of the acute ecchymoses and bruising. Skin in affected areas appeared less fragile, with reduced tearing and improved overall dermal integrity. Improvements were most notable in individuals with underlying gastrointestinal disorders, chronic antacid use, or prior gastric surgery, suggesting a role for impaired nutrient absorption in disease expression.

Conclusions

Our observations indicate a strong association between chronic solar purpura, gastrointestinal conditions, and suboptimal nutritional status. Supplementation with N-Acetylcysteine, together with dietary optimization, was associated with meaningful clinical improvement. These findings support a metabolic and nutritional contribution to dermal vessel fragility and skin integrity. Our data suggest that long-term N-Acetylcysteine supplementation may represent a safe, practical adjunct in managing chronic solar purpura. Further controlled studies are needed to clarify mechanisms of action at the molecular level and establish treatment guidelines.

Abstract N°: ID-1103

Topic: Dermatopathology

Pigmented Eccrine Poroma with Early Porocarcinoma Transformation : A Rare Case Mimicking Melanoma.

Meriem Takiddine*[1], Bouchra Baghad[1], Farida Marnissi[2], Soumiya Chiheb[1]

[1]University hospital center Ibn Rochd, Department of Dermatology and Venereology, Casablanca, Morocco
[2]University Hospital Center Ibn Rochd, Department of Pathology, Casablanca, Morocco

Introduction
Pigmented eccrine poroma and porocarcinoma are rare adnexal tumors arising from eccrine sweat glands. Eccrine poroma typically presents as a slow-growing, non-pigmented lesion; however, pigmented variants are uncommon and may clinically and dermoscopically mimic malignant melanoma. Malignant transformation into porocarcinoma is rare and often insidious, particularly at an early in situ stage, which can easily be overlooked. We report a case of pigmented eccrine poroma with early in situ porocarcinoma transformation clinically mimicking nodular melanoma.

Materials and Methods
N/A

Results

A 73-year-old man presented with a long-standing pigmented lesion located on the ulnar border of the left hand. The lesion had initially appeared approximately 20 years earlier as an asymptomatic macule. Over the preceding year, it progressively increased in both horizontal and vertical dimensions, evolving into a nodular lesion.

Clinical examination revealed a firm, sessile, well-circumscribed hyperpigmented nodule measuring 1.5 cm in diameter, with a polylobulated surface composed of contiguous pigmented nodules. No regional lymphadenopathy was detected.

Dermoscopy demonstrated an asymmetric polychromatic pattern with a blue–white veil, chrysalis structures, focal ulceration, and polymorphous vascular structures, raising strong suspicion for nodular melanoma.

A complete excisional biopsy was performed. Histopathological examination revealed a pigmented eccrine poroma with focal atypical areas consistent with early in situ porocarcinoma transformation, without evidence of invasive disease. Lateral surgical margins were free of tumor; however, the deep margin was deemed insufficient. A re-excision was subsequently performed with a 2 cm deep margin, achieving complete clearance. No recurrence was observed after three months of clinical follow-up.

Conclusions
Pigmented eccrine poroma is a rare adnexal tumor that can closely mimic malignant melanoma, particularly in the presence of atypical dermoscopic features, posing a significant diagnostic challenge. This case highlights the potential for early malignant transformation into porocarcinoma and underscores the pivotal role of histopathological examination in establishing an accurate diagnosis. Complete surgical excision with adequate margins, together with careful histopathological analysis, is essential to guide management and ensure favorable outcomes.

Abstract N°: ID-1431

Topic: Dermatopathology

Adult-onset lichen nitidus with linear distribution: a case report

Meryem El Moustaoui*[1], Hajar EL Hassani Taib[1], Meriem Chaouqi[1], Laila Benzekri[1]

[1]Ibn Sina university hospital, RABAT, Morocco

Introduction

Lichen nitidus is a benign papular dermatosis characterized by small, discrete papules with variable clinical presentations. Although usually straightforward to recognize in its classic form, atypical patterns may complicate the diagnosis and require histopathological confirmation.

Materials and Methods

We report the case of a 55-year-old patient with no significant past medical history, who presented with multiple asymptomatic papular lesions evolving over several months. The lesions were skin-colored to erythematous, located on the dorsal aspects of the hands and on the lower limbs. Some lesions showed a linear distribution, suggestive of a Koebner phenomenon. No mucosal, nail, or systemic involvement was noted. Given the polymorphic appearance of the lesions, several differential diagnoses were considered, including lichen planus and other papular dermatoses. Skin biopsy revealed a well-circumscribed lymphohistiocytic infiltrate in the papillary dermis with characteristic “ball and claw” features, consistent with lichen nitidus. The patient was treated with topical corticosteroids, with a favorable clinical response.

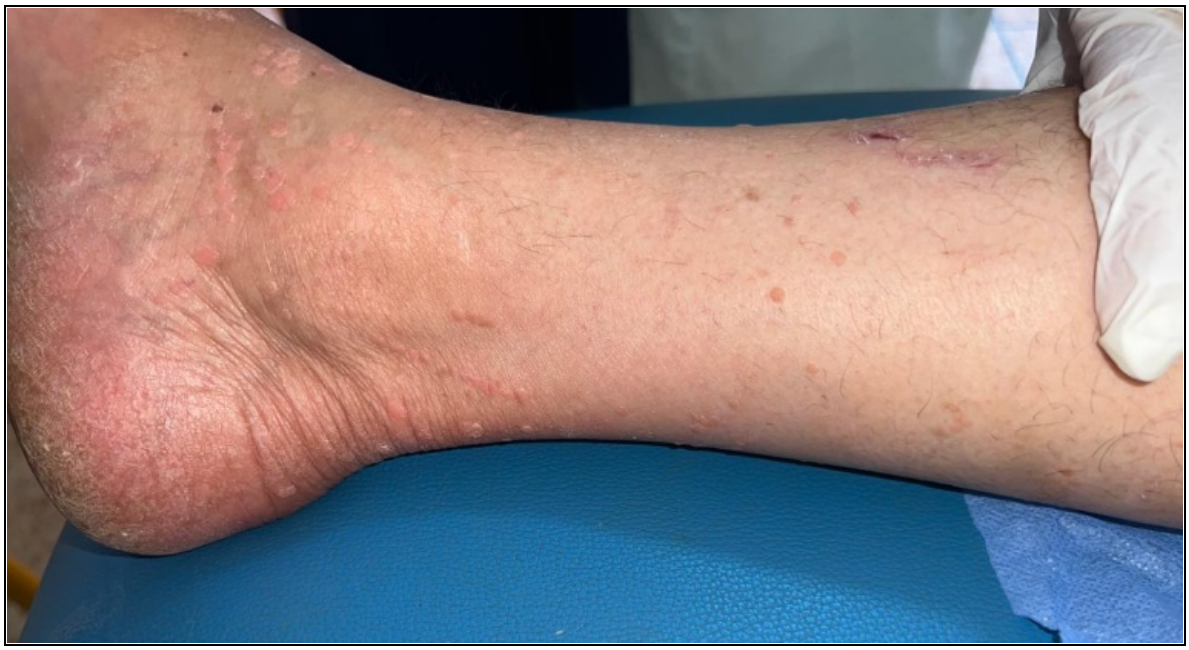
Results

Lichen nitidus is a rare, chronic inflammatory dermatosis, most commonly reported in children and young adults. Although its etiology remains poorly understood, it is thought to represent a localized immune-mediated reaction. Adult-onset lichen nitidus is uncommon and may present with atypical clinical patterns, leading to diagnostic uncertainty.

The presence of a linear distribution of lesions in our patient suggests a Koebner phenomenon, which has been infrequently reported in association with lichen nitidus. This feature may raise suspicion for other papular dermatoses, particularly lichen planus, psoriasis, or linear inflammatory conditions. In such contexts, the clinical diagnosis alone may be insufficient.

Histopathological examination remains the cornerstone of diagnosis, especially in atypical presentations. The characteristic well-demarcated lymphohistiocytic infiltrate within the papillary dermis, forming the classic “ball and claw” pattern, allows for a definitive diagnosis and exclusion of other lichenoid disorders.

Therapeutic management of lichen nitidus is not standardized, as the condition is often self-limited. However, topical corticosteroids are commonly used and may accelerate lesion resolution, as observed in our patient. The favorable response to treatment further supports the benign course of the disease.



Lichen nitidus on the distal third of the right leg

Conclusions

This case highlights the importance of considering lichen nitidus in the differential diagnosis of papular eruptions in adults, even in the presence of atypical features such as linear distribution. Early recognition and appropriate management allow for a favorable outcome.

Abstract N°: ID-1438

Topic: Dermatopathology

A Spectrum of Facial Tumours and Tumour-like Lesions: Importance of Histopathology in Clinical Practice

Kirti Jangid*[1], Swagata Tambe[2], Shubham Kumari[2]

[1]SETH VC GANDHI AND MA VORA MUNICIPAL GENERAL HOSPITAL, DERMATOLOGY, VENEREOLOGY, LEPROSY, Mumbai, India
[2]SETH VC GANDHI AND MA VORA MUNICIPAL GENERAL HOSPITAL, Mumbai, India

Introduction

Facial papules, plaques, and nodules represent a heterogeneous group of dermatological conditions that frequently pose diagnostic challenges because of overlapping clinical morphology. Dermoscopy can provide useful supportive clues; however, histopathological examination remains the gold standard for definitive diagnosis. This case series highlights the role of histopathology in the evaluation of selected facial lesions with varied etiologies and clinical presentations.

Materials and Methods

Case series

Case 1

A 56-year-old male, a known treated case of lung carcinoma, presented with multiple erythematous to violaceous nodules over the face. Clinical differentials included cutaneous metastasis and lymphoproliferative disorders. Histopathological examination revealed dense dermal lymphoid infiltrate with well-formed follicles and a preserved grenz zone. Immunohistochemistry was performed to further characterise the infiltrate and exclude lymphoma, and findings supported a diagnosis of benign reactive lymphoid hyperplasia, thereby preventing unnecessary aggressive management.

Case 2

A 46-year-old male presented with a solitary, well-defined, darkly pigmented plaque over the face. Dermoscopy showed heterogeneous pigmentation, raising a differential diagnosis of melanoma and pigmented basal cell carcinoma. Histopathological examination revealed epidermal hyperplasia with pseudohorn cysts and increased melanisation without cellular atypia, confirming the diagnosis of melanoacanthoma, a benign variant of seborrheic keratosis.

Case 3

A 63-year-old male presented with a slowly enlarging nodular lesion over the forehead of long duration. Dermoscopy revealed arborising vessels and bluish-white areas. Histopathological examination showed basaloid tumour nests with peripheral palisading, ductal differentiation, and stromal retraction, consistent with adenoid basal cell carcinoma. Complete surgical excision was performed.

Case 4

A 65-year-old male presented with a gradually progressive nodular lesion over the face. Dermoscopy demonstrated arborising vessels and whitish areas. Histopathological examination confirmed adenoid basal cell carcinoma. Early recognition and surgical excision were essential to prevent local tissue destruction.

Case 5

A 56-year-old male patient presented with a solitary, translucent cystic lesion near the eyelid that had gradually increased in size. Excisional biopsy demonstrated a cyst lined by cuboidal to columnar epithelium with features of

apocrine differentiation, including decapitation secretion and an outer myoepithelial layer, establishing the diagnosis of apocrine hydrocystoma. Complete excision was both diagnostic and therapeutic.

Case 6

A 34-year-old female presented with multiple reddish-brown papules over the face of gradual onset. The lesions were firm, asymptomatic, and slowly progressive. Histopathological examination revealed dermal infiltration by large histiocytes with abundant eosinophilic, finely granular ground-glass cytoplasm and multinucleated giant cells, consistent with cutaneous reticulohistiocytosis. Recognition of this rare histiocytic disorder is important because it may occasionally be associated with systemic involvement and requires appropriate evaluation and follow-up.

Results

Conclusion

Facial papules and nodular lesions encompass a wide spectrum of benign, inflammatory, histiocytic, and malignant conditions that may closely resemble one another clinically. Careful clinical evaluation supplemented by dermoscopy can help narrow the differential diagnosis; however, histopathological examination remains indispensable for confirmation. Early and accurate diagnosis allows appropriate treatment, prevents unnecessary interventions, and improves cosmetic and functional outcomes. A structured clinicodermoscopic and histopathological approach is therefore essential in the evaluation of facial lesions in routine dermatological practice.

Abstract N°: ID-1452

Topic: Dermatopathology

Palmoplantar Dermatoses: A Diverse Clinicopathological Spectrum

Swagata Tambe*[1], Kirti Jangid[1], Priya Mote[1], Shubham Mallik[1], Gampi Ite[1]

[1]Seth V C Gandhi & M A Vora Municipal General Hospital, Innovation Skin Clinic, Dermatology Venereology and Leprosy, Mumbai, India

Introduction

Palmoplantar dermatoses comprise a heterogeneous group of disorders affecting the palms and soles, an anatomically unique region characterized by a thick stratum corneum, abundant eccrine glands, and absence of hair follicles. These conditions may present with pigmentation, nodules, plaques, ulcers, or hyperkeratotic lesions, often posing diagnostic challenges. Early diagnosis is essential, as some lesions may indicate underlying systemic disease, infection, or neoplasia.

Materials and Methods

A retrospective analysis of six patients presenting with palmoplantar lesions of varied morphology was conducted. Clinical history, examination findings, differential diagnoses, laboratory investigations, imaging (Ultrasonography and X-ray, and histopathological results were reviewed. Definitive diagnoses were established through biopsy and relevant investigations, followed by condition-specific management.

Results

Five patients aged 7 to 50 years presented with diverse palmoplantar lesions.

Case 1: A 7-year-old boy with a verrucous plaque over the heel was diagnosed with tuberculosis verrucosa cutis based on granulomatous histology and showed improvement with antitubercular therapy.

Case 2: A-37-year-old man with a solitary palmar nodule was diagnosed with acquired digital fibrokeratoma on histopathology and treated successfully with surgical excision.

Case 3: A-57-year-old-lady presented with painful mass lesion on medical aspect of right foot, which recurred after excision. Histopathology confirmed diagnosis of plantar fibromatosis and patient was managed with oral acitretin and intralesional steroids.

Case 4: A 41-year-old diabetic woman with a verrucous plaque over a grafted heel was diagnosed with eccrine Syringofibradenoma, a rare adnexal tumor, and referred for surgical excision.

Case 5: A 17-year-old boy with symmetrical acral hyperpigmentation was found to have vitamin B12 deficiency; pigmentation improved after vitamin supplementation.

Case 6: A 50-year-old woman with multiple chalky nodules over the fingers was diagnosed with idiopathic calcinosis cutis based on imaging and histopathology and managed with medical therapy.

Conclusions

Palmoplantar dermatoses demonstrate a wide clinicopathological spectrum, ranging from infections and nutritional deficiencies to benign tumors and metabolic disorders. Careful clinical evaluation combined with histopathological confirmation is crucial for accurate diagnosis and appropriate management. This series emphasizes the importance of considering varied etiologies when evaluating palmoplantar lesions.