#### **Actinic Granuloma: A Rare Sun-Induced Granulomatous Dermatosis**

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## **Introduction & Objectives:**

Actinic Granuloma (AG) is a rare granulomatous dermatosis primarily affecting middle-aged individuals on sunexposed skin. First described by John O'Brien in 1975, AG presents as annular plaques with an atrophic centre and is considered an autoimmune response to actinic damage of elastic tissue. Although initially classified as a variant of granuloma annulare, it is now recognised as a distinct entity. We report a case of AG in a 59-year-old woman, highlighting its clinical presentation, histopathological findings, and treatment response.

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

A 59-year-old woman presented with a six-year history of an evolving asymptomatic skin eruption on the central chest, worsening with sunlight exposure. She also reported new-onset persistent arthralgia in the small joints of her hands and knees, with no other systemic symptoms. Her medical history included polymorphic light eruption, gastritis, duodenal ulcer, and hiatus hernia, for which she had been taking lansoprazole for 15 years. A diagnostic skin biopsy was performed to confirm the diagnosis.

#### **Results:**

Histological examination revealed an unremarkable epidermis with granulomatous inflammation in the upper dermis, composed of histiocytes and multinucleated giant cells. There was no evidence of elastophagocytosis, necrobiosis, epidermal abnormalities, or mucin deposition. Moderate perivascular inflammation was observed, comprising lymphocytes, plasma cells, and occasional eosinophils. These findings were consistent with granulomatous inflammation, supporting a diagnosis of AG, with no dysplasia or malignancy detected. The patient commenced hydroxychloroquine 200 mg twice daily; however, due to gastrointestinal intolerance, the dosage was reduced to alternate days, which was better tolerated. She was also prescribed tacrolimus 0.1% ointment daily, leading to a complete resolution of the eruption. Rheumatology assessment concluded that her joint pains were attributable to osteoarthritis rather than an inflammatory condition.

## **Conclusion:**

AG is a rare but distinct granulomatous skin disorder occurring on sun-exposed sites, predominantly affecting middle-aged females. While AG often follows a self-limiting course, lesions may persist for up to a decade, necessitating treatment for symptomatic or cosmetically sensitive cases. There is no universally accepted therapy, though anti-inflammatory and immunosuppressive agents, including hydroxychloroquine, have shown efficacy. Our case highlights the successful management of AG with hydroxychloroquine and tacrolimus, contributing to the growing body of evidence supporting these treatments.

# Unlocking the Potential of Wearable Sensors in Dermatology: - Objective, Continuous, and Personalized Treatment

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**Introduction & Objectives:** Wearable sensors are increasingly being integrated into clinical trials to capture continuous, objective data with minimal patient burden. Traditional patient-reported outcomes, subject to recall bias and irregular reporting, provide only limited insights. By contrast, wearable devices accurately track physiological and environmental parameters in real time, particularly valuable in dermatology, where sun exposure can significantly affect treatment outcomes for conditions such as acne, actinic keratosis, atopic dermatitis, and psoriasis. This presentation aims to (1) showcase how UV and scratch sensors are transforming clinical trials, (2) demonstrate the efficacy of combining sensor feedback with pharmacotherapies, and (3) emphasize the future potential of regulatory-approved sensor-medication bundles for enhanced dermatological care.

#### Materials & Methods:

Clinical trials employing wearable UV and scratch sensors are designed to evaluate real-time patient data in standard or investigational therapies. UV sensors objectively measure patients' sun exposure, critical for optimizing treatment strategies in photosensitive dermatological conditions, while scratch sensors quantify pruritus severity and frequency. These devices feed data into mobile applications, which leverage gamified feedback and educational alerts to reinforce adherence. Combination treatment arms, in which patients use both sensors and medication, are compared against stand-alone pharmacotherapy arms to assess the additive benefit of real-time environmental and physiological monitoring.

#### **Results:**

Preliminary evidence from pilot studies and ongoing clinical trials suggests that patients using both sensor-guided feedback and medication regimens exhibit higher adherence and improved disease control compared to those on medication alone. Real-time UV monitoring highlights previously unrecognized discrepancies between perceived and actual sun exposure, enabling precise, timely interventions. Scratch sensor data likewise facilitate more accurate measurment, especially in nocturnal scratch. Across conditions such as acne, actinic keratosis, atopic dermatitis, and psoriasis, integrated sensor-medication protocols can demonstrate greater efficacy, with better patient outcomes.

## **Conclusion:**

The integration of wearable sensors in dermatology marks a significant advance in personalized patient care. By providing continuous, objective measures of sun exposure, pruritus, and other relevant parameters, these devices offer actionable insights for clinicians and patients alike. Future regulatory approvals for sensor-medication bundles are anticipated. As sensor technology and treatment approaches continue to evolve, the synergy of objective monitoring with tailored pharmacotherapy holds the promise of more effective, patient-centered interventions in routine practice and clinical research.

#### An unusual case of disseminated comedones.

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## **Introduction & Objectives:**

Disseminated comedones have been described in various skin diseases, including keratosis pilaris, extensive nevus comedonicus, familial dyskeratotic comedones and certain occupational dermatoses. In literature, the term "idiopathic disseminated comedones" has been used to describe a condition that doesn't fit into any previously mentioned diseases. Here we describe such a case previously not reported in the Indian population to the best of our knowledge.

## **Materials & Methods:**

A 51-year-old man presented with extensive comedo-like lesions and pock-like scarring predominantly over his back, arms, shoulders, and to a lesser extent on his abdomen and pubic region, developed over a period of 10 years. Initially, he developed perifollicular inflammatory papules and pustules which resolved spontaneously leaving behind pock-like scars. Apparently, patient also developed scarring spontaneously at certain areas without any noticeable lesions. Lesions were intermittently pruritic. Other areas such as the face, scalp, palms, soles, intertriginous regions, and mucosae were unaffected. The patient had no history of acne vulgaris, long-term medication or exposure to comedogenic substances. There was no similar history in his family. Systemic examination was normal. Dermoscopy, skin punch biopsy and routine investigations were performed.

## **Results:**

Dermoscopic examination of the lesions showed dilated follicular orifices with keratin plugs and numerous atrophic varioliform scars. A 3-mm punch biopsy specimen was taken from the keratin plug which revealed a dilated hair follicle with perifollicular lymphocytic infiltrate. Differentials including keratosis pilaris, nevus comedonicus and familial dyskeratotic comedones were ruled out on the basis of history, clinical examination and histopathology combined.

## **Conclusion:**

Idiopathic disseminated comedones is a diagnosis of exclusion and not indicative of any particular disease. Disseminated comedones are a rare phenomenon by itself, however we have encountered an unusual presentation of the same which warrants further discussion.

Umbilical nodules: an etiological study

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# **Introduction & Objectives:**

The umbilicus, a unique anatomical landmark intricately connected to the intra-abdominal organs, is susceptible to a broad spectrum of disorders. It can serve as the primary site for inflammatory, infectious, neoplastic, or congenital conditions. This study was designed to explore the epidemiological, clinical, and etiological features of umbilical nodules, aiming to shed light on their diverse presentations and underlying causes.

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

We conducted a retrospective study over 9 years (2016-2025), enrolling all cases of umbilical nodules.

#### **Results:**

This study identified 19 cases presenting with an umbilical nodule, with a female-to-male ratio of 1.37 (11 females and 8 males) and a mean age at diagnosis of 31.02 ± 21.02 years (ranging from 2 months to 60 years). Juvenile forms were observed in 4 cases. A malignant etiology was noted in a single instance: an umbilical cutaneous metastasis from a gastric carcinoma with signet ring cells, which manifested as four painless, violaceous nodules at the umbilicus. One patient was diagnosed with vegetating pemphigus, presenting with a moist, vegetating umbilical nodule along with similar lesions in the inguinal folds and accompanying bullous lesions. A 54-year-old patient was found to have a urachal sinus following an inflammatory subumbilical swelling. In another case, a 60year-old patient developed a moist, vegetating umbilical plaque after excessive use of an iodine antiseptic postabdominal surgery. A 55-year-old patient exhibited hyperkeratotic, brownish papular-nodules on both the upper and lower limbs as well as the umbilicus; histological examination confirmed the diagnosis of pseudolymphoma. Additionally, histology confirmed a diagnosis of iodide in one case. Umbilical endometriosis, characterized by a dark brown nodule that becomes swollen and painful during the menstrual period, was observed in 3 cases; it was primary and isolated in one instance and secondary in two. Other etiologies included an umbilical hernia (1 case), a necrotic nodule following ligation of the umbilical cord in a 2-month-old infant (1 case), a fleshy bud (4 cases), a foreign body granuloma due to suture material in a 50-year-old patient operated on for umbilical hernia (1 case), and a non-specific fibrous remodeling in a patient with vascular cirrhotic liver disease (1 case). In 3 cases, no definitive etiology could be determined.

## **Conclusion:**

Umbilical nodules, as evidenced by our findings, can be manifestations of a wide spectrum of conditions, ranging from benign developmental issues to markers of systemic disease. In pediatric cases, the presence of umbilical nodules often points toward pyogenic granulomas or congenital malformations, which may require early intervention. In contrast, adult presentations reveal a more complex picture. For instance, young women frequently present with endometriosis at the umbilicus. Additionally, it can be the manifestation of a pseudolymphoma as confirmed by histological analysis. In the elderly, the possibility of malignant processes must be considered, particularly when an umbilical nodule represents a cutaneous metastasis from internal malignancies such as gastric or gynecological cancers. The study also highlights unique cases like the urachal sinus, foreign body granuloma, and even nodules arising from iatrogenic factors, such as those resulting from the

application of antiseptics post-surgery.

## Sculpted without surgery: The Art and science of Non-surgical face contouring

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**Introduction:** Non-surgical methods of face contouring has gained popularity because of less downtime and its minimally invasive nature

**Objective:** To assess Global aesthetic improvement scale (GAIS) and PSS (patient satisfaction score) after performing face contouring with dermal fillers (Hyaluronic acid implants) in 10 patients and with High Intensity focused Ultrasound (HIFU) in 10 patients.

**Materials & Methods:** This presentation aims at showcasing the author's experience upon face contouring. After medical history, patients underwent an aesthetic assessment that included digital photography. Patients were assessed for face shape, symmetry, fat pad loss; ideal plan was devised for each one of them. Realistic treatment goals were set. 10 patients from age group of 25 to 38 (mean age – 30.5years) were treated with dermal fillers while 10 patients (mean age 38.5 years) underwent HIFU.

Based on the MD codes, for enhancing facial structures, dermal hyaluronic acid fillers with a high G prime were used (nose, chin augmentation, zygoma) while for cheeks, lips, temple, tear trough, dermal fillers with low-medium G prime were used. GAIS (global aesthetic improvement scale) and patient satisfaction score (PSS) was assessed before and after performing dermal fillers in patients with various indications. Side effects like bruising, swelling, mild pain, discomfort was observed which subsided in 5 days.

FDA approved new generation linear HIFU device was used for treating 10 patients in age group 35 to 60 years (mean 38.5years). They were treated for below indications using following parameters.

- 1. For skin brightening -400 shots (0.2J to 0.3 J) 2.0 mm dot cartridge (2 sessions 8 weeks apart)
- 2. For face lift– 3.0mm and 4.0mm dot (0.5J)- 400 shots- 2 passes (nasolabial fold, jawline, malar area) (2 sessions 8 weeks apart)
- 3. Forehead lines, crow's feet Dot 2.0mm(0.2J)-100 shots (2sessions 8 weeks apart).
- 4. For double chin 400 shots of 4.5mm linear(0.7J) 2 to 3 sessions 8 weeks apart.

Side effects like mild erythema, swelling, mild bruising, pain was observed in few patients which subsided in 1 to 2 days.

Dermal fillers are a good minimally invasive option for nose augmentation, lip augmentation, chin augmentation, zygoma, cheeks and tear trough. HIFU leads to precise micro-coagulation zones from deep dermis to the superficial musculoaponeurotic system (SMAS). This leads to gradual tightening of the skin through collagen contraction and remodeling. By delivering focused ultrasound to precise depths, HIFU stimulates collagen production, resulting in tightening firming of the skin, reducing wrinkles enhancing overall facial appearance.

**Results:** - This presentation is only a means to showcase authors experience on dermal fillers and HIFU. GAIS (4/5= fillers, 4.3/5= hifu) and PSS (7.7/10 =dermal fillers and 8/10=HIFU) were almost similar for each indication catered with dermal fillers and with HIFU.

## Conclusion -

Dermal fillers are a good minimally invasive procedure used largely for correcting of facial asymmetry, enhancing facial features (nose, chin, lips, zygoma), restore lost volume. While HIFU is a good non-invasive method for patients who need volume loss over cheeks, double chin, jawline correction. HIFU is comparatively safer dermal fillers with less learning curve as compared to dermal fillers. For dermal fillers, aesthetician should have an indepth knowledge of facial anatomy.

## Ink Revolution! - Transforming beauty with Micropigmentation and microblading

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**Introduction & Objectives:** Micropigmentation, commonly known as cosmetic tattooing, has become a popular technique for enhancing and restoring the appearance of eyebrows.

**Aim**: To assess utility of eyebrow micropigmentation as a camouflaging technique in stable vitiligo and as permanent make up in patients who had sparse eyebrows.

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

Over a series of 15 patients with sparse eyebrows, various factors such as skin type, colour selection (colour theory), technique employed, and healing process were analysed to assess the effectiveness and long-term results of the procedure. The predominant colours used for micropigmentation and microblading were combination of dark brown, orange, pecan depending upon the patient's skin type. Various other parameters like presence of melasma, periorbital pigmentation or any other facial melanosis, seborrhoea were taken into consideration while choosing colour for micropigmentation. During the procedure, microblading was done first to draw the hair strokes followed by powder fill of the eyebrows using micropigmentation tattoo machine.

Eyebrow marking and measurements were taken and recorded digitally using digital photography. Patients informed consent was taken prior to the procedure. A total of 2 sessions of eyebrow micropigmentation were done for each patient 5 weeks apart. In all patients, immediate side effects include mild pain and erythema (day 1 to day 7). Scabbing was observed from day 7th to day 14th. Complete loss of pigment was noticed from day 14 to day 28th. However, there was reappearance of some colour after day 28. Second session was done after day 50. After second session, the same sequence of events was observed (scabbing, colour fading, reappearance of colour in eyebrows), but this time the colour fading was minimal and sustained and natural looking eyebrow micropigmentation was achieved after 5 weeks. None of the patients experienced any delayed allergic reactions, infections or pigment migration. After 2 months of follow up, all patients were asked for feedback in terms of colour matching, shape of eyebrows, natural look, sustainability of pigment after eyebrow micropigmentation.

Similarly, patients of small focal patches of stable vitiligo were treated with micropigmentation (lip vitiligo, acral, nipple vitiligo) and assessed for logitivity of colour, patient satisfaction and color matching.

An overall patient satisfaction score of 7.5 out of 10 was achieved. Long term follow up is necessary to check for any pigment loss or need of touch up sessions.

Success of micropigmentation depends largely on technique used, skill, skin type and skin colour of patient. Usage of black colour pigment must be avoided to prevent bluish greenish discoloration of the pigment. Patients were advised to take precaution from sunlight to avoid colour changes.

### **Results:**

A patient satisfaction score of 7.5/10 was achieved in case of permanent make up with an average logitivity of pigment of 2 years in case of permanent make up. PSS of 6/10 was achieved in stable focal vitiligo with an average of logitivity of pigment upto 6 months.

# **Conclusion:**

Micropigmentation provides an aesthetically pleasing camouflage for individuals with sparse eyebrows, achieving durable results with minimal discomfort. However, for stable focal vitiligo, micropigmentation serves as a short term camoflage option. This presentation highlights the importance of proper technique, pigment choice, and aftercare instructions.

# Expanding the viral spectrum of Gianotti-Crosti syndrome: Association with influenza B virus in a young adult

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**Introduction & Objectives:** Gianotti-Crosti syndrome (GCS), or papular acrodermatitis of childhood, is a rare, self-limiting, immune-mediated cutaneous eruption which may be triggered by a variety of viral infections. It most commonly occurs in children between the ages of 1 and 6, while its appearance in adults is considered exceptionally rare. Numerous viral agents have been implicated in the pathogenesis of the syndrome, with Epstein-Barr virus, hepatitis B virus, cytomegalovirus, and coxsackievirus being the most common associations. While GCS has been reported following influenza A infection and vaccination, to the best of our knowledge, influenza B virus has not been documented as a causative agent.

**Materials & Methods:** We present a case of 22-year-old Caucasian female patient presenting with a five-day history of mildly pruritic skin lesions grouped on the elbows and hand knuckles. The onset of the cutaneous eruption was preceded by systemic symptoms including fever, malaise, and nonproductive cough. The patient had no relevant past medical history and was not taking any regular medication at the time of presentation.

**Results:** Clinical examination revealed grouped and coalescing, flat-topped, translucent erythematous infiltrated papules, measuring 1-5 mm in diameter, symmetrically distributed on both elbows and the dorsum of the right hand. Otherwise, the cutaneous and mucosal examination was unremarkable. Dermatoscopy of the lesions was nonspecific, revealing structureless red areas and dotted vessels. Since the initial clinical evaluation raised suspicion of GCS, a nasopharyngeal swab was obtained for multiplex PCR testing, which detected influenza B virus RNA. Serological assays excluded active Epstein-Barr, cytomegalovirus and hepatitis B virus infections. Based on the characteristic distribution and morphology of the lesions, along with the preceding viral prodrome, a diagnosis of Gianotti-Crosti syndrome was established. Given the non-severe disease presentation, no specific treatment was recommended and the eruption spontaneously resolved within two weeks.

**Conclusion:** To the best of our knowledge, this case represents one of only 26 reported instances of Gianotti-Crosti syndrome in adults, and the first associated with influenza B virus as a triggering agent. Given the benign and self-limiting nature of GCS, it is important to avoid misdiagnosis that may lead to unnecessary or aggressive treatment. In adult patients presenting with symmetrical acral papular eruptions, GCS should be considered in the differential diagnosis, despite its rarity in this age group.

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## A prickly puzzle: Diving into the diagnosis of sea urchin granuloma

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## **Introduction & Objectives:**

Sea urchins are marine organisms that inhabit the sea floor, recognizable by their distinctive hard spines that cover their bodies. These spines can cause injuries to humans, particularly common among individuals who engage in marine activities, such as sea divers, swimmers, snorkelers and fishermen. Retained sea urchin spines can trigger distinct clinical manifestations, depending on their depth of penetration. Superficially retained spines typically induce an acute localized inflammatory response like local pain, erythema, edema, bleeding whereas deeper inoculation can lead to more severe complications, including arthritis and tenosynovitis. However, a delayed reaction can also occur, manifesting as chronic granulomatous skin disease. Histological examination may reveal a granulomatous reaction pattern with overlapping morphological features. Therefore, it is crucial to exclude other causes of granuloma formation, such as mycobacterial and fungal infections.

#### Materials & Methods:

A 55-year-old fisherman presented to the dermatology department with asymptomatic firm, skin nodules over dorsa of both hands and feet for 2 months. The patient reported a history of repeated exposure to sea urchins, with the most recent incident occurring 15 days prior to presentation. Patient gives history of removing spines from the lesions. On examination he had multiple, well-defined skin-coloured to hyperpigmented nodules over the dorsa of hands and feet. A 37-year-old fisherman presented with similar skin lesions over both hands for 1 month. Contact with sea urchin was 4 months back. Examination revealed multiple, well-defined skin-coloured to hyperpigmented nodules over the dorsa of hands and feet. Histopathology revealed well defined epithelioid cell granulomas with langhans and foreign body giant cells with admixed polymorphonuclear cells. We could not identify any retained spine fragments. Other special stains for mycobacteria and fungi were negative. Based on the history, clinical findings and histopathology, a most probable diagnosis of sea urchin granuloma was made. The patient was recommended intralesional steroid injections but refused. As an alternative, the patient was managed with topical steroids and oral antibiotics. Unfortunately, the patient was subsequently lost to follow-up.

#### **Results:**

Sea urchins are members of the phylum Echinodermata, which are found in saltwater environments. The clinical manifestations of sea urchin spine injuries can vary widely, depending on the severity and nature of the injury. Delayed reactions usually occur at about 2 weeks post injury with manifestations of firm, pink to hyperpigmented nodules with edema and pain involving the extremities. Microscopically, it may show foreign body reaction and granulomatous reaction pattern with sarcoidal, tuberculoid or necrobiotic granulomas. Secondary infection can occur with organisms like Mycobacterium marinum, M.chelonae, Exophiala jeanselmei, and Vibrio species. Differentials include injuries from other echinoderms like starfish, jellyfish and sea cucumbers. Early intervention is advised for spines especially those near joints to avoid delayed complications.

# **Conclusion:**

Sea urchin stings are generally mild and may go unnoticed in many. However, neglected injuries can be notorious as it may lead to chronic joint complications. Hence, awareness of such condition and morphology will help in

prompt recognition and treatment.

# Dr John Kenney: an homage to a trailblazer championing dermatology in people of colour.

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# **Introduction & Objectives:**

Recently, there has been a paradigm shift in dermatology to acknowledge the difference in dermatological presentations in people of colour (POC), due to patient advocacy groups and research illustrating stark differences in clinical outcomes in POC versus white counterparts- emphasising a need for inclusive training. However, reaching this milestone has not been without challenges.

A champion for dermatology in POC emerged in Dr John Kenney, an eminent American dermatologist.

## **Materials & Methods:**

This presentation provides a synopsis of Kenney's life and achievements.

## **Results:**

Born in 1914, Kenney was the son of John Kenney Sr., medical director and chief surgeon of Tuskegee Institute's John A. Andrew Memorial Hospital, and Frieda Kenney who graduated from Sargent School of Physical Education. Kenney's early life was marked by adversity: his father fled Alabama due to discrimination from the Ku Klux Klan. He graduated from Howard University College of Medicine in 1945 and subsequently trained in dermatology before taking up a post at University Hospital in Cleveland

(1).

Kenney broke barriers as the first black dermatology resident at the Universities of Pennsylvania and Michigan. His struggles in dermatology for POC were exemplified by the difficulty he faced in sourcing black skin for laboratory experiments—at times resorting to using his own (2). His voracious appetite for succeeding led him to head the department of Dermatology at Howard University College of Medicine for 20 out of the 40 years of his tenure (3). At the outset of his tenure, the department was underfunded, but Kenney spearheaded significant advancements. In 1963, he established a postgraduate dermatology training programme, initially two years in duration, later expanding to three years by 1968. By 1973, he had successfully established dermatology as a distinct department (2).

Kenney was a dedicated mentor, shaping the careers of many dermatologists. A. Paul Kelly, inspired by Kenney, became a chief of dermatology, while Charles A. McDonald, whom Kenney supported in gaining acceptance to Yale Medical School, later chaired the Division of Dermatology at Brown University (3).

He was the first African American member of the AAD and was in receipt of the 1995 Master of Dermatology Award. His further achievements included serving as the assistant editor of the Journal of the National Medical Association, as well as president of the National Medical Association. He was also estimated to have trained a third of 300 black dermatologists in the USA (4).

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# **Conclusion:**

Kenney passed away at his home in 2003. He leaves a legacy that resonates globally, which has undoubtedly influenced training and encouraged diversity within dermatology, leading to the birth of The Skin of Colour Society in 2004. Kenney's name lives on with the John Kenney Jr., MD Lifetime Achievement Award.

## Mohs' micrographic surgery: the legacy of Frederic Mohs and his eponymous surgical procedure

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# **Introduction & Objectives:**

Mohs' micrographic surgery (MMS) is the gold standard surgical technique for excision of squamous cell carcinomas (SCC) and basal cell carcinomas (BCC) from the head and neck region.

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

This presentation provides a synopsis of the origin and development of MMS, and Frederic Mohs.

#### **Results:**

Frederic Mohs, the pioneer of this eponymous procedure, was born in 1910 in Burlington, Wisconsin. He initially enrolled in an engineering programme at the University of Wisconsin, where the foundations of modern MMS were arguably laid. While working in a biology lab, he was mentored by Dr Michael Guyer, Chair of the Department of Zoology, who introduced him to intralesional cancer agents. Under Guyer's guidance, Mohs received training in injection techniques, excision, and slide preparation, leading to the development of Mohs fixative paste for in-situ tissue fixation prior to excision. He subsequently graduated from the medical school at the University of Wisconsin (1).

In 1936, Mohs performed early "chemosurgery" on patients with skin cancer, laying the groundwork for MMS. He used zinc chloride for tissue fixation before excision, followed by cross-sectioning and microscopic analysis. If cancer cells were identified, further layers of tissue were removed until complete clearance was achieved (2). Initially, wounds were left to heal by secondary intention. However, the zinc chloride paste caused discomfort and slowed the procedure, as only a single tissue layer could be excised per day. To improve this, Mohs replaced zinc chloride with local anaesthesia, enabling what is now known as the fresh-tissue technique, which is the standard in modern MMS (3). This advancement allowed for the removal of smaller tumours with greater efficiency. In 1969, Mohs presented his findings at the American College of Chemosurgery, reporting a five-year cure rate for 66 basal cell carcinomas and four squamous cell carcinomas in a total cohort of 70 eyelid cancers treated with the fresh-tissue technique. Compared to the in-situ method using zinc chloride, the fresh-tissue approach enabled the excision of most skin cancers in a single day (4).

#### Conclusion:

Today, MMS remains a cornerstone of dermatological surgery, achieving five-year cure rates of 99% for primary BCC, 94.4% for recurrent BCC, 92–99% for primary SCC, and 90% for recurrent SCC. Its scope extends beyond common skin cancers to include microcystic adnexal carcinoma, dermatofibrosarcoma protuberans, Merkel cell carcinoma, extramammary Paget disease, and sebaceous carcinoma. Additionally, MMS has applications in lentigo maligna, lentigo maligna melanoma, and thin melanomas (5).

While MMS offers similar survival rates to wide local excision, it has the distinct advantage of tissue preservation

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(6). Frederic Mohs passed away in 2002, but his contributions to dermatological surgery continue to shape modern skin cancer treatment worldwide.



Surgery of the knee, injury to the infrapatellar branch of the saphenous nerve, traumatic eczematous dermatitis (SKINTED): A striking presentation of a post-operative complication

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Surgery of the knee, injury to the infrapatellar branch of the saphenous nerve, traumatic eczematous dermatitis (SKINTED): A striking presentation of a post-operative complication

# **Introduction & Objectives:**

Surgery of the knee, injury to the infrapatellar branch of the saphenous nerve, traumatic eczematous dermatitis (SKINTED) is an underrecognised post-operative complication that presents as a localised eczematous dermatitis. It is a cutaneous manifestation of autonomic denervation following surgical transection of the infrapatellar branch of the saphenous nerve (IPBSN) during Total Knee Replacement (TKR).

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

We present two cases of SKINTED. The first is a 62-year-old Chinese female who developed a localised, scaly and non-tender erythematous plaque over the right inferolateral knee 3 months after a right TKR. Patch testing to the constituent components of the knee implant material, done due to initial concerns of an allergic contact dermatitis, was negative. The second is a 72-year-old Chinese male who developed a similar rash 9 months post operatively. Examination elicited hypoaesthesia over the right infra-patellar region in both patients. Topical corticosteroids resulted in improvement.

### **Results:**

Our findings suggest that SKINTED follows a benign course and can be well managed with topical corticosteroids. Hypoaesthesia in the affected area is an important associated feature. The sensory deficits have a more protracted recovery course compared to the time required for rash resolution. Patch testing need not be performed in these cases, as the confinement of eczematous dermatitis to the hypoaesthetic site highlights that the skin manifestations are secondary to neuropathic changes from intra-operative nerve transection, rather than contact allergy.

## Conclusion:

In patients presenting with an eczematous dermatitis at the post TKR surgical site, the typical history, striking location of the rash on the inferolateral knee and associated hypoesthesia should alert the clinician to the diagnosis of SKINTED.

# Cross-Sectional Study on the Use of ChatGPT by Dermatology Patients: An Analysis of Usage and Clinical Impact

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## **Introduction & Objectives:**

The use of artificial intelligence (AI) in the medical field is expanding rapidly. ChatGPT, a language model developed by OpenAI, is increasingly being used to provide information on skin conditions. However, its impact on dermatological care management has not yet been fully explored. This study aims to assess the use of ChatGPT by dermatology patients, its perceived benefits, and potential associated risks.

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

A cross-sectional study was conducted over a six-month period, involving 80 patients followed in a dermatology department. A detailed questionnaire was administered to collect information on ChatGPT usage.

## **Results:**

Among the 80 patients included in the study, 45 were women and 35 were men. The mean age of participants was  $34.7 \pm 10.2$  years.

Of these patients, 56% reported using ChatGPT to seek information on dermatological conditions. The frequency of use was relatively high, with 35% of users reporting that they used ChatGPT several times per month, while 21% used it once per week.

A total of 35% of patients sought information on acne treatments and possible causes, particularly related to hormonal, dietary, and medication factors. Another 22% searched for explanations regarding symptoms and causes of various skin rashes, often in relation to allergies or viral infections. Additionally, 15% inquired about psoriasis management, particularly topical treatments and biologic therapies. Finally, 28% asked about various less common skin conditions, such as atopic eczema, fungal infections, or concerns about skin cancer.

Patients evaluated ChatGPT's responses on a satisfaction scale from 1 to 5 (1 being very dissatisfied and 5 being very satisfied). Among those who used ChatGPT, 68% rated it 4 or 5, indicating a high level of satisfaction regarding the clarity and comprehensibility of the information received. However, 24% expressed doubts about the accuracy of the responses, noting that some information seemed too general or contradictory. Additionally, 18% wished for more personalized recommendations relevant to their specific cases.

The impact of ChatGPT usage on the decision to consult a dermatologist was significant. A total of 32% of patients postponed their initial consultation, feeling reassured by the information obtained, while 12% decided not to consult at all, believing their condition to be minor or self-limiting. In contrast, 56% reported that despite receiving useful information from ChatGPT, they still opted to see a dermatologist for a more thorough evaluation and tailored treatment.

15% of patients stated that the information obtained via ChatGPT prompted them to ask more specific questions during their medical consultation. Additionally, 7% adjusted their treatment based on ChatGPT's advice, although no substantial changes were observed in dermatologists' therapeutic protocols following consultation.

## **Conclusion:**

This study highlights the growing use of ChatGPT in dermatology, with varying effects on patient care. While AI provides a quick and accessible first line of information, it should not replace professional medical advice, particularly for complex skin conditions. Concerns regarding the accuracy and reliability of information remain a key issue that must be addressed in educating patients on the use of these tools.

# Combined treatment with oral isotretinoin and surgical excision in a patient with multiple steatocystoma: case report

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# **Introduction & Objectives:**

Multiple steatocystoma is a benign cutaneous disorder of folliculosebaceous origin, clinically characterized by the appearance of multiple intradermal cysts, typically on the trunk, neck, and extremities. Although the condition is benign, its frequent recurrence and aesthetic impact often prompt therapeutic intervention. There is no standardized treatment, but options include surgical excision and systemic therapy with retinoids. This report aims to describe a therapeutic approach combining oral isotretinoin with surgical excision, and to evaluate its effectiveness in the clinical management of the condition.

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

A 30-year-old female patient presented with multiple asymptomatic nodular lesions on the trunk and upper limbs that had progressively developed since adolescence. Physical examination revealed numerous soft, mobile, and painless cysts suggestive of multiple steatocystoma. A biopsy confirmed the histopathological diagnosis.

The patient was started on oral isotretinoin at a dose of 0.5 mg/kg/day for six months. Simultaneously, serial surgical excision was performed on the most prominent or aesthetically concerning lesions.

# **Results:**

During follow-up, a reduction in the emergence of new lesions was observed, along with improvement in skin texture. The patient showed good tolerance to isotretinoin without any significant adverse effects. Overall, there was high satisfaction with the combined treatment, with fewer lesions requiring surgical removal than initially anticipated.

### Conclusion:

The combination of oral isotretinoin and surgical excision appears to be an effective and safe therapeutic option for patients with extensive multiple steatocystoma, particularly in cases where aesthetic concerns are significant. This approach may reduce the number of surgical procedures required and improve overall treatment outcomes.

## Panniculitis as a Manifestation of Alpha-1 Antitrypsin Deficiency: A Case Report

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# **Introduction & Objectives:**

Alpha-1 antitrypsin (AAT) deficiency is a genetic disorder that predisposes individuals to pulmonary and hepatic diseases due to defective protease inhibition. While pulmonary emphysema and liver dysfunction are well-recognized complications, panniculitis can be an initial manifestation. This case emphasizes the importance of early recognition and multidisciplinary evaluation in patients with atypical panniculitis.

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

A 29-year-old otherwise healthy male presented with a three-week history of erythematous patches on his right flank. Within a week, similar lesions appeared on the left flank. The lesions progressed to induration and drainage of oily material, yet the patient remained afebrile and in good general health. He denied any history of recent infections, trauma, or medication use. Physical examination revealed livid discoloration, ulcerations, and drainage of an oily material. Laboratory findings included an elevated ESR (38 mm/h), mildly elevated CRP (9 mg/L), normal complete blood count (CBC) and differential, normal hepatic and renal function tests, and significantly reduced serum AAT levels (0.27 g/L). A deep skin biopsy was performed for further evaluation. Histopathological examination revealed epithelioid granulomas in the dermis and subcutaneous fat, associated with suppurative inflammation and vasculitic changes in small dermal and subcutaneous blood vessels. These morphological changes were consistent with neutrophilic panniculitis in the context of alpha-1 antitrypsin deficiency.

## Results:

Given the laboratory findings, genetic testing was performed, revealing a homozygous PI\*Z mutation in the *SERPINA1* gene, confirming severe AAT deficiency. The patient was referred to a pulmonologist for further assessment, including pulmonary function tests and a chest X-ray, which were within normal limits. An abdominal ultrasound was performed, yielding normal findings and ruling out hepatic involvement.

The patient was started on doxycycline (100 mg once daily), which led to significant improvement in skin lesions over the following weeks. However, after initial improvement, the patient reported the development of painful swellings in the lower extremities at sites of mild injury. Consequently, doxycycline was discontinued, and Dapsone (50 mg per day) was introduced. Since initiating this treatment, no new lesions have developed.

### **Conclusion:**

AAT deficiency is often underdiagnosed until significant pulmonary or hepatic pathology develops. This case underscores the need to consider AAT deficiency in patients with unexplained panniculitis. Early diagnosis allows for proactive monitoring and lifestyle modifications to prevent long-term complications.

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Comparative Analysis of Erbium: Glass 1550 nm and combined Erbium: YAG & Nd: YAG Lasers for Perioral Rejuvenation: A Prospective Study

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# **Introduction & Objectives:**

Perioral aging manifests as fine lines, wrinkles, and structural changes, often requiring specialized treatment. Although laser systems are widely used in facial rejuvenation, few studies directly compare their efficacy in perioral rejuvenation. This study evaluates and compares the efficacy and safety of two laser systems—Erbium: glass laser (Frax Pro) and Nd: YAG combined with Er: YAG laser (Fotona 4D)—for perioral rejuvenation.

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

A prospective, comparative clinical trial was conducted with 36 female patients who sought perioral rejuvenation at a tertiary dermatology hospital. Participants were randomly assigned to either the Frax Pro group or the Fotona 4D group, each receiving three treatment sessions at 4-week intervals. Efficacy was assessed through clinical wrinkle severity ratings, VisioFace® imaging, and patient satisfaction scores. Safety was evaluated by monitoring adverse events.

#### **Results:**

The mean ages in the Frax Pro and Fotona 4D groups were  $49.78 \pm 6.59$  and  $46.72 \pm 6.36$  years, respectively, without significant difference (p > 0.05). All participants had Fitzpatrick skin types III-IV. Both treatment groups demonstrated significant improvements in supralabial lines and skin hyperpigmentation (p < 0.05). While Frax Pro was more effective in reducing supralabial lines, the difference between the two laser systems was not statistically significant. Conversely, improvement in corner lip wrinkles was statistically significant only in the Fotona 4D group (p < 0.05). Frax Pro showed significantly superior results in reducing pore count (p < 0.05). No significant difference was observed between the groups in terms of skin hyperpigmentation improvement.

#### **Conclusion:**

Both Frax Pro and Fotona 4D are effective and safe options for perioral rejuvenation. Frax Pro may be particularly suited for targeting superficial lines and pores, while Fotona 4D appears more effective for treating deeper wrinkles. These findings support an individualized laser treatment selection approach based on specific skin concerns. Further studies with larger sample sizes and extended follow-up periods are recommended to confirm and expand on these results.



A systematic review of the use of the Dermatology Life Quality Index (DLQI) in routine clinical practice globally: evidence from 287 articles across 56 countries

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**Introduction & Objectives:** Although Quality of Life instruments are widely used in research, and there are many anecdotal reports of their use in clinics to inform decision taking, there is little actual evidence of their routine clinical use. The Dermatology Life Quality Index (DLQI) is the most widely used tool globally to measure impact on skin disease and the scores have validated clinical meaning. The study aimed to identify evidence of routine use of the DLQI in clinical practice globally.

**Materials & Methods:** Medline, Embase, Scopus and Web of Science databases were systematically searched for articles describing studies using the DLQI in routine clinical practice. Routine usage is seldom formally published, but by searching for reports of retrospective data we were able to identify evidence of routine clinical use of the DLQI. The study protocol was registered in PROSPERO and PRISMA guidelines were followed. Studies were excluded if there were pre-determined treatment interventions, as in a clinical trial, or if participants younger than 16 years.

**Results:** Of 2,718 screened publications, 287 articles met the inclusion criteria, including 65,434 patients from 56 different countries and at least 29 different languages reporting on 112 different diseases. 262 (92.0%) were conducted in a single country, 96 (33.3%) were multicentred studies, 171 (59.6%) were conducted at a single site, 93 (32.4%) were conducted in hospitals, 66 (23.0%) specified outpatient clinics, 38 (13.2%) tertiary care, 4 (1.4%) community, 17 (5.9%) other settings and 35 (12.2%) unspecified. 124 (42.2%) of the studies were reported as retrospective, 63 (22.0%) were observational, 52 (18.1%) stated that DLQI data were retrieved from patient records, 29 (10.1%) as "real life", 39 (13.6%) reported "real world data", and 47 (16.4%) used consecutive patient recruitment. 249 (86.8%) studies used the DLQI for the reported study's purpose and 38 (13.2%) indicated that the DLQI was used routinely without regard to the study. The most common diseases in the study settings were psoriasis (106 studies,36.9%), atopic dermatitis (32,11.1%), urticaria (24,8.4%), hidradenitis suppurativa (22,7.7%), and vitiligo (17,5.9%). Thirty studies (10.5%) used DLQI score banding.

**Conclusion:** This study confirms that there is widespread international use of the DLQI in routine settings to inform clinical decisions and monitor treatment. In some clinics the DLQI is embedded into continuing routine management of patients.

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Teledermatology in Australia: 20 Years of Service

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# **Introduction & Objectives:**

Telederm National, an initiative by the Australian College of Rural and Remote Medicine (ACRRM) has provided online dermatology education and remote consultation services since 2005. The free service uses asynchronous store-and-forward technology, which allows flexibility for remote dermatological consultation from general practitioners in regional and rural Australia. The service is designed to provide education, specific patient advice and reduce professional isolation.

#### Materials & Methods:

A retrospective review of the number of teledermatology store-and-forward referrals received over twenty years was performed. An overview of the volume of referrals, case presentations, patient characteristics, and the advice provided was reviewed for inclusion in our review over the past 12 months.

## **Results:**

More than 450 referrals were received per year from rural and remote Australian general practitioners. With an average of 7-10 cases per week received from over 5300 registered medical practitioner users. In 95% of cases a reply was received within 24 hours.

# **Conclusion:**

Australia is a vast country with a population concentration on the East coast. There is an unqueal distribution of specialist dermatologists in Australia, with limited rural access. Vulnerable populations, such as rural Indigenous Australians have limited access to dermatology services. Teledermatology has shown to be an effective form of consultation virtually, as well as an education platform for other general practitioners.

## Factors Affecting Career Advancement in Academic Dermatology in the US

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# **Introduction & Objectives:**

Understanding the factors that drive academic promotion is critical for fostering a sustainable and diverse workforce in dermatology. While these trends are well-characterized in other specialties, limited data exists specific to dermatology. In the context of increasing clinical demands and decreasing federal research support, it is increasingly important to understand the drivers of academic promotion in dermatology and how they compare across global academic systems. We conducted a 7-year longitudinal analysis to identify factors associated with academic promotion among U.S. dermatologists.

#### Materials & Methods:

We assembled a national cohort of 685 academic dermatologists (MD/DO/MBBS) in 2017 by reviewing faculty listings from 120 U.S. dermatology department websites. Data on faculty name, degree, institution, academic rank, gender, and geographic region were collected. In 2024, we updated academic appointment data using department websites, news sources, and professional networking platforms. Faculty were classified as promoted if they had advanced to a higher academic rank. Research productivity was assessed using the m-index (h-index divided by career length, estimated from date of first publication found on Scopus). Number of NIH and industry grant were obtained from NIH RePORTER and the Open Payments database, respectively. Multivariable logistic regression was used to identify factors associated with academic promotion.

## Results:

Of the 685 academic dermatologists initially identified in 2017, 461 (67.3%) remained in academia by 2024, 174 (25.4%) had transitioned to private practice or non-academic roles, 37 (5.4%) had retired, 10 (1.5%) were deceased, and 3 (0.4%) were excluded due to international relocation or data discrepancies. After 7 years, multiple promotions had occurred among those remaining in academia, resulting in decreased percentage of assistant professors (53.0% to 18.4%) and increased percentages of associate (24.0% to 39.1%) and full professors (23.0% to 42.5%).

Multivariable logistic regression showed that faculty promotion was more likely for faculty with an m-index of 0.5–1 (compared to <0.5, OR: 2.73, p < 0.001), who worked in the West census region (compared to the Northeast, OR: 2.69, p = 0.004), and who received ≥5 industry grants (compared to <5, OR: 5.18, p = 0.038). Career length >20 years was negatively associated with promotion compared to 0–10 years (OR: 0.49, p = 0.040). Gender and >2 NIH grants showed positive trends for increased promotion but were not statistically significant. Degree type was not associated with promotion.

#### Conclusion:

In this national longitudinal study, promotion among US academic dermatologists was most strongly associated with research productivity, multiple industry-sponsored grants, and affiliation with institutions in the Western US. Traditional indicators such as NIH funding and degree type were not significantly associated with advancement.

These findings underscore a shift in the academic dermatology landscape, with industry engagement playing a growing role. By sharing these trends internationally, we aim to inform global discussions on faculty development and support efforts to build a more equitable and sustainable academic workforce.

## Pediatric and elderly teledermatology in a rural area: a descriptive study

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**Introduction & Objectives:** Teledermatology has experienced rapid growth in recent years. We sought to explore the characteristics of teleconsultations for patients in extreme age groups.

**Materials & Methods:** We designed a descriptive study. Patients aged 18 years or younger (pediatric group) and 60 years or older (elderly group) who were referred through teleconsultation from Primary Care to the Dermatology department of our hospital, located in a rural area, in January and February of 2023 were included.

**Results:** 774 teleconsultations were received in our Dermatology department during those months, of which 435 (56.20%) met the inclusion criteria. Of these, 129/774 (16.67%) belonged to the pediatric group, primarily females (67/129, 51.94%), with a median age of 13 years (IQR 7-17), and 306/774 (39.53%) were from the elderly group, predominantly females (183/306, 59.80%), with a median age of 73 years (IQR 67-81). Most patients came from rural Primary Care health centers: 78/129 (60.47%) in the pediatric group and 176/306 (57.52%) in the elderly group. The volume of consultations in the pediatric group was consistent with the 2023 census population for those aged 18 or younger (16.67% vs. 16.34% respectively, z test=0.2 p=0.807), while the elderly group showed a statistically significant increase (39.53% vs. 30.60% respectively, z test=5.4 p<0.0001). The median response delay for teleconsultations was 4 days (IQR 1-5). A clinical image was provided in 355/435 (81.61%) of the teleconsultations, and in 106/435 (24.37%) a dermoscopic image was included, which aided in guiding the diagnosis in 92.20% and 65.71% of the cases, respectively.

The most common diagnoses for the pediatric teleconsultation group were inflammatory diseases (43/72), primarily acne and atopic dermatitis, and benign tumors (12/72), while the most frequent diagnoses in the elderly group were premalignant or malignant tumors (39/126), mostly actinic keratoses (17/39) and basal cell carcinomas (10/39), benign tumors (38/126), particularly seborrheic keratoses (37/38), and inflammatory diseases (28/126). In some teleconsultations the dermatologist recommended a new referral due to lack of sufficient clinical data or unfocused images, but only 50/67 (74.63%) were received. A face-to-face appointment was scheduled for the patient in 218/435 (50.11%) teleconsultations, with a median delay from the teleconsultation response to the hospital appointment in the Dermatology department of 52 days (IQR 38-66). Follow-up consultations for the same dermatological issue via teledermatology, without prior indication from the dermatologist, occurred in 40/367 cases (10.90%).

**Conclusion:** These results highlight several unmet needs within the Dermatology department. Elderly patients account for a significant portion of our daily teledermatology workload, and a more efficient referral process for malignant lesions should be implemented to reduce the time between teleconsultation and in-person hospital appointments. Moreover, many of our patients live far away from the hospital, so careful organization to avoid additional in-person appointments (for example, to perform a biopsy) should be given special attention. Additionally, re-referrals, when necessary, should be addressed without delay by the Primary Care doctor. To achieve this, we need to implement a feedback system with Primary Care, integrating the hospital's electronic health records with those of Primary Care centers.

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# Diagnostic errors during perceptual learning of dermatology - a prospective cohort study of Finnish undergraduate students

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# **Introduction & Objectives:**

Perceptual learning modules (PLMs) have been shown to significantly improve learning outcomes in teaching dermatology. We aimed to investigate the quantity and quality of diagnostic errors during undergraduate PLMs and their potential implications.

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

The study data was acquired during eight successive dermatology courses (2021-2023) from 142 undergraduate medical students. Digital PLMs were held before, during, and at course ends. We investigated the amount and distribution of diagnostic errors, differences between specific skin conditions and classified them based on the type of errors students made.

## **Results:**

Diagnostic errors were not randomly distributed. Some skin conditions were almost always correctly identified, whereas in some diagnoses significant number of errors were made. Errors could be classified in three groups: mostly systematic errors of relevant differential diagnoses (similarity errors), partly systematic errors (mixed errors) and random errors. While significant learning effect during the repeated measures was found in accuracy (p<.001,  $\eta^2$ p=.64), confidence (p<.001,  $\eta^2$ p=.60) and fluency (p<.001,  $\eta^2$ p=.16), the three categories differed in all outcome measures (all p<.001, all  $\eta^2$ p>.47). Visual learning was more difficult in the similarity category (all p<.001, all  $\eta^2$ p>.12) than in the mixed and random categories.

#### **Conclusion:**

Error analysis of PLMs provided relevant information about learning efficacy and progression, systematic errors of tasks, and more difficult to learn conditions. This information can be used in the development of adaptive, artificial intelligence-based PLMs to improve learning outcomes, both in dermatology and medical education in general.

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# May-Thurner Syndrome: A Challenging Diagnosis of Asymmetric Lower Limb Edema in Patient on Biologic Therapy

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**Introduction&Objectives:** With the ongoing evolution of target immunological therapies in Dermatology, immunobiologic agents have become an increasingly important component of treatment regimens across a wide spectrum of skin disorders. One potential adverse effect of some of these medications is lower limb edema, which may develop after several months, especially in patients with underlying anatomical or clinical conditions. We aim to highlight a case of May-Thurner Syndrome (MTS) as a differential diagnosis of asymmetric lower limb edema, with the monoclonal antibody dupilumab use acting as a confounding factor in the evaluation of the patient.

**Materials&Methods:** We describe a case of MTS presenting as asymmetric lower limb edema in a female patient undergoing treatment with dupilumab.

**Results:** A 27-year-old female patient with atopic dermatitis developed progressive asymmetric painful lower limb edema seven months after initiating dupilumab. Symptoms persisted despite discontinuation of the medication. An initial lower limb Doppler ultrasound excluded thromboembolic events and lower limb CT scan showed no significant abnormalities.

Upon evaluation at a tertiary care center, patient reported persistent bilateral leg pain, especially on the left, with asymmetric pitting edema and improvement of symptoms with elevation of the limbs. The maximum difference between calf circumferences was 3 cm, greater on the left.

Extensive laboratory investigations excluded renal, hepatic, thyroid, and rheumatologic abnormalities. A skin biopsy demonstrated vascular ectasia of the superficial vascular plexus with a mild perivascular lymphocytic infiltrate. A second Doppler ultrasound also ruled out signs of acute or chronic venous thrombosis or insufficiency. Dermatologic ultrasound revealed features consistent with lipedema, without evidence of edema or varicose veins.

Further evaluation with pelvic magnetic resonance imaging revealed focal narrowing of the left common iliac vein caused by extrinsic compression from the overlying right common iliac artery—findings consistent with MTS.

**Conclusion:** Symmetrical lower limb edema is a potential adverse effect of certain drugs including mTOR inhibitors, VEGF inhibitors, calcineurin inhibitors and IL-31 antagonist nemolizumab.

Rare cases of dupilumab-induced lower limb edema were reported, usually associated with other dermatoses such as pyoderma gangrenosum and eosinophilic granulomatosis with polyangiitis. Our patient presented with the onset of asymmetrical edema several months after initiating dupilumab but without improvement following withdrawal of therapy, which is one of the recommended approaches after failure of compressive methods and reduction of the dosage of the medication.

MTS was first described in 1957 and involves compression of the left iliofemoral vein by the right common iliac artery with a female predominance between 30–50 years of age. It typically presents with painful, asymmetric lower limb edema of either acute onset or gradual progression, potentially leading to venous insufficiency, obstruction, or thrombosis.

Our case highlights the importance of a comprehensive workup to establish the etiology of lower limb edema in

patients using immunobiologics, as it may not be drug-related. MTS should be considered a differential diagnosis in female patients with asymmetrical painful lower limb edema, to promote the correct management and prevent long-term complications.

Initial circumference measurements (in cm)		
	Right	Left
Forearm	25	25
Arm	29	30
Thigh	69	69
Knee	43	45
Leg	32	35
Calf	29	29

Virilization and Severe Hyperandrogenism Revealing a Sertoli-Leydig Cell Tumor in an Elderly Female: A Dermatologic Clue to a Rare Ovarian Neoplasm

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# **Introduction & Objectives:**

Sertoli-Leydig cell tumors (SLCTs) are rare sex cord-stromal ovarian neoplasms accounting for less than 0.5% of ovarian tumors. Although typically diagnosed in young women, their clinical presentation in postmenopausal patients is extremely rare and often delayed. We present the case of a 73-year-old female with five years of progressive hypertrichosis and alopecia, ultimately diagnosed with an androgen-producing SLCT, emphasizing the pivotal role of dermatological evaluation in uncovering an underlying endocrine tumor.

## **Materials & Methods:**

A 73-year-old woman presented to the dermatology department with a five-year history of progressive scalp hair loss and generalized hypertrichosis, unresponsive to topical therapies and laser treatments. Physical examination revealed Norwood VII androgenic alopecia and marked hypertrichosis on the chest, abdomen, groin, and extremities. Hormonal profiling and imaging studies were conducted to investigate the etiology of hyperandrogenism.

## Results:

Laboratory results showed elevated total testosterone (797 ng/dL) with normal LH, FSH, estradiol, prolactin, CA-125, and metabolic profile. Pelvic ultrasound and MRI revealed a 2.7 cm left ovarian mass with features suggestive of a neoplasm. The patient underwent total hysterectomy with bilateral salpingo-oophorectomy. Histopathological analysis confirmed a 3 cm Sertoli-Leydig cell tumor with positive inhibin staining. Postoperatively, androgen levels normalized, with progressive improvement of hypertrichosis and alopecia. The tumor's small size, well-defined borders, and lack of metastasis indicated a favorable prognosis.

#### **Conclusion:**

This case illustrates the importance of recognizing dermatologic signs as potential indicators of internal endocrine neoplasms. In elderly women, the presence of new-onset virilization or hyperandrogenism should prompt thorough investigation. Dermatologists are often the first specialists to detect these subtle yet critical clues, leading to timely diagnosis and curative treatment of rare tumors such as SLCTs.

## Cutaneous complications after tattooing: 96 cases from Finland

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# **Introduction & Objectives:**

The prevalence of tattooing is about 18% worldwide. We report a series of 96 patients with cutaneous complications on tattoos from 2016 to 2025 from Finland.

#### Materials & Methods:

We reviewed the data from all the outpatients referred for tattoo reactions between 2016 and April 2025. Patients were either i) referred at the Department of Dermatology at Helsinki University Hospital (n=63), ii) attended the author's private practice (n=13), iii) email consultations from other Finnish dermatologists (n=10) or directly from tattooists (n=6) or patients (n=4). We analyzed the demographics, clinical diagnosis and microscopic findings.

## **Results:**

96 patients (68 women, 71%, median age 35 years) were included. Permanent make-up tattoos were involved in 6% (6/96) of the cases and nipple areola tattoo in 1% (1/96). Non-infectious granulomatous reactions were the most common diagnosis (29%, 28/96), including sarcoidosis in 9 cases (32% of the cases of granulomas, 9% of all cases). Granulomas occurred within black tattoos in 89% of the cases (25/28). Only 22% of the patients presented with an allergic tattoo reaction, mainly against red shades (84%). Ultrapotent corticosteroid ointments, topical tacrolimus was applied on tattoo allergies and granulomas. In three cases of red/violet tattoo allergies, local infiltrations of corticosteroids provided relief. In two cases of environmental mycobacterial infection, eruption subsided before completion of the oral doxycycline (200 mg/day 3 months). Oral hydroxychloroquine and cyclines were the treatment of choice for non-infectious cutaneous granulomas, in case of local treatments failure. Overworked tattoos and contact eczema and represented 9% (9/96) and 5% (5/96) of the complications respectively. We had no case of melanoma or NMSC in tattoos. A single case of B cell lymphoma restricted on a tattoo that has been in remission for the past 4 years after surgical removal.

### **Conclusion:**

We report the largest series of tattoo reactions in Finland. Granulomas within black tattoos predominated, followed by allergy to red shades. Sarcoidosis represents one third of the cases of granulomatous tattoo reactions. Cutaneous malignancies remain exceptional. Contact eczema to aftercare product are easy to diagnose as the rash is not *restricted* to the tattoo and should not be hastly diagnosed as ink allergy. Lastly, "overworked tattoo" due to repetitive needle trauma is a rare complication. Our results are in line with the Danish series (9% of the cases). This complication may be on the rise due to lower quality of new REACH compliant inks. Distinguishing this adverse event from a primary infection is difficult. Concomitant signs of infection prompt to initiate inevitably oral or local antibiotics. This prompted to considered almost all our cases of overworked as also infected.

## TEN-like vancomycin-induced linear IgA dermatosis

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# **Introduction & Objectives:**

Linear IgA dermatosis (LAD) is a rare autoimmune bullous dermatosis that most often occurs spontaneously, but can also be triggered by drugs, infections or malignancy. In the majority of cases of drug-induced LAD, vancomycin is the underlying factor. The onset of drug-induced LAD can vary widely from less than 24 hours to up to 4 weeks and the disease usually goes into remission after the implicated medication is discontinued.

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

We present a case of vancomycin-induced toxic epidermal necrolysis (TEN)-like LAD in a 78-year-old female.

## **Results:**

A 78-year-old woman was admitted to our hospital with disseminated urticarial plaques and tense blisters filled with serous and hemorrhagic fluids on her trunk and extremities. Nikolsky's sign was positive. Skin biopsies were taken upon admission. The patient was previously treated at the Clinic for Infectious Diseases for\*\* MRI-confirmed spondylodiscitis with associated intracanalicular and paravertebral empyema. At first she received dual antibiotic therapy (ceftriaxone and linezolid) but due to insufficient therapeutic response intravenous vancomycin was subsequently administrated. On the 9th day of vancomycin treatment skin lesions appeared. Suspecting TEN, vancomycin was discontinued and the patient was inicially treated with intavenous methylprednisolone (120 mg) and intravenous immunoglobulin (IVIg) (2 gr/kg) with limited clinical improvement. The diagnosis of LAD was later on confirmed by skin biopsy which revealed a subepidermal cleft with a predominately neutrophilic infiltrate and direct immunofluorescence test (DIF) which revealed linear deposition of immunoglobulin A at the dermoepidermal junction. Treatment with dapsone (50-100 mg/day), methylprednisolone (0.5 mg/kg/day, tapered) and topical corticosteroids was introduced and resulted in a strong therapeutic response. The patient was transferred back to the Clinic for Infectious Diseases for further treatment of the underlying condition. The further course and recovery were complicated by heparin-induced thrombocytopenia (HIT), pancytopenia, sepsis and septic shock resulting in a fatal outcome.

#### **Conclusion:**

Drug-induced LAD usually has a polymorphic clinical presentation, often mimicking other autoimmune bullous dermatoses and TEN, with a tendency for severe clinical course. Prompt skin biopsies for histopathological examination and DIF testing is essential for correct diagnosis and adequate treatment. Identifying and discontinuing the causative drug is crucial for management of the disease.

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## An Ulcerative Lesion Involving the Entire Nipple in an Elderly Male Patient: A Case Report

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## An Ulcerative Lesion Involving the Entire Nipple in an Elderly Male Patient: A Case Report

# **Introduction & Objectives:**

Male breast cancer is a rare malignancy, accounting for less than 1% of all breast cancer diagnoses. Unfortunately, male patients are often diagnosed at more advanced stages compared to female patients due to low clinical suspicion and limited public awareness of male breast cancer symptoms. Early screening is essential for the diagnosis. The clinical presentation may vary widely, ranging from a painless mass to ulcerative or inflammatory lesions involving the nipple-areolar complex. Through this case, we strive to underline the importance of suspicion of breast malignancy in elderly male patients presenting with chronic nipple lesions. The role of histopathological evaluation and advanced imaging is crucial for early diagnosis, accurate staging, and improving patient outcomes.

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

A 75-year-old male patient presented to our clinic with a painless ulcerative lesion on his right nipple. The lesion had gradually developed over the past year. He had lost 12 kilograms over the past six months. There was no family or personal history of malignancy. After the physical examination, a 4 mm punch biopsy was performed. Punch biopsy of the skin from the right nipple and areolar region revealed infiltration of the epidermis and dermis by adenocarcinoma. FDG PET/CT revealed multiple hypermetabolic lymph nodes at level 1, consistent with metastatic involvement and Ultrasound-guided fine needle aspiration of a right axillary lymph node confirmed metastatic involvement from breast carcinoma. Additionally, a markedly hypermetabolic nodular lesion was observed in the proximal sigmoid colon, raising suspicion of a second primary malignancy.

### **Results:**

Due to the presence of axillary lymph node metastasis, the general surgery department deemed systemic chemotherapy to be the appropriate treatment approach. The patient is currently receiving chemotherapy, and the pathology evaluation from the polypectomy specimens from the colonoscopy is under evaluation.

# **Conclusion:**

This case spotlights a rare and atypical presentation of male breast cancer as an ulcerative lesion affecting the whole nipple-areolar complex, underlining the significance of considering breast carcinoma in the differential diagnosis of persistent nipple lesions in elderly male patients. Histopathological confirmation is still the cornerstone of diagnosis, while imaging techniques such as FDG PET/CT play a key role in staging and detecting potential synchronous malignancies. Early detection and intervention are critical for enhancing clinical outcomes.

G2-PASE ,G2-EASE,G2-VASE,G2-HECSE are novel, rapid, reliable measure of plaque psoriasis ,atopic eczema ,vitiligo , Hand eczema severity for clinical practice use.

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# **Introduction & Objectives:**

The Psoriasis Area and Severity Index (PASI) is a composite measure of plaque psoriasis disease severity. It is, however, time consuming for every-day clinical use. The Gulliver-Gestalt-Psoriasis Area Severity Estimate (G2-PASE) measure was developed to approximate PASI scores using body surface area (BSA) and the Physician Global Assessment (PGA). Similar Tools were also developed for Atopic Eczema:G2-EASE,Vitiligo:G2-VASE and Hand Eczema:G2-HECSE

We set out determine the reliability and validity of G2-PASE vs PASI, G2-EASE vs EASI, G2-VASEvs VASI, G2-HECSI VS HECSE

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

Canadian patients with a history of moderate to severe plaque psoriasis enrolled in the first cohort of the PSOLAR 1. Baseline disease severity data (PGA, BSA, and PASI) were leveraged to test the reliability and validity of the previously developed G2-PASE algorithm. The G2-PASE for each patient was calculated by applying baseline BSA and PGA values available from PSOLAR patient data at enrollment. The correlation and reliability of G2-PASE compared to the recorded PASI scores for each patient at enrollment were then assessed.

#### **Results:**

Of the 1896 Canadian patients in PSOLAR 1, 1803 had PASI data and were included in this analysis. The average baseline PASI score was 5.52 (SD 6.44, range 0.00-64.30), and the mean calculated G2-PASE score was 8.37 (SD 7.51, range 0.00-45.00). The Pearson's correlation coefficient was 0.83 (p<0.0001), indicating very strong and significant correlation between PASI and G2-PASE scores. The standardized Cronbach coefficient alpha was 0.91. G2-EASE was calculated in a similar manner utilizing gestalt BSA and PGA, with a correlation coefficient of 0.95 (p value 0.000) for the first sample and 0.92 (p value 0.000) for the second sample. Cronbach's  $\alpha$  values of 0.97 and 0.95 indicated excellent reliability for G2-EASE. AUC values are determined to be 1 (p = 0.00) . Similar Tools have been developed for Vitiligo and Hand Eczema\*\*

### Conclusion:

This study validates G2-PASE and G2-EASE as a reliable measure of plaque psoriasis and atopic eczema.

On going validation for G2-VASE and G2-HECSE are ongoing

Moisturizer containing 10% urea reinforces the skin barrier and activates intrinsic hydration via NMF - A Comprehensive Ex vivo and In vivo Evaluation

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# **Introduction & Objectives:**

Urea is a humectant and a key component of the skin's Natural Moisturizing Factor (NMF), contributing to both epidermal hydration and barrier homeostasis. NMF is primarily derived from the controlled proteolytic breakdown of the filaggrin (FLG) protein within the corneocytes of the upper stratum corneum. Topical application of urea has been shown to upregulate FLG expression and enhance the activity of the enzymes involved in its conversion into functional NMF components. Studies have also shown that it can stimulate epidermal differentiation and lipid synthesis, thereby enhancing skin barrier function. The objective of the studies presented below was to evaluate the efficacy of a moisturizing cream containing 10% urea in improving skin barrier function and increasing endogenous NMF levels.

#### Materials & Methods:

Study 1 (S1): Ex vivo study using human skin explants to evaluate the effect of daily application of the moisturizing cream on epidermal neutral lipid levels (via Nile Red staining), and filaggrin (FLG) expression (via immunostaining).

Study 2 (S2): Clinical study involving 32 subjects (aged 18-70 years old). The moisturizing cream was applied once to twice daily for 28 days and skin barrier function was evaluated by Tewameter after 7 and 28 days on the forearms.

Study 3 (S3): Clinical study involving 20 subjects (aged 18-70 years old). After 28 days of applying the moisturizing cream once to twice per day, NMF and water content on the forearm were evaluated via Raman spectroscopy in 20 subjects. Concurrently, hydration improvement was assessed by hydration color mapping in 4 subjects in the leg area.

## **Results:**

In S1, the moisturing cream induced a significant increase of neutral lipids on day 5 (+40%; p<0.01) and day 11 (+36%; p<0.001). FLG expression was increased on day 5 by 12% (p<0.01) and by 11% on day 11 (p<0.05).

In S2, the moisturizing cream reduced TEWL by 23% (p<0,05) after 7 days and by 16.6% (p<0,05) after 28 days of once to twice daily use.

In S3, NMF in the stratum corneum was significantly increased by 2.3% after 28 days of application (p<0.05). Skin hydration levels were significantly increased up to 30  $\mu$ m in depth (+5.2% between 21-30  $\mu$ m; p<0.05), suggesting the product has the ability to increase deep hydration levels. Hydrating color mapping demonstrated a strong increase in skin hydration after using the product.

# **Conclusion:**

The results of this study consistently demonstrate that the urea-based moisturizing cream effectively reinforces

the skin barrier and boosts the filaggrin-NMF pathway to provide sustained and deep hydration to the skin. These results suggest that this urea-based moisturizing cream may be a highly effective treatment for subjects with dry skin or those requiring enhanced cutaneous hydration.

Lymphangioma Circumscriptum of the Glans Penis Following Circumcision: A Rare Case in a 4-Year-Old Male

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Lymphangioma Circumscriptum of the Glans Penis Following Circumcision: A Rare Case in a 4-Year-Old Male

## **Introduction & Objectives:**

Lymphangioma circumscriptum (LC) is a rare benign lymphatic malformation that manifests as groups of vesicle-like lesions. The axilla and proximal extremities are primarily affected, and mucosal involvement may be seen. Involvement of the penis is not frequent, especially in the pediatric population, with few cases reported in the literature. We present a case of LC on the glans penis of a 4-year-old boy, emerging after circumcision. Lesions can be either congenital or acquired. In our case, the temporal association with circumcision suggests an acquired form.

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

A 4-year-old male was brought to our clinic with recurrent periods of scab formation and hemorrhagic lesion on the glans penis. Deepening the anamnesis, he had a history of circumcision conducted at the age of 45 days. There were no recorded early postoperative complications. After 3 months post-circumcision, his parents noticed translucent, group of blister-like lesions on the glans penis. Episodically, there is bleeding within the lesion, followed by crusting. The lesions were asymptomatic, there were no pain or systemic complaints.

# **Results:**

Dermoscopy revealed characteristic yellow lacunae surrounded by pale septa, with inclusion of blood within the lacunae. Based on clinical appearance and dermoscopic features, a diagnosis of **lymphangioma circumscriptum of the glans penis** was made.

A possible explanation for the occurrence is the disruption of superficial lymphatics during the operation. Differential diagnoses were genital warts, molluscum contagiosum, and hemangiomas. Treatment options are observation, surgical excision, laser therapy, or sclerotherapy. Considering the patient's age, the intermittent bleeding within the lesion, and parental concern, the surgical intervention was the proper treatment.

#### Conclusion:

This case highlights the importance of a deep understanding of the lesions of the penis, especially considering the frequency of surgical interventions like circumcision. The uncommon nature of vesicular lesions on the penis underscores the need for awareness of LC in this location. Early diagnosis may help prevent misdiagnosis and false treatment that may cause serious complications that have an impact on an individual's sex life.

## Novel treatment with glyceryl trinitrate spray for diffuse dermal angiomatosis of the breast and abdomen

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# **Introduction & Objectives:**

We present two cases of diffuse dermal angiomatosis (DDA) affecting the abdomen and the breast, successfully managed with topical application of glyceryl trinitrate (GTN) spray.

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

#### Case 1

A 44-year-old lady presented abdominal ulceration overlying a longstanding paraumbilical hernia, on a background of DDA of the abdomen that had previously resolved following surgical hernia repair. She had previously presented with pyoderma gangrenosum of the abdomen, treated with prolonged courses of prednisolone, infliximab and mycophenolate mofetil. On examination, there was thin skin over the protuberant abdomen, with multiple ulcerated areas ranging in diameter from 1-3 cm. Histology revealed ulceration with diffuse endothelial proliferation through the entire thickness of the dermis extending into the subcutis. Immunohistochemical staining was CD31 and CD34 positive. In conjunction with history, the morphological features were consistent with the clinical diagnosis of DDA. The patient was instructed to apply topical GTN spray once daily to the affected areas of the abdomen.

# Case 2

A 54-year-old lady presented with 4-month history of painful bilateral breast ulceration. She had large, pendulous breasts with a punched-out ulcer on the right breast with surrounding erythema and scaling, and a small ulceration of the left breast. A biopsy revealed non-specific findings, though her presentation was clinically in keeping with DDA, with predisposing factors of high body mass index (39) and smoking history. She had minimal improvement with Betnovate C and continued to develop new areas of ulceration. Clobetasol ointment was also trialled under occlusion with biotin dressings which again was of minimal benefit. She was reluctant to trial systemic steroids due to side effects of weight gain and therefore alternative treatment options were discussed. GTN spray was trialled to the area.

## **Results:**

Case 1: After 8 weeks, positive response to treatment was noted with reduction in tenderness, and total area and diameters of ulceration. GTN spray was well-tolerated with no adverse effects and after 10 months of therapy only one lesion currently remains.

Case 2: The patient had significant improvement within four weeks of use with re-epithelisation of all ulcerated areas. Unfortunately, the patient experienced headaches and dizziness with GTN therapy.

#### **Conclusion:**

DDA is a benign vascular condition characterised by endothelial cell and capillary proliferation. The underlying pathophysiology is thought to be linked to angiogenesis driven by vascular endothelial growth factor upregulation, secondary to chronic ischemia and hypoxia. A single case reported the efficacy of GTN spray in treating DDA of the breast, with similar benefits observed in diabetic and non-diabetic ulceration, and scleroderma-associated Raynaud disease.1 GTN is a nitric oxide donor, its vasodilatory properties likely enable increased perfusion and ulcer healing in the management of DDA. In conclusion, we present a case of DDA of the abdomen treated with GTN spray, which provides further evidence that GTN spray can be a promising medical treatment for a challenging condition where surgery may be unsuitable.

1. Pearce J, Al-Wahab Y, Natkunarajah J. Successful management of ulceration associated with diffuse dermal angiomatosis of the breasts with topical glyceryl trinitrate spray. Clin Exp Dermatol. 2023; Feb 2;48(2):135-137

# **Evaluating the Difference in Diagnostic accuracy on Common Dermatologic Conditions in Skin of Color and the Impact of Artificially Processed Images**

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**Introduction & Objectives:** Identification of dermatologic conditions across all skin phenotypes is important globally. The lack of representation of skin of colour (SoC) in educational resources and accessible image databases makes solving this inequity challenging, especially if multi-generation re-education or large-scale data efforts are required. Artificial intelligence (AI) has been leveraged to develop tools and diagnostic models for use within dermatology to help deliver more equitable care and meaningfully bridge the existing knowledge gap. Underrepresentation of SoC in training datasets translates to poorer performance in SoC images, further disadvantaging this population. Although the ability to fully generate realistic skin images from scratch exists, this technology is quite immature with well-documented frequent errors and hallucinations of generative AI models, thus warranting a more narrow and controlled processing approach to artificial processing. Given the importance of equitable care across skin tones, we investigated the nature of AI systems' underperformance in certain skin tones and evaluated whether image processing impacts accuracy.

**Materials & Methods:** For the 15 dermatologic conditions selected due to their global burden of disease and prevalence in SoC, three subgroups each containing 10 images were curated: "Fitzpatrick I-III", "Fitzpatrick IV-VI", and "Processed" (created by altering the "Fitzpatrick I-III" subgroup through image darkening or intensity adjustment). Images were obtained from clinical databases and uploaded to a globally available validated AI platform to obtain a differential diagnosis to analyze diagnostic performance.

**Results:** The drop in performance from 87.3% in "Fitzpatrick I-III" was consistent across "Fitzpatrick IV-VI" (82.7%, P = 0.363) and "Processed" (82.0%, P = 0.027) subgroups (Table 1). Conditions with consistent manifestations across skin tones – pityriasis versicolor, melasma, hidradenitis suppurativa – demonstrated the highest top-1 sensitivity in all subgroups, while those with variable skin tone representations – atopic dermatitis, basal cell carcinoma (bcc), squamous cell carcinoma – posed the greatest diagnostic challenge (Figure 1). For example, the majority of bcc in patients with SoC are pigmented, unlike the pearly, pink nodules classically present in non-SoC patients.

**Conclusion:** While demonstrated diagnostic bias for non-SoC images was present, the performance drop was not significant. Across individual conditions, the impact of color editing was variable, however; accuracy was equivalent to the original image in many conditions. The overall diagnostic performance of SoC images and colour edited images was not significantly different (P = 0.887), indicating changing colour may be a major factor contributing to reduced accuracy and thus, artificially modifying images may help bridge the performance gap. A more narrow and controllable approach to artificial generation, such as simple colour modification, may be used to augment training datasets to improve performance. Our findings highlight the importance of including more

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SoC images in educational resources and databases used to train diagnostic models. If image processing and deep learning techniques are used to generate images resembling dermatologic conditions in SoC; care must be taken to ensure modifications do not reduce accuracy and potentially perpetuate existing disparities.

3D Bio-printing- the future of hair loss

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**Introduction:** 

A bioprinter bounces a pulsing laser beam off a mirror and through a lens to create a ribbon

containing cell-based bio ink. The device can position cells in 3D at high resolution on the order of 10 microns at the rate of 10,000 micro droplets per second in layers to create living biological tissue

with high cellular viability.

New studies demonstrate the intricate capabilities of 3D printing to help create a more natural

micro-environment for human hair follicle growth, allowing it to be grown in a dish which was earlier not viable.

**Discussion:** 

In the process of 3d printing, the cells are injected with ingredients to help stimulate hair growth,

and after a period of three weeks, human hair follicles appear and begin to create hair.

The use of 3D bio printing could lead to an unlimited source of new hair follicles for patients

undergoing hair restoration surgery.

**Conclusion:** 

Thus, people who experience hair thinning and those whose hairlines are still receding, would no

longer be limited by the low number of donor hairs for hair restoration procedures. The other

potential uses also include screening for hair growth drugs.

# Mitophagy regulation restores mitochondrial function in the dermal fibroblasts and preserves skin youthfulness

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# **Introduction & Objectives:**

Mitochondrial dysfunction is recognized as a significant hallmark of cellular aging. Mitophagy, which selectively eliminates damaged mitochondria, plays a vital role in maintaining mitochondria homeostasis and protecting cell activities under stress or during aging. Recently, mitophagy has been suggested as a potential mechanism for dermal aging prevention. The current study aims to investigate the activity and pathways of an algae extract (LDE) on mitophagy and mitochondrial function regulation.

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

Human dermal fibroblasts were treated with LDE together with or without stress challenge. Mitophagy activity was detected with Mtphagy dye. Mitophagy pathway was investigated with immunofluorescent staining or western blotting. The mitochondrial integrity and ROS were evaluated with MT-1 and mtSOX, respectively. Mitochondrial respiration was evaluated with the Seahorse XF96 Extracellular Flux Analyzer. The NAD+ level was analyzed using a NAD/NADH-Glo™ assay kit. Cell senescence was assessed by SPiDER-βGal staining.

## **Results:**

LDE improved mitophagy activity and preserved the expression of SIRT3, PINK1 and Parkin under the iron overload condition. LDE also evidently protected the mitochondrial integrity and reduced the mitochondrial ROS. Moreover, LDE treatment led to elevated spare and increased mitochondrial respiration, as well as increased NAD+/NADH ratio. Finally, LDE reduced stress induced premature senescence (SIPS), while mitophagy inhibition partially abolished this effect.

#### **Conclusion:**

LDE alleviated mitophagy blockage through the SIRT3 mediated PINK1-Parkin mitophagy pathway. The mitophagy regulation activity of LDE could contribute to mitochondrial function improvement restoration and SIPS mitigation, which eventually helps promote skin youthfulness.

### The importance of cellular synchronization with day/night rhythm for skin health & integrity

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## **Introduction & Objectives:**

In skin, nature has put in place a well-controlled system where skin cell activities occur at specific times. This "clock" is extremely precise and essential to support visible skin health. Skin cell synchronization is critical to the optimal functioning of skin. The suprachiasmatic nuclei, located in the hypothalamus, send signals throughout the entire organism to entrain cells by controlling the expression of cellular clock genes which regulate temporal patterns. However, in skin cells circadian activity can operate autonomously, and disruption to its circadian rhythm (CR) can occur.

### **Materials & Methods:**

Here, we address main functions of key skin cell types and show how timing and synchronization are critical to keep healthy, youthful looking skin. We investigated how disruption of synchronization to the cell's normal temporal rhythm can lead to hallmarks of aging. In human keratinocytes (HK) we measured free radical production as well as expression of filaggrin and loricrin, proteins which contribute to moisturization and epidermal barrier formation. In dermal fibroblasts (DF), we measured collagen production, secretion of inflammatory mediators, IL-6 and TNF- $\alpha$ , autophagy activity, and migration in synchronized and desynchronized cells.

# **Results:**

In desynchronized HK, we observed increased free radical production and reduced expression of filaggrin and loricrin. We observed reduced production of collagen in desynchronized DF cells. We showed that desynchronized DF increased secretion of IL-6 and TNF- $\alpha$ , compared to synchronized ones and less autophagy activity, which is essential to remove accumulated damage. Cell migration was also less efficient in DF that have a disrupted CR. In melanocytes, we demonstrated that desynchronized cells exhibited increased tyrosinase level. Finally, we observed that by treating with our exclusive Tripeptide-32 to synchronize HK and DF with the natural CR, cells can recover these natural essential functions to maintain healthy skin.

# **Conclusion:**

Our results reveal at a cellular level how synchronization and temporal rhythm are critical factors for maintaining a healthy and homeostatic balance in skin.

# Ultra-light regenerating anti-ageing serum with 5 % Provitamin B5 offers instant effects and impacts well-being

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# **Introduction & Objectives:**

Perception of one's appearance can significantly influence overall well-being, as a healthy, radiant and youthful complexion fosters confidence and enhances one's emotional state. Instant effects can immediately impact our self-perception and are key element to changing status.

We developed an ultra-light, regenerating serum with Hyaluronic Acid and 10 % Glycerin which features 5 % Provitamin B5, renowned for its hydrating and skin-repairing benefits (Proksch, 2017). In our in vivo studies, we investigated the formula for its immediate effects and long-term impact on the skin's appearance, as well as on well-being and confidence.

### **Materials & Methods:**

In a blinded, controlled study with 33 volunteers, the skin barrier was measured for transepidermal water loss with the Tewameter® after single application and after regular usage of the serum twice daily for 4 weeks. Skin moisture was examined by means of Corneometer® CM 825 measurements at same timepoints. Additionally, clinical grading was performed after 4 weeks.

In another study, 51 subjects applied the serum twice daily for 4 weeks. Self-grading, instrumental measurement and imaging by PRIMOS were performed at baseline and after 4 weeks to determine anti-age efficacy.

The test product's tolerability was substantiated in a study with 32 subjects with sensitive skin, applying the product twice daily for 4 weeks.

A user survey was conducted with 160 volunteers over 4 weeks to assess product performance and impact on well-being, using a questionnaire (ELQI).

# **Results:**

Skin barrier, as well as skin hydration, measured 2 and 8 h after single application improved significantly compared to untreated control. Further improvement was achieved 2 and 4 weeks after regular usage. After 4 weeks, 97 % of volunteers had an improved skin barrier and 100 % substantially increased hydration.

Clinical grading after single application confirmed instant effects on dryness, evenness, smoothness and radiance achieved after 15 min versus untreated control.

After 4 weeks, instrumental measurements showed 23 % reduction in wrinkle volume.

At least 3 out of 4 volunteers, confirmed by self-grading improvements in deep wrinkles, firmness and elasticity, evenness, radiance and youthful appearance compared to baseline.

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The product's tolerability was dermatologically assessed as very good, even on sensitive skin.

In the user survey, the ELQI (a universally applicable 3-question approach to investigate quality of life and well-being) improved by 28 % on average per volunteer after 4 weeks.

### **Conclusion:**

A new, very well-tolerated and ultra-light serum with Hyaluronic Acid, 10 % Glycerin and 5 % Provitamin B5 instantly improved skin hydration, evenness, smoothness and radiance. Skin barrier was improved after single application and over time. Reduction in wrinkles, more firmness and youthful appearance were achieved after regular application, together with the perception of improved attractiveness and self-confidence. Combining instant and long-term effects is a powerful way of enhancing one's self-perception and well-being.

## Cleansing Efficacy and Tolerability of an Oil-Based Facial Cleanser on Sunscreen and Pollution Residues

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## **Introduction & Objectives:**

Effective removal of waterproof sunscreen and environmental pollutants is essential to preserve skin health, prevent its oxidative damage, and maintain barrier integrity. Oil-based facial cleansers offer high affinity for lipophilic impurities. Cleansing efficacy and tolerability of an oil-based facial cleanser (ICEC) was assessed clinically. In addition, the protective effects against pollution-mediated lipid peroxidation were determined by measuring Malondialdehyde (MDA) levels in human skin ex vivo .

### **Materials & Methods:**

Study 1 (S1). Thirty-two adult females (aged 20–69, all skin types) applied a colored, water-resistant facial sunscreen to defined skin areas and then removed it using ICEC following a massage and emulsification protocol. Cleansing efficacy was assessed using UV fluorescence image analysis (Wood's Lamp, Sony DSC-HX400V) at baseline, post-application, and post-cleansing. Results were compared to a negative control (water cleansing) and a blank control (no cleansing). Tolerability was assessed dermatologically and ophthalmologically. Study 2 (S2). A controlled, split-face study was conducted in 22 females (aged 18–65). A mixture mimicking sebum and pollution was applied to both hemifaces. One side was cleansed with ICEC and the other with water (negative control). Colorimetric analysis of L\* values (Antera 3D) and macrophotography (Visioface 1000D) were performed at baseline, post-soiling, and post-cleansing.

Study 3 (S3). Skin explants from untreated control (CL), placebo (distilled water)-treated control (PCL) and ICEC-treated samples were exposed to pollutants (Pollubox® system). First, explants were exposed to ozone at 4-5 ppm for 30 minutes. Second, they were exposed to a mixture of polycyclic aromatic hydrocarbons and heavy metals for 1.5 hours. Posteriorly, they were treated topically (2 mg/cm²) with PCL or ICEC. After 24h MDA concentration was measured using an enhanced method of the TBARs assay.

## **Results:**

S1. ICEC achieved a mean cleansing efficacy of 94.23% (p<0.001) in removing the colored sunscreen. No adverse reactions were reported. Dermatological tolerability satisfactory and periocular tolerability was good. S2. ICEC showed a mean pollutant-cleansing efficacy of 86.94%, significantly higher than negative control (13.80%, p<0.001). No adverse events were observed.

S3. ICEC significantly decreased MDA release induced by pollutant exposure by 27% (p<0.01) compared to control and by 19% (p<0.05) compared to placebo.

## **Conclusion:**

The oil-based cleanser ICEC effectively removes colored water-resistant sunscreen and pollution with good dermatological and periocular tolerability clinically. Furthermore, an ex-vivo study showed that ICEC significantly reduces pollution-induced oxidative stress. All studies confirmed its superiority over controls and established its favorable safety and tolerability profile, supporting its use as a daily facial cleansing solution across diverse skin types and needs.

Capturing Care: Mobile Phone Photography as a Cornerstone of Modern Dermatology Practice

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Title: "Capturing Care: Mobile Phone Photography as a Cornerstone of Modern Dermatology Practice"

# **Introduction & Objectives:**

Medical (clinical) photography has become an integral part of modern dermatology, enabling accurate documentation, progress tracking, and communication between healthcare providers. With the rapid improvement of mobile phone cameras—featuring high-resolution sensors, AI-driven enhancements, and real-time sharing capabilities, smartphones are now widely used as practical tools in clinical settings.

This presentation will explore the current landscape of medical photography using mobile phones, focusing on minimum device requirements, optimal environmental conditions, consent protocols, and standardized imaging practices.

We will discuss technical criteria for mobile devices, including camera resolution, color accuracy, macro focus capabilities, and metadata handling. Emphasis will be placed on environmental and setup factors: neutral backgrounds, consistent lighting, distance framing (close-up vs contextual shots), and body-site positioning to ensure reproducibility and diagnostic accuracy.

**Key Considerations** 

Our review will address best practices derived from international guidelines, highlighting critical aspects like:

- Secure storage and transfer of clinical images
- Avoidance of cloud-based automatic backups
- De-identification and metadata removal
- Legal implications under GDPR (General Data Protection Regulation) and Privacy Acts
- The role of dedicated clinical photography apps and consent documentation tools

#### **Conclusion:**

Drawing on the latest literature and our own institutional experience, this presentation aims to provide a practical guide for integrating mobile photography into dermatology practice—balancing convenience with security, ethics, and clinical excellence.

# Skin manifestations and dermatological diseases in COPD: a cross-sectional study and brief narrative review

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# **Introduction & Objectives:**

Chronic obstructive pulmonary disease (COPD) is associated with several comorbidities that affect quality of life. While some are widely recognized and familiar to clinicians, emerging evidence points to lesser-known comorbidities, particularly in the dermatological realm. The association between clubbing and COPD is controversial. Studies in this area are lacking and further research is needed. This study aims to pinpoint dermatological disorders or cutaneous manifestations that correlate with COPD, determining whether these associations persist independently of respiratory insufficiency or neoplastic disease.

### **Materials & Methods:**

A cross-sectional cohort study was conducted, with prospective data collection of patients admitted to the internal medicine ward of a tertiary hospital, over a 6-month period. Participants included patients diagnosed with cigarette smoke-induced COPD and a control group without COPD. Collected data included demographics and medical history (tobacco use, dermatological diseases, malignancy, respiratory insufficiency, etc.). All patients underwent a dermatological examination to detect the following skin manifestations: xerosis, malar exanthema, Thinker's sign, tobacco stains, nail clubbing, Beau's lines, Muehrcke's lines, koilonychia, longitudinal melanonychia, onycholysis, onychomycosis, onychorrexis and paronychia.

## **Results:**

Of the 187 patients analysed, 94 (50.3%) had COPD. The most common skin findings were xerosis, onychomycosis and clubbing. Statistical analysis revealed significant associations of xerosis, nicotine stains and clubbing with COPD. The presence of neoplastic disease was identified as a confounder of the association between xerosis and COPD. The presence of chronic respiratory insufficiency was not a confounding factor.

#### **Conclusion:**

This study underscores the prevalence of xerosis and clubbing in patients with cigarette smoke-induced COPD. These findings advocate for heightened clinical awareness and prompt treatment of symptomatic xerosis in COPD patients and that the presence of clubbing does not require an alternative diagnosis to be sought.

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# An unusual triad: spiny keratoderma, frontal fibrosing alopecia and hydroxychloroquine-induced hyperpigmentation

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# **Introduction & Objectives:**

Frontal fibrosing alopecia (FFA) is a cicatricial alopecia that primarily affects perimenopausal women. An association has been described with cutaneous lupus.

Hydroxychloroquine (HCQ)-induced hyperpigmentation, although uncommon, represents a significant skin complication associated with long-term antimalarial use, a common treatment in patients with systemic lupus erythematosus (SLE).

Spiny keratoderma is a rare skin disorder affecting the palms and/or soles that has been associated with other systemic diseases, mainly malignancies (such as leukaemia and multiple myeloma) and chronic kidney disease. Although rare cases of diffuse palmoplantar keratoderma associated with systemic lupus erythematosus have been described, to our knowledge this is the first case describing spiny keratoderma associated with the disease.

This case describes a 76-year-old woman with an atypical combination of FFA, spiny keratoderma and HCQ-induced hyperpigmentation, with the aim of highlighting the potential long-term dermatological consequences of SLE and HCQ treatment and providing valuable clinical information on these concurrent diseases.

## Materials & Methods:

A comprehensive clinical evaluation of a 76-year-old female patient diagnosed with SLE over thirty years ago and on continuous treatment with HCQ for over twenty years was performed. Her medical history, duration of treatment and dermatological manifestations were documented. Histopathological and/or dermatoscopic studies were included to confirm the diagnosis of FFA, spiny keratoderma and HCQ-induced hyperpigmentation.

# **Results:**

A 76-year-old female patient presented to the Dermatology Department due to asymptomatic hyperpigmentation on her face that had been slowly progressing in the last two years and deeply impacted the patient's self-esteem. Medical history included SLE diagnosed over thirty years ago and on continuous treatment with HCQ for over twenty years, with a good control of the disease. On examination, the patient had frontal and temporal hairline retraction, madarosis, brown-greyish patches diffusely throughout her face and punctate hyperkeratotic projections on her palms. A clinical diagnosis of frontal fibrosing alopecia was made. Skin biopsy confirmed the clinical suspicion of HCQ-induced hyperpigmentation and spiny keratoderma. Treatment was started for the condition that most bothered the patient (HCQ-induced hyperpigmentation) with azelaic cream 20% and reducing the HCQ dosage. A satisfying response was obtained with an improvement of the patient's self-esteem.

#### **Conclusion:**

This case reports a rare combination of three skin diseases in a patient with SLE treated with HCQ for twenty years,

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highlighting the need for dermatological surveillance in patients receiving long-term antimalarials. Early identification of these manifestations may prevent complications and optimise therapeutic management. This report also contributes to the literature on the potential systemic diseases associated with spiny keratoderma as it is the first describing an association with SLE.

Comparative efficacy and cost-effectiveness of bleomycin versus cryotherapy for refractory multiple plantar warts

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# **Introduction & Objectives:**

Treatment of refractory multiple plantar warts is a great challenge due to the high recurrence rate and the number of lesions. Although cryotherapy is the standard therapy, its limitations in terms of efficacy and cost-effectiveness in complex cases have prompted the exploration of alternative therapies. This study compared the efficacy, safety and cost-effectiveness of localized bleomycin injection with cryotherapy for the treatment of refractory multiple plantar warts.

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

Two hundred patients with 6-10 plantar warts (diameter ≤1 cm)(aged ≥18 years) with multiple plantar warts were recruited for this study. Participants were assigned to either the cryotherapy group (cryotherapy (-196°C liquid nitrogen) applied to all visible warts) or the bleomycin injection group (intralesional bleomycin targeting the earliest-onset or largest wart(s), maximum 4 lesions per session) by a computer-generated randomization sequence (1:1). Treatment allocation was kept confidential by an independent investigator to ensure blinded assessment of participants and outcome assessors. All patients were treated once a week for 4 weeks. The primary endpoint was complete clearance of the lesion at week 6 post-treatment. Secondary endpoints included recurrence rate at week 15 and cost-effectiveness analysis. Adverse events (AEs) were monitored throughout the study period. Statistical analyses were performed using SPSS under the intention-to-treat (ITT) principle using the χ² test for categorical variables and the t-test for continuous variables.

#### **Results:**

At week 6, 79/100 (79%) patients in the bleomycin-treated group achieved complete clearance versus 45/100 (45%) in the cryotherapy group (p<0.001). At week 15, 9/100 (9%) patients in the bleomycin-treated group versus 19/100 (19%) patients in the cryotherapy group experienced plantar wart recurrence (p=0.04). The cost-effectiveness analysis showed that the average cost per patient for bleomycin treatment was RMB 142.86 compared with RMB 238.10 for cryotherapy. Grade 1/2 localized AEs were seen in 28% and 22% of patients in the bleomycin-treated and cryotherapy groups, respectively (p=0.57), and no serious systemic reactions were reported.

### **Conclusion:**

Localized bleomycin injection for refractory multiple plantar warts has better efficacy and costeffectiveness compared with cryotherapy. The sequential treatment strategy targeting high-risk lesions achieved an optimal balance between therapeutic efficacy and economic burden. This study suggests that local injection of bleomycin is a viable treatment option for cases of refractory multiple plantar warts.

## Why Do We Need To Know Keratosis Lichenoides Chronica - A Case Report

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## **Introduction & Objectives:**

Keratosis lichenoides chronica (KLC) is an under-recognized chronic, papulosquamous disorder with fewer than 100 cases reported globally. Its clinical and histopathological features often overlap with other dermatoses which result in frequent misdiagnosis and delayed management. KLC typically presents with violaceous, hyperkeratotic papules and plaques in linear or reticulated patterns. Sometimes there may be facial, mucosal, and ocular involvement. We present a 32-year-old Filipino woman with a 20-year history of widespread KLC. This case illustrates the diagnostic difficulty posed by this disease and the need for greater awareness.

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

A detailed clinical history, dermatologic examination, and histopathology were performed. Two 4-mm punch biopsies were taken from an erythematous patch from the right upper back and another from a hyperkeratotic papule on the left arm. Laboratory work-up including complete blood count, liver and kidney function tests, lipid profile, thyroid studies, antinuclear antibody and rheumatoid factor were completed to rule out systemic and autoimmune causes.

## Results:

The patient first noticed the lesions 20 years ago. Lesions began as hypopigmented macules on her hands which gradually evolved into multiple, pruritic, violaceous follicular papules and plaques. Some lesions adopted a linear or reticulated configuration over the trunk and extremities. Similar lesions were seen on the palms and soles. There was also seborrheic dermatitis-like facial and ocular involvement. This was associated with joint pains of bilateral hips, knees and hands which led to impairment of daily activities.

Histopathology revealed a lichenoid interface dermatitis characterized by a band-like lymphohistiocytic infiltrate, necrotic keratinocytes, parakeratosis containing neutrophils, and infundibulocentric inflammation. All of these were hallmark features of KLC. Laboratory workup was unremarkable.

Oral Isotretinoin (30 mg/day) provided some decrease in thickness of the papules and plaques however it was discontinued after 2 months due to xerophthalmia. Lesions recurred shortly after discontinuation. She was then given oral Methotrexate (7.5 mg/week) for 3 months with minimal relief of joint pains but no improvement of the skin lesions.

### **Conclusion:**

This case demonstrates the diagnostic complexity and therapeutic challenges of KLC. Consistent with prior literature, our patient demonstrated minimal response to systemic retinoids and methotrexate. Notably, this report adds to the literature by documenting extensive, chronic KLC in a Filipino woman, supporting the disease's global distribution and variable clinical course. Early recognition is essential to improve patient outcomes and quality of life.

## Keratosis Lichenoides chronica (Nekam's disease): Case Report

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# **Introduction & Objectives:**

Keratosis lichenoides chronica (KLC) also known as Nekam's disease is a rare, chronic dermatosis of unclear etiology characterised by violaceous, keratotic papules arranged in a linear or reticulated pattern primarily affecting the trunk and extremities. It may present with mucosal involvement, alopecia and nail dystrophy, and is often resistant to standard dermatologic treatments.

Due to its overlapping clinical and histopathological features, KLC is frequently misdiagnosed as lichen planus, psoriasis, or pityriasis rubra pilaris. Fewer than a hundred cases have been reported in the literature, making it a dermatological rarity.

We report a case of KLC in a 48-year-old male with persistent linear lesions to the trunk despite years of treatment, to highlight the diagnostic challenges and therapeutic considerations associated with this condition.

# **Materials & Methods:**

Retrospective case report with patient's consent to use up-to-date images, histopathological findings and medical records.

# Results:

Forty-eight-year-old male patient was referred to dermatology in 2016 due to a persistent pruritic rash. He failed to improve with topical betamethasone with fusidic acid and emollients. Clinical examination revealed a linear rash affecting both axillae, lower abdomen, groin, and both legs.

A skin biopsy of the lesion was performed, and histological findings were consistent with keratosis lichenoides chronica. He was commenced on acitretin 25 mg daily. However, by three months, he exhibited no clinical improvement and developed severe cheilitis, prompting referral for UVB phototherapy while continuing acitretin. After 13 sessions of phototherapy, the patient reported only minor flattening of lesions and tanning, without significant symptomatic relief. Deranged liver function tests led to discontinuation of acitretin. Phototherapy was re-initiated, and he completed nine more sessions, again with no notable improvement.

Between 2018 and 2025, the patient was diagnosed with type 2 diabetes mellitus, bilateral corneal ulcers, and hyperlipidaemia. Dermatologically, his condition has remained largely unchanged. Pruritus is moderately controlled with topical emollients and corticosteroids. There has been no evidence of disease progression, mucosal involvement, or systemic complications related to KLC during this period.

#### Conclusion:

The exact pathogenesis of KLC disease remains unclear. However, its association with amyloidosis and porokeratosis suggests a potential dysregulation in keratinocyte differentiation and abnormal deposition of amyloid fibrils, which might contribute to its clinical and histological manifestations. The presence of amyloidosis

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in some cases raises concerns about systemic involvement. Our patient has not shown such involvement. Histological examination is crucial for diagnosis, as it helps differentiate KLC from other similar diseases, particularly with regard to the presence of porokeratotic histology or amyloidosis in some cases. Further studies are needed to explore the genetic basis of these diseases and to develop more targeted therapies. Collaboration between dermatologists and other specialists, such as rheumatologists and pathologists, may be necessary to manage the more complicated cases of Nekam's disease, particularly when systemic involvement is suspected.

# Assessing the readability of dermatological patient information leaflets generated by ChatGPT-4 and its associated plugins

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## **Introduction & Objectives:**

In the UK, 43% of adults struggle to understand health information presented in standard formats. As a result, Health Education England recommends that patient information leaflets (PILs) be written at a readability level appropriate for an 11-year-old. Therefore, we aimed to evaluate the ability of ChatGPT-4 and its three dermatology-specific plugins to generate PILs that meet readability recommendations and compare their readability with existing British Association of Dermatologists (BAD) PILs.

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

ChatGPT-4 and its three plugins were used to generate PILs for 10 preselected dermatological conditions. The readability of these PILs was assessed using three readability formulas Simple Measure of Gobbledygook (SMOG), Flesch Reading Ease Test (FRET) and Flesch–Kincaid Grade Level Test (FKGLT) and compared against the readability of BAD PILs. A one-way ANOVA was conducted to identify any significant differences. Lastly, the content of the PILs generated by ChatGPT-4 and its plugins, was compared with that of the BAD PILs.

#### **Results:**

The readability scores of PILs generated by ChatGPT-4 and its plugins did not meet the recommended target range. However, some of these PILs demonstrated more favourable mean readability scores compared with those from the BAD, with certain plugins, such as Chat with a Dermatologist, showing significant differences in mean SMOG (P = 0.0005) and mean FKGLT (P = 0.002) scores. Nevertheless, the PILs generated by ChatGPT-4 were found to lack some of the content typically included in BAD PILs.

#### **Conclusion:**

ChatGPT-4 can produce dermatological PILs free from misleading information, occasionally surpassing BAD PILs in terms of readability. However, these PILs still fall short of being easily understood by the general public, and the content requires rigorous verification by healthcare professionals to ensure reliability and quality.

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## A 'perforating' eruption

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# **Introduction & Objectives:**

Acquired reactive perforating collagenosis (ARPC) is a rare dermatological disorder characterised by transepidermal shedding of altered collagen. It is mainly associated with metabolic diseases, such as diabetes mellitus and chronic renal failure, although it has also been described in patients with lupus and dermatomyositis. Its pathophysiology is not fully understood, but chronic inflammation, pruritus and microtrauma in genetically predisposed individuals are thought to play a key role in its development.

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

Clinical case and review of the literature

#### **Clinical case:**

78-year-old woman with a history of arterial hypertension and polymyalgia rheumatica (PMR) treated with leflunomide and low-dose prednisone. She consulted for eruptive lesions of three weeks of evolution. Physical examination revealed multiple papules measuring less than 1 cm, with a crusted centre and raised erythematous border, located exclusively on the back. Laboratory tests showed only a slight elevation of C-reactive protein. A punch biopsy showed transepidermal elimination of collagen, leading to the diagnosis of perforating collagenosis. The lesions self-resolved in four weeks without any treatment.

#### **Conclusion:**

This case highlights the possible link between ARCP and rheumatological diseases. The self-limiting evolution of the lesions could be influenced by the underlying immunomodulatory treatment, which reinforces the hypothesis of inflammation as a key pathophysiological factor. The therapeutic approach includes topical (corticosteroids, keratolytics), systemic (retinoids, doxycycline) and phototherapy options. In refractory cases, treatments with JAK inhibitors (upadacitinib) and dupilumab have been described. ARCP should be considered in the differential diagnosis of papulo-crusted lesions in patients with metabolic and inflammatory pathologies.

## Ablative Laser and Intradermal 5-FU for Hand Scar Remodeling

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Introduction & Objectives: Hand scars can lead to significant functional limitations and cosmetic disfigurement. Traditional surgical methods often result in recurrence of scarring, donor site morbidity, and mismatched pigmentation or texture. This case study aims to evaluate the efficacy and safety of a novel, non-surgical technique—ablative fractional laser resurfacing combined with micro-tattooing of 5-fluorouracil—for the treatment of traumatic hand scars.

**Materials & Methods:** A retrospective review was carried out on patients at a single institution who underwent three or more sessions of ablative fractional laser resurfacing with micro tattooing of 5-fluorouracil. The assessment focused on one patient with a traumatic hand scar, evaluating functional and aesthetic improvements using external photography to analyze scar appearance

**Results:** The patient exhibited notable functional improvement, with a significant reduction in scar severity. Importantly, all patients showed considerable cosmetic improvement according to a validated scar assessment questionnaire, and reported greater satisfaction with the appearance of their scars. Mild adverse effects, such as hyperpigmentation, were observed and effectively treated with topical hydroquinone.

**Conclusion:** Ablative fractional laser resurfacing with micro-tattooing of 5-fluorouracil appears to be a safe and effective treatment for addressing the functional and cosmetic issues associated with hand scars. These results, which are challenging to achieve through surgery alone, imply that this method should be considered as an integral component of a comprehensive treatment plan for managing hand scars.

## Access to dermatologic care among indigenous peoples in Palawan, Philippines: A community project

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# **Introduction & Objectives:**

Access to dermatological services remains limited in many rural areas of the Philippines, particularly in indigenous cultural communities and among indigenous peoples (ICCs/IPs). Health services in these areas are primarily provided by rural health physicians, nurses, and midwives who deliver primary care to their localities. This project aimed to provide dermatologic care to indigenous communities through mobile clinics and teledermatology in Palawan, Philippines.

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

The island of Palawan, located in Western Philippines, has a population of 1,216, 008 and composed of 23 municipalities and 1 city. Several indigenous peoples (IP) communities in the island includes Tagbanua, Agutaynen, Palaw'an, Batak, Taut Bato, and Molbog. These communities often face high levels of poverty and challenges in accessing health services due to their location and cultural difference in health-seeking behaviors. The project was implemented together with the Provincial Health Office of Palawan, which provided logistical coordination, local health personnel support and community engagement.

## **Results:**

This community project was implemented with three target sites from 2024 to 2025. Two mobile clinics were organized which provided dermatologic services to approximately 130 individuals in 2 communities. Twenty-seven (27) health workers were trained on primary level care of skin diseases and teledermatology and one (1) lecture on skin health was conducted among the community volunteer health workers. Teledermatology referrals were facilitated between the trained health workers and a dermatologist. The project encountered several challenges during implementation. First, patient follow-up remains difficult, largely due to the health-seeking behavior of indigenous populations and the geographic isolation of many communities. Strengthening follow-up systems and improving community trust and engagement are essential. Second, the availability of dermatologic medications and supplies is limited in both public and private health sectors, highlighting the need for improved logistics and supply chain support. Third, while teledermatology holds promise for bridging gaps in specialist care, its effective implementation requires the development of clear referral protocols and active collaboration among various stakeholders, particularly local government units. Finally, ensuring the sustainability of the project beyond the initial funding period remains a key concern. Long-term integration into existing health systems and continued support from local and national health authorities will be crucial.

#### **Conclusion:**

Indigenous peoples are among the sector of the population with limited access to dermatologic care and other health services. Mobile clinics, capacity building of health workers and teledermatology can contribute to addressing the existing disparity in access to care. Expansion and institutionalization of mobile clinics and teledermatology in difficult to reach populations like ICCs/IPs may be explored.

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## Position-dependent Periorbital Oedema revealing a Superior Vena Cava Syndrome

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<sup>1</sup>La Rabta Hospital, Dermatology, Tunis, Tunisia

# **Introduction & Objectives:**

Superior vena cava syndrome (SVCS) is a rare oncologic emergency which can be life threatening. It has a distinct clinical presentation consisting of symptoms that manifest when the SVC, the vein that takes deoxygenated blood from the upper body to the heart, is partially or completely obstructed. Herein we present a case of a position-dependent periorbital oedema revealing a SVCS due to a pulmonary malignancy.

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

Case report and bibliographic research.

#### **Results:**

A 50-year-old male smoker presented with a 4-month history of periorbital oedema and facial swelling, most pronounced in the morning and after assuming a horizontal position. His father had died of bladder cancer. The symptoms had a gradual onset. Physical examination revealed erythema and swelling of the eyelids and cheeks, a cape-like erythema extending over the décolleté, and dilated collateral veins on the chest and abdominal walls. The patient also reported exertional dyspnea and fatigue. A chest radiograph showed a widened mediastinum and mild pleural effusion. CT imaging revealed a locally advanced mediastinal-hilar mass encroaching upon the pericardium, coronary arteries, superior vena cava (SVC), and right pulmonary artery, accompanied by pleural effusion. A diagnosis of SVCS was established. The patient was initiated on curative anticoagulation and corticosteroid therapy and referred to the pulmonology department.

# **Conclusion:**

Superior vena cava syndrome (SVCS) occurs when the SVC is compressed, leading to blood rerouting through collateral vessels, which subsequently dilate to accommodate the altered flow. A slower progression of obstruction allows time for the development of collateral circulation meaning that a rapid onset correlates with more severe symptoms. Key clinical indicators of SVCS include marked dilation of neck and chest wall veins, dyspnea on exertion, coughing, arm swelling, and the presence of Pemberton's sign, characterized by facial congestion and cyanosis upon elevating both arms. In our case, we suggested the diagnoses of Dermatomyositis or Airborne Dermatitis. A differential diagnosis to consider is carcinoid syndrome, which presents with episodic flushing affecting the same areas but lasting minutes to hours. SVCS is most commonly associated with malignancies, such as lung cancer, lymphomas, and metastatic tumors, as seen in our patient, and in these cases, it is linked to a poor prognosis and high mortality. Benign causes, including device- related factors, radiation fibrosis, or sarcoidosis, make up the remaining cases. The life-threatening nature of SVCS is due to the potential for airway obstruction or cerebral edema, both, possibly leading to death. Thus, it is imperative to thoroughly evaluate red facial appearances or periorbital swelling to avoid misdiagnosis and ensure timely intervention.

# A rare case report: Pseudoxanthoma elasticum-like papillary dermal elastolysis

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### **Introduction & Objectives:**

Pseudoxanthoma elasticum-like papillary dermal elastolysis (PXE-PDE) is a rare, acquired elastic tissue disorder characterized by asymptomatic, yellowish, non-follicular papules, typically located on the posterior neck. It most commonly affects postmenopausal women over the age of 40. Despite its clinical similarity to pseudoxanthoma elasticum (PXE), PXE-PDE lacks systemic involvement and is distinguished by its specific histopathological findings. The exact pathogenesis remains unclear, but ultraviolet exposure, aging, and abnormal elastogenesis have been suggested as contributing factors. In this case report, we aim to present a 73-year-old woman with clinical and histological features consistent with PXE-PDE, contributing to the limited number of documented cases in the literature.

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

A 73-year-old woman presented with a 3-4-year history of asymptomatic papules on the posterior neck, gradually extending laterally. Her medical history included type 2 diabetes mellitus and hypertension, managed with metformin, losartan/hydrochlorothiazide, and amlodipine. There was no family history of similar lesions. Physical examination revealed multiple yellowish 1–2 mm non-follicular papules on the posterior and lateral aspects of the neck. A punch biopsy was performed. Histopathological analysis included H&E, Elastic Van Gieson, Masson's Trichrome, and Alcian Blue staining. Routine biochemical and hematological tests were also conducted. Treatment with three sessions of intralesional triamcinolone acetonide (10 mg/mL) was initiated.

#### **Results:**

Histological findings revealed focal reduction and fragmentation of elastic fibers (Elastic Van Gieson), melanin incontinence and mild edema in the papillary dermis (H&E), and no thickening of collagen bundles (Masson's Trichrome). Alcian Blue staining was negative. Laboratory results were within normal limits. Based on clinical and histopathological features, the diagnosis of PXE-PDE was confirmed. No significant response was observed after corticosteroid injections.

#### **Conclusion:**

PXE-PDE is a rare and under-recognized condition that requires clinical suspicion and histopathological confirmation. It should be differentiated from PXE to avoid unnecessary systemic investigations. Current treatment options remain limited, and patient response is generally poor. This case aims to enhance awareness of PXE-PDE and its diagnostic features among dermatologists.

## A rare case report: Pseudoxanthoma elasticum-like papillary dermal elastolysis

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# **Introduction & Objectives:**

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A 73-year-old woman presented with a 3–4-year history of asymptomatic papules on the posterior neck, gradually extending laterally. Her medical history included type 2 diabetes mellitus and hypertension, managed with metformin, losartan/hydrochlorothiazide, and amlodipine. There was no family history of similar lesions. Physical examination revealed multiple yellowish 1–2 mm non-follicular papules on the posterior and lateral aspects of the neck. A punch biopsy was performed. Histopathological analysis included H&E, Elastic Van Gieson, Masson's Trichrome, and Alcian Blue staining. Routine biochemical and hematological tests were also conducted. Treatment with three sessions of intralesional triamcinolone acetonide (10 mg/mL) was initiated.

#### **Results:**

Histological findings revealed focal reduction and fragmentation of elastic fibers (Elastic Van Gieson), melanin incontinence and mild edema in the papillary dermis (H&E), and no thickening of collagen bundles (Masson's Trichrome). Alcian Blue staining was negative. Laboratory results were within normal limits. Based on clinical and histopathological features, the diagnosis of PXE-PDE was confirmed. No significant response was observed after corticosteroid injections.

#### **Conclusion:**

PXE-PDE is a rare and under-recognized condition that requires clinical suspicion and histopathological confirmation. It should be differentiated from PXE to avoid unnecessary systemic investigations. Current treatment options remain limited, and patient response is generally poor. This case aims to enhance awareness of PXE-PDE and its diagnostic features among dermatologists.

## Chondroid Syringoma, Clinical and Epidemiological Features: A Case Series and Literature Review

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# **Introduction & Objectives:**

Chondroid syringoma is an uncommon benign adnexal tumor of the sweat glands, characterized by epithelial and mesenchymal components within a chondroid or myxoid matrix. It accounts for 0.98% of benign adnexal tumors. Due to its nonspecific clinical presentation, it is rarely suspected clinically. Although rarely reported, dermoscopy has shown whitish cotton-like areas, telangiectasias, erythematous background, milia-like cysts, and bluish areas. The diagnosis is confirmed histopathologically, and treatment is complete excision due to the low but existing risk of recurrence or malignant transformation. We present this case series to highlight its clinical and epidemiological features.

## **Materials & Methods:**

A retrospective review was conducted of the records from our Dermatopathology Department between January 2014 and February 2025. Thirty-eight cases were identified, of which 37 were included after excluding one case of malignant chondroid syringoma. Clinical variables analyzed included sex, age, lesion location, morphology, size, duration, and clinical diagnosis at referral.

#### **Results:**

A total of 37 cases were included, with a male predominance (56%). The mean age at diagnosis was 49 years (range: 27–72 years). The most common location was the head and neck region (82%), particularly the middle and upper thirds. The morphology was described as a neoformation in all cases. The average time since lesion onset was 53 months (range 2-248 months). Clinical diagnostic suspicions included epidermoid cyst (40%), adnexal tumor (27%), and pilomatrixoma (5%). In 100% of cases, the diagnosis was established via histopathological examination.

## **Conclusion:**

Chondroid syringoma is rarely suspected clinically, leading to misdiagnosis. Its definitive diagnosis relies on histopathological evaluation. Recognizing this entity can help avoid unnecessary and aggressive surgical treatments, especially in aesthetic areas, underscoring the need for increased awareness among dermatologists.

# Attitudes and perceptions towards different health interventions – focus groups with dermatologists and patients

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# **Introduction & Objectives:**

Digital health interventions (DHIs) are defined as the use of information and communication technologies to support health and health-related goals. However, despite their potential to improve dermatological care, the use of DHIs in Germany remains limited. Therefore, the study aims to explore the attitudes and perceptions as well as barriers and facilitators influencing the acceptance and use of five different DHIs among dermatologists and dermatological patients.

#### Materials & Methods:

Between February and April 2021, six semi-structured online focus group interviews were conducted with dermatologists (n=30) and dermatological patients (n=34). Participants were recruited using maximum variation sampling. Data analysis was performed using qualitative content analysis according to Kuckartz. Based on the Unified Theory of Acceptance and Use of Technology, main categories were derived deductively. Subcategories were derived inductively from the material. To increase coding reliability, interrater agreement was calculated.

## **Results:**

In addition to five main categories, a total of 76 subcategories were developed based on the dermatologists' (51.3 ± 8.4 years old, 40% female) and patients' (47.7 ± 16.8 years old, 59.2% female) statements. Most categories were discussed for store-and-forward (S&F) teledermatology (n=54), followed by monitoring portals (n=47), video consultations (n=46), self-support tools (n=29) and treatment reminders for adherence (n=26). Both stakeholders emphasized the relevance of user-friendliness of applications. General aspects such as workload or time expenditure, as well as data security and technical interoperability were relevant for almost all DHIs. Diagnostic accuracy (in S&F teledermatology and video consultation) or data and information overload for medical professionals (e.g., in monitoring portals) were more application-specific categories. Evidence was considered particularly important for self-help tools. A barrier for teledermatology and monitoring portals was the lack of fair reimbursement for physicians. Patients' digital competencies were only discussed by dermatologists, while only patients addressed patient-physician communication.

## **Conclusion:**

The study highlights a variety of aspects that can influence the use of different DHIs in dermatological care from the perspective of two stakeholders. Taking these into account can help to develop future applications that are tailored to the circumstances and needs of their target groups. Furthermore, implementation strategies can be designed to facilitate the use of existing DHIs in practice. The relevance of the individual aspects can be quantitatively examined in further steps.

# **Iatrogenic calcinosis cutis: A Rare Complication of Intravenous Calcium Therapy**

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# **Introduction & Objectives:**

Calcinosis cutis is a condition in which insoluble calcium salts are deposited in cutaneous tissues. It can be classified into five categories: dystrophic, metastatic, idiopathic, iatrogenic, and calciphylaxis. Iatrogenic calcinosis cutis, in particular, often occurs as a complication of intravenous calcium therapy, probably due to elevated tissue calcium concentrations and subsequent tissue damages.

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

A 71-year-old man was referred to the dermatology department with yellow papules on the dorsum of his left hand, which had appeared three days prior. He had been hospitalized for hyperkalemia with underlying chronic kidney disease three weeks before the lesions developed. During his admission, he had received an intravenous calcium gluconate infusion via his left hand dorsum.

## **Results:**

Skin biopsy revealed aggregates of basophilic amorphous material deposited in the papillary and reticular dermis, accompanied with a foreign body reaction. Calcium deposition was confirmed by von Kossa staining. He was treated with intralesional triamcinolone injection, steroid ointment, and oral steroid for three months, leading to a reduction in the size and number of the lesions.

#### **Conclusion:**

This case highlights a potential cutaneous complication following intravenous calcium therapy. Treatment options include intralesional corticosteroids, diltiazem, colchicine, and bisphosphonates, or, in severe cases, surgical removal if the lesions interfere with function.

# Evaluation of a teledermatological store-and-forward application - analysis of patient care and attitudes in Germany

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## **Introduction & Objectives:**

Not only has evidence been found for telemedicine in dermatology, but guidelines are already available for Germany. Nevertheless, telemedicine is rarely used in dermatology. The aim of the study is to evaluate an established teledermatological store-and-forward consultation from patients' and doctors' perspective.

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

Patients with dermatological concerns can obtain expert advice within a few hours via the store-and-forward platform. To do this, they provide data on their medical history and symptoms and upload photos of their skin changes. The data routinely collected from all patients in the application was used for analysis. The outcomes of the treatment were collected using standardised questions, including information on satisfaction, user-friendliness and benefit at two points in time (t1: immediately after the doctors' response; t2: after three weeks). The data was analysed descriptively using SPSS.

#### **Results:**

A total of 6,365 people used the application from October 2019 to September 2024 via the website. 55.7% were male, the average age was 36.09 years (Med: 34; SD: 14.39; Range: 0-93 years). The average doctor's response time was 27.07 hours (Med: 13.53; SD: 82.07), decreasing over the years. 1,701 (t1) and 518 (t2) patients took part in the survey. The majority of participants were satisfied with the application (t1: 87.8%; t2: 91.5%), as well as with the doctor's response time (t1: 94.9% satisfied). Most people also rated the user-friendliness as high (t1: 88.7% satisfied). In addition, a large majority agreed with the statement that they trust the application (t1: 94.3%). At t2, 21.2% of participants stated that their skin problem had healed, for 32.5% it had already improved considerably, for 25.5% it had improved slightly and for 16.5% it remained unchanged. For 67.8% of patients, the issue had been resolved by the treatment, 71.9% had been spared a visit to the doctor and 90.5% would use the application again. The doctors stated that 21.5% of the patients were mildly ill, 36.5% were moderately ill and 13.2% were severely ill (not applicable: 28.9%). According to the doctors, the issue was resolved in 85.7% of cases, while 23.9% were advised to consult a doctor. There are also group differences in utilisation and satisfaction.

## **Conclusion:**

Teledermatological store-and-forward care, as exemplified by the use of this platform, offers predominantly high benefits with a high level of satisfaction and safety. In the future, it may not only complement existing routine care, but also replace it in some cases. It also demonstrates the possibility of successful triage. The results can support researchers, practitioners and politicians in their decision-making.

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The effect of a formulation containing Subderma-Complex<sup>™</sup> and neuromuscular modulating peptides on the sustainability of Botulinum Toxin A (BTX-A) effect.

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#### Introduction

Botulinum toxin A, commonly known as Botox, is a cornerstone in treating dynamic wrinkles. Its primary mechanism involves temporary paralysis of underlying muscles, significantly reducing wrinkle formation. The effect duration varies by individual, averaging 3–4 months. To maintain results, reinjection is needed at this interval. Several effective topical products with select peptides and botanical extracts act as neuromuscular modulators and are commonly used as over-the-counter cosmetics.

## **Objectives:**

To evaluate the efficacy of a novel cream and serum formulation in extending the clinical duration of botulinum toxin type A effects. The formulation contains Subderma-Complex<sup>™</sup>—a proprietary combination of arginine and niacinamide—alongside select commercially available neuromuscular modulating peptides: Argireline®, Munapsys<sup>™</sup>, X50® Myocept, and Syn®-Ake, which reduce facial muscle contractions and expression lines by targeting neuromuscular signaling through pre-, post-synaptic, and receptor-modulating mechanisms. The study aimed to assess whether regular application of this formulation delays wrinkle reappearance and extends the interval between injection sessions.

#### Materials & Methods:

Selected Subjects were with moderate to severe facial wrinkles (glabellar, forehead and Lateral canthal wrinkles), who had received at least three consecutive Botox injections, with an average interval of 3–4 months between treatments, while the trigger for reinjection was based on the reappearance of the first wrinkle which typically marks the beginning of deterioration. A total of 5 visits were conducted for each subject. V1 – Screening; V2 – Start: BTX-A (Dysport) injected; creams/serum applied daily. V3 – Follow-up at 12–30 days; V4 – Follow-up at subject's typical reinjection interval; V5 – Follow-up at first wrinkle reappearance, marking time to reinjection. The time-to-new-injection was recorded and compared to the known baseline interval. Wrinkle severity, skin aging condition, and tolerability were re-assessed. Effectiveness was assessed by change from baseline of:

- \1. Investigator's Global assessment (IGA) of wrinkle severity
- \2. Subject Self-Assessment of wrinkle severity (SSA)
- \3. Quantitative severity assessment of wrinkles
- \4. wrinkle volume (Pixel³), and wrinkle depth (Pixel) using instrumental CSI (Complete Skin Investigation) VisioFace Lite.
- \5. global skin condition
- \6. skin ageing parameters

\7. skin condition (hydration, wrinkles and elasticity) by instrumental analysis - Multi Skin Test center MC1000.

## **Results:**

18 participants were enrolled in the study, of whom 15 completed the full protocol. The cohort included one male participant. The expected interval between botulinum toxin type A injections, based on participants' prior treatment history, was 13.5 weeks. Following regular application of the topical formulations, the actual interval observed until the next required injection was extended to 22.5 weeks. This represents a 65% increase in the duration between injections. One subject had eyelids contact dermatitis that necessitated stopping the trial.

#### **Conclusion:**

The formulation containing Subderma-Complex<sup>™</sup> and neuromuscular modulating peptides is safe and is capable of sustaining the Botox effect. A limitation of the study is the absence of a control arm testing the formulation without the proprietary complex, which prevents isolation of the complex's specific contribution to the observed effect.

## Beyond Aesthetics: Redefining Nasal Tip Necrosis as a Multisystem Clinical Concern

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**Introduction & Objectives:** Nasal tip necrosis is a rare but clinically significant condition involving skin and subcutaneous tissue death in an area with limited collateral circulation. Its diverse etiologies present diagnostic and therapeutic challenges, yet no standardized guidelines currently support clinical dermatologists in its evaluation and management. This study systematically reviews reported cases to identify recurring patterns, clarify underlying causes, and inform treatment approaches.

Materials & Methods: A comprehensive search of PubMed and ScienceDirect (January 1960–April 2025) used the terms: "skin necrosis" AND "nose", "skin necrosis" AND "nasal", "nose tip necrosis", "nasal tip necrosis", and "nasal necrosis". All clinical studies were considered, excluding cases secondary to rhinoplasty or aesthetic procedures. Of 398 articles retrieved, 108 duplicates were removed. Three reviewers screened 290 records, and 34 studies were included in the final analysis.

Results: A total of 30 adult cases of nasal tip necrosis were identified, with an equal distribution between males and females and a mean age of 55.7 years (range: 18-83). Based on underlying mechanisms, cases were classified into six primary etiological categories. Infectious causes were the most common, accounting for 40.0% of cases, and included bacterial infections, tuberculosis, and mucormycosis—often presenting with facial extension and systemic manifestations. Iatrogenic etiologies represented 20.0% of cases and were primarily associated with mechanical ventilation, CPAP, or oxygen masks, typically leading to localized ischemic injury. Drug-induced necrosis also comprised 20.0% of cases, mainly due to levamisole-adulterated cocaine and vasopressor use, with one extreme case involving 52% of total body surface area (TBSA). Immune-mediated processes, including antiphospholipid syndrome, vasculitis, cryoglobulinemia, and cold agglutinin disease, accounted for 10.0% of cases and often presented with systemic involvement; these were more frequently observed in females. Systemic inflammatory states, such as septic shock, were identified in 6.7% of cases, typically with rapidly progressing and extensive tissue damage. Finally, traumatic etiology was noted in 3.3% of cases, represented by a single instance of trigeminal trophic syndrome, leading to self-induced localized necrosis. Among 46 pediatric cases reported across five studies, 91.3% were associated with mechanical ventilation, often related to nasal cannulas in neonates or commercial face masks in older children. Three cases were due to congenital pressure ulcers, and one case was attributed to cold agglutinin syndrome secondary to infection. Treatment strategies varied based on etiology and lesion severity. Conservative management included topical therapies, dressings, antimicrobials, anticoagulants, and immunosuppressive agents when indicated. Surgical intervention, such as debridement and reconstruction, was reserved for extensive or refractory lesions.

**Conclusion:** This review underscores the diagnostic complexity of nasal tip necrosis and the necessity for a systematic approach to its evaluation. By organizing reported cases into clearly defined etiological categories, we provide a practical framework that can aid dermatologists, in narrowing the differential diagnosis based on clinical presentation and patient history. This facilitates targeted management, ultimately contributing to improved

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patient outcomes.

## 3D Facial Imaging Reconstruction and Photo-grading in Skin of Color Patients

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## **Introduction & Objectives:**

There is a need for dark skin representation in dermatology. Due to their melanin-rich skin, medical photographing in skin of color patients requires different approaches for high quality imagery. However, imaging systems and artificial intelligence-based technologies often are not designed nor tested with the consideration of darker-skinned tones individuals. Here, we evaluated the capability of a new device to reconstruct 3D facial images of women of color, and whether 3D photo-grading by dermatologist can detect changes of skin attributes overtime.

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

11 female subjects completed the study from diverse racial backgrounds, aged 25-70 years with skin phototypes IV-VI, and presenting with mild to moderate uneven skin tone and skin roughness. After completing 1-week washout period, all subjects used a 2-MNG-containing serum and sunscreen SPF30 regimen for 12 weeks. Using a 360-acquisition system, standardized images of subjects' full face were taken with new device at baseline and week 12. 3D imaging models were reconstructed with frontal and profile views, plus analyzed for skin tone and texture parameters. 3D images of each subject were then photo-graded by blinded dermatologist.

## Results:

Reconstruction of 3D images of patients of color took several attempts due to nuances in light reflection and absorption in darker-skin tones. Skin tone assessment from 3D imaging analyses, measured by the variance of skin illuminance, was consistent with subjects' skin complexion. However, minimal improvement in skin tone and roughness was detected following the skincare regimen. 3D photo-grading by dermatologist of patient images demonstrated no statistically significant change in skin tone and texture overtime. Hyperpigmentation, dark spots, and skin tone evenness, tended to be the most detectable endpoints.

#### **Conclusion:**

Skin of color patients with darker skin tones are under-represented in dermatology educational resources. More and more reports highlight that medical photographing patients of color requires different approaches for ideal background, lightening, camera & exposure settings versus white counterparts. Our pilot project suggests that this new device can effectively capture and reconstruct 3D facial images of patients of color. However, more studies with bigger sample size are needed to optimize acquisition, model reconstructions, and effective monitoring for diverse ethnically patients with lightly and darkly pigmented skin.

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## Melanocytes differential reactivity to prolonged oxidative stress in relation to pigmentation levels: a senescence model

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**Introduction & Objectives:** Understanding how oxidative stress drives melanocyte aging is essential for advancing research on skin aging and its associated disorders. These pigment-producing cells are particularly prone to oxidative damage due to their high metabolic activity and melanin production, which can increase reactive oxygen species (ROS). However, there is limited research on how prolonged oxidative stress affects melanocyte function and senescence, especially regarding the role pigmentation levels might play in their response. This study aimed to develop the SenMel model that induces senescence of human epidermal melanocytes by chronic hydrogen peroxide (H2O2) exposure.

**Materials & Methods:** Melanocytes from three donors with different pigmentation levels underwent six H2O2 treatments over two weeks (week 1: 100  $\mu$ M; week 2: 500  $\mu$ M). Several parameters were assessed, including cell proliferation (BrdU assay),  $\beta$ -galactosidase ( $\beta$ -gal) activity, melanin content, and the expression of key melanocyte markers at both the gene and protein levels (e.g., MITF, tyrosinase, p16, TRP1, TRP2).

**Results:** Results revealed that chronic exposure to H2O2 significantly elevated  $\beta$ -gal activity (up to +95%, depending on the donor) while reducing cell proliferation (up to -75%, depending on the donor) within the SenMel model. Highly pigmented cells showed greater melanin production (+55%), while in medium-pigmented cells trends for inhibition were observed. Interestingly, lightly pigmented SenMel exhibited negligible changes in melanin synthesis. Molecular analysis indicated elevated p16 (up to +50%, depending on the donor) and higher tyrosinase/TRP2 levels in highly pigmented SenMel, though MITF and TRP1 expression remained unchanged across pigmentation groups.

**Conclusion:** These findings emphasize that baseline pigmentation affects melanocyte responses to oxidative stress, positioning this model as a valuable tool for studying senescence mechanisms in melanocytes.

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## Pacific Dermatology Training Centre: Improving Skin Health Across the Pacific Islands

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## **Introduction & Objectives:**

Fiji, a South Pacific nation situated roughly 16,000 kilometres from Europe, is comprised of over 300 islands, around 110 of which are inhabited. Fiji has a population of approximately 900,000. Previously there was only one specialist dermatologist in Fiji. To address this shortage, Pacific Dermatology Training Centre was established. This program offers both in-person and virtual lectures, workshops, and clinical experience to train doctors in skin disease from Fiji and other Pacific Islands. The one-year Post-Graduate Diploma in Dermatology was launched in 2018, with the inaugural cohort beginning in 2019. The Master of Medicine (Dermatology) was introduced shortly after. By 2024, three doctors completed the final year of the programme.

### **Materials & Methods:**

In 2019, the Pacific Dermatology Training Centre (PDTC) was established at Tamavua-Twomey Hospital in Suva, the capital of Fiji. This centre serves as the base for a four-year Master of Medicine in Dermatology program aimed at training local doctors. The initiative is primarily supported by Pacific Dermatology Ltd., a not-for-profit organization based between Fiji and Australia. The program operates in collaboration with the Pacific Leprosy Foundation (NZ), the Fiji Ministry of Health and Medical Services, Fiji National University, and Australian community donors. Recent funding from the International League of Dermatological Societies (ILDS) has provided additional support to sustain the program.

#### **Results:**

Three students graduated from the Masters of Dermatology in 2024. They began practicing as specialist dermatologists in Fiji in 2025, contributing to the workforce of the Fijian Ministry of Health. Four further masters and two diploma candidates are currently undertaking training.

#### Conclusion:

This initiative was developed in response to the significant dermatological health burden in the South Pacific and the lack of access to specialist dermatology care. Over the past five years, the program has offered valuable insights into in needs of the under resourced area of the Pacific Islands as well as significantly increasing the capacity of dermatological care in Fiji. The program remains committed to helping to facilitate a sustainable, locally-run regional dermatology education pathway in a resource-limited setting.

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# A global assessment of barriers to dermatologic care and underserved populations: international survey results from the SkinObservatory Study

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## **Introduction & Objectives:**

Access to dermatologic care is highly influenced by geography, socioeconomic status, provider proximity, education level, and race/ethnicity. The aggregation of dermatologists in urban areas, insurance issues and long wait times exacerbate these barriers, which disproportionately affect underserved populations. While some studies in high-income countries have explored these factors, no global assessment of barriers and underserved populations exists for dermatology.

### **Materials & Methods:**

The Global Access to Skin Health Observatory (SkinObservatory) Study is a cross-sectional, Delphi-developed, online survey of national-level dermatologic leaders in all 194 WHO member states. It queries barriers to care, including institutional, systemic, and patient-related factors, and underserved populations within dermatology. Barriers were compared across World Bank Income (WBI) levels via Chi-squared or Fisher's exact tests, and underserved populations were compared across WHO regions.

#### **Results:**

Data have been collected from leaders in 128 countries, representing ≥7.5 billion people. Globally, the most common barriers were *none or too few dermatologists in select regions* (57% of countries), distance/transportation barriers (55%), and out-of-pocket costs (53%) (**Table 1**). All barriers, except for dermatologists not accepting insurance, were significantly associated (p≤0.05) with WBI level. Notably, most low-and low-middle-income countries reported distance/transportation barriers (73%) or none or too few dermatologists (63%), whereas figures were much lower in middle- and high-income countries (40% and 31%, respectively). Most low-income countries (63%) reported a lack of available treatments, compared to only 14% of high-income countries.

Globally, the most frequently reported underserved populations were *rural/remote* (79%), *socioeconomically disadvantaged* (61%), and *underserved urban* (49%) (**Table 2**). The African region reflected the global trend, identifying *rural/remote* (100%), *socioeconomically disadvantaged* (88%), and *underserved urban* (78%) communities as most prominent. In the Eastern Mediterranean and European regions, *rural/remote communities* were most common (77% and 62%, respectively), although a significant number of respondents were unsure which populations were underserved (39% and 31%, respectively). In the Western Pacific, *rural/remote* (65%), *socioeconomically disadvantaged* (53%), and *people experiencing homelessness* (53%) were most underserved. South-East Asia identified *rural/remote* (80%) and *socioeconomically disadvantaged* (70%) communities. Lastly, in the Americas, *rural/remote* (85%), *socioeconomically disadvantaged* (65%), and *urban underserved* (62%) populations were most common, followed by *people experiencing homelessness* (46%) and *racial/ethnic minorities* (31%).

## **Conclusion:**

Our data illustrate profound global barriers to dermatologic care that disproportionately burden lower-income countries, including transportation barriers, inadequate distribution of dermatologists, and inequitable access to medications. It documents the vulnerability of geographically isolated or lower socioeconomic status individuals and highlights how select countries may benefit from characterizing their underserved communities. Defining global barriers and underserved populations is a vital step in creating pathways to improved dermatologic care.

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Table 1. Reported patient barriers to dermatologic care by World Bank Income level

Barrier	Low- income (n, %)	Low- middle- income (n, %)	Middle- high-income (n, %)	High- income (n, %)	Total (n, %)	p-value (Chi² or Fisher's exact test)
None or too few dermatologists in the country	13 (81%)	22 (55%)	12 (36%)	10 (27%)	57 (45%)	0.001
None or too few dermatologists in select regions	9 (56%)	30 (75%)	20 (61%)	13 (35%)	72 (57%)	0.005
Long wait times to see a dermatologist	5 (31%)	8 (20%)	16 (48%)	27 (73%)	56 (44%)	0.000
Distance travelled to dermatologists or transportation barriers	12 (75%)	29 (73%)	18 (55%)	10 (27%)	69 (55%)	0.000
Lack of individual health insurance	12 (75%)	25 (63%)	20 (61%)	8 (22%)	65 (52%)	0.000
Dermatologists not accepting insurance	1 (6%)	5 (13%)	5 (15%)	2 (5%)	13 (10%)	0.543
Out of pocket costs independent of insurance	10 (63%)	29 (73%)	21 (64%)	7 (19%)	67 (53%)	0.000
Lack of available treatment options	10 (63%)	23 (58%)	16 (48%)	5 (14%)	54 (43%)	0.000
Lack of affordable treatment options	9 (56%)	23 (58%)	18 (55%)	5 (14%)	55 (44%)	0.000
Lack of available diagnostic services	9 (56%)	21 (53%)	11 (33%)	1 (3%)	42 (33%)	0.000
Lack of affordable diagnostic services	9 (56%)	18 (45%)	13 (39%)	2 (5%)	42 (33%)	0.000
Patient related factures (knowledge, attitude, beliefs)	9 (56%)	28 (70%)	16 (48%)	8 (22%)	61 (48%)	0.000
No barriers	0 (0%)	1 (3%)	4 (12%)	6 (16%)	11 (9%)	0.096

Table 2. Identified underserved populations globally and by World Health Organization region

Population	Global (n, %)	African region (n, %)	Eastern Mediterranean region (n, %)	European region (n,%)	Western Pacific region (n, %)	South-East Asia region (n, %)	Americas region (n, %)
Racial / ethnic minorities	22 (17%)	5 (16%)	0 (0%)	2 (7%)	5 (29%)	2 (20%)	8 (31%)
Underserved urban communities	63 (49%)	25 (78%)	5 (39%)	6 (21%)	6 (35%)	5 (50%)	16 (62%)
Geographically rural/remote	101 (79%)	32 (100%)	10 (77%)	18 (62%)	11 (65%)	8 (80%)	22 (85%)
Migrant / displaced persons	29 (23%)	10 (31%)	3 (23%)	6 (21%)	4 (24%)	1 (10%)	5 (19%)
People experiencing homelessness	44 (34%)	11 (34%)	1 (8%)	9 (31%)	9 (53%)	2 (20%)	12 (46%)
Gender orientation and / or sexual identity minorities	5 (4%)	1 (3%)	2 (15%)	1 (4%)	0 (0%)	0 (0%)	1 (4%)
Socio- economically disadvantaged persons	78 (61%)	28 (88%)	7 (54%)	10 (35%)	9 (53%)	7 (70%)	17 (65%)
Other marginalized group	8 (6%)	3 (9%)	1 (8%)	2 (7%)	2 (12%)	0 (0%)	0 (0%)
Unknown	18 (14%)	0 (0%)	5 (39%)	9 (31%)	1 (6%)	1 (10%)	1 (4%)

## **Dermatological Primary Healthcare Service for the Elderly**

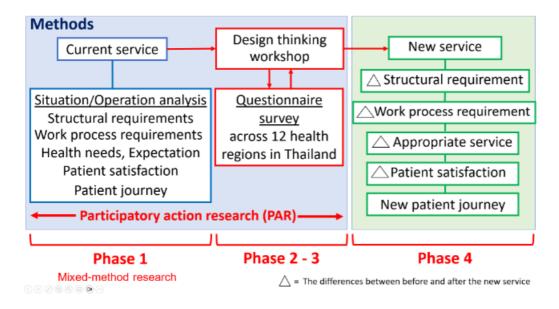
Chinmanat Lekhavat\*<sup>1</sup>, Jiruth Sriratanaban<sup>2</sup>

## **Introduction & Objectives:**

The global aging population continues to expand, posing challenges to dermatological care accessibility, particularly in rural areas with limited availability of dermatologists. Dermatological primary healthcare (PHC) services tailored specifically for the elderly have not been established in any country. Developing dermatological PHC services for the elderly is crucial to improving access, efficiency, and equity. This study aimed to develop dermatological PHC services and investigate the establishment of effective services tailored to meet the needs of the elderly population.

#### Materials & Methods:

Participatory action research (PAR) was conducted using mixed methods to identify structural and procedural requirements, health needs, expectations, patient satisfaction, and patient journeys through focus groups, indepth interviews, and surveys among elderly patients at a primary care hospital. Design thinking workshops, guided by PAR principles, were employed to shape dermatological PHC services. A questionnaire survey was distributed to PHC hospitals across all health regions in Thailand to assess the feasibility, benefits, implementation timeline, and associated factors for both PAR methods and the designed services. The establishment of dermatological PHC services was evaluated based on changes in structural and procedural requirements, appropriate services, patient satisfaction, and patient journeys. Public hearings held onsite and online were set up to evaluate perspectives and facilitate two-way communication.



### **Results:**

Qualitative and quantitative analysis through PAR identified eight key components of dermatological PHC

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services: screening, clear communication on diagnoses and treatments with appropriate medication, enhancing PHC provider capabilities, referrals, consultations, networking, follow-up, self-care practices, support from community health volunteers, and facilities including equipment. A questionnaire survey across all 12 health regions of Thailand received responses from 397 of 576 PHC hospitals (68.9%), indicating 71% feasibility for PAR implementation, with 96% recognizing its benefits over a 12-month timeline. Moreover, 82% agreed on the feasibility and 98% on the benefits of developing dermatological PHC services, suggesting a need for more than 12 months for full implementation. The development of dermatological PHC services showed that after their launch, there was improved patient satisfaction, enhanced PHC provider capabilities, medication supply, patient and community knowledge in dermatology, while the recurrence rate of skin conditions and waiting times decreased. Public hearings held onsite and online confirmed positive perspectives and implementation.

### **Conclusion:**

Establishing dermatological PHC services for the elderly is imperative, supported by widespread agreement among PHC hospitals regarding feasibility and benefits for the population.

## Teaching Dermatology with Songs: An Artificial Intelligence-Based Approach to Medical Education Using Suno

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**Introduction & Objectives:** Songs have proven to be valuable tools in medical education by promoting conceptual understanding, long-term retention, and active learning (1,2). While their use is well-documented in anatomy and pharmacology, their application in dermatology remains limited. Artificial intelligence (AI) is increasingly supporting medical education by offering personalized, engaging, and outcome-driven learning experiences (3). This project demonstrates how music, specifically through AI tools like Suno, can effectively support the teaching of dermatological concepts. We present: (1) a narrative review of the literature on the use of songs in medical education, and (2) a practical guide for developing educational songs in dermatology, exemplified by an original composition on the epidermis created using the Suno AI tool.

Materials & Methods: A narrative review of the literature was conducted using PubMed (April 2025), with keywords including "music," "song," "medical education," and "dermatology." Relevant articles on the educational impact of music in medicine were selected. Simultaneously, an educational song focused on the epidermis was created following these steps: 1) Topic Selection: Choosing the epidermis to highlight foundational dermatological principles. 2) Lyric Composition: Writing medically accurate lyrics about epidermal structure and function. 3) Expert Review: Validating the lyrics with feedback from dermatology educators to ensure scientific accuracy and clarity. 4) AI-Driven Music Creation: Using Suno's AI tool to compose the song. The lyrics were input into Suno, selecting rap and hip hop styles to enhance rhythm and engagement. Suno then generated the melody, harmonies, and instrumental backing. 5) Export and Publication: A Pro plan subscription was used to export the final product as a video with synchronized lyrics. The free version of Suno only allows MP3 downloads. The final video was published as open-access content on YouTube.

**Results:** The literature highlights cognitive and emotional benefits of musical learning in medicine (4,5). Orchard et al. (1) emphasize the need for creative pedagogical approaches in medical education. However, dermatology-specific examples remain scarce. Our project demonstrates the feasibility of integrating digital tools with educator creativity to convey essential concepts in a memorable way. The resulting song, available on YouTube, addresses epidermal structure and function. Link to the educational song: https://youtube.com/shorts/OPMqrCQGv8g

**Conclusion:** Educational songs in dermatology offer an innovative and accessible teaching strategy. This work combines a theoretical review, a reproducible creative process, and a concrete example to inspire further applications. Future studies should evaluate the effectiveness of AI-generated music in improving dermatology learning outcomes, especially in terms of long-term retention and student satisfaction.

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## Granulomatous Rosacea Mimicking Cutaneous Infection and Neoplasia: A Diagnostic Challenge in a Young Woman

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**Introduction:** Granulomatous rosacea is a rare variant of rosacea that can clinically and histologically mimic infectious or neoplastic dermatoses, posing a significant diagnostic challenge. Its atypical presentation and non-specific histological features often delay diagnosis and management.

**Case Presentation:** We present the case of a 21-year-old female from San Estanislao, Paraguay, with a 3-month history of progressive nodular lesions on both cheeks. The patient denied systemic symptoms such as fever or trauma. Initial clinical suspicion included cystic acne, cutaneous sarcoidosis, deep fungal infections, lupus tumidus, and cutaneous tuberculosis.

A 4 mm punch biopsy and additional tissue samples were obtained for histopathology and microbial cultures (bacterial, fungal, and mycobacterial). Histological examination revealed a dense, mixed inflammatory infiltrate involving the entire dermis, composed of lymphocytes, histiocytes, plasma cells, eosinophils, neutrophils, and loose non-necrotizing epithelioid granulomas. No cyst formation, comedones, sinus tracts, foreign bodies, or microorganisms were identified. Special stains and cultures returned negative. The histology was reported as non-specific, and clinical-pathological correlation was recommended.

Despite initial treatment with various oral antibiotics, the patient showed no improvement until doxycycline 100 mg/day was introduced. After three months of treatment, complete resolution of lesions was observed, supporting the diagnosis of granulomatous rosacea.

**Discussion:** This case highlights the diagnostic complexity of granulomatous rosacea, particularly in young patients with atypical presentations. The differential diagnosis includes granulomatous infections, inflammatory dermatoses, and cutaneous neoplasms. In our case, histopathology was inconclusive, and the diagnosis was only confirmed retrospectively following excellent clinical response to doxycycline. Awareness of this entity and a high index of suspicion are crucial to avoid unnecessary treatments and anxiety. Long-term follow-up is also recommended due to potential relapses.

### Cutaneous clues to autonomic dysfunction: A challenging case of Harlequin syndrome.

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## **Introduction & Objectives:**

Harlequin syndrome is a rare autonomic disorder characterized by unilateral facial flushing and hyperhidrosis contrasting with contralateral pallor and anhidrosis. This benign condition results from unilateral sympathetic dysfunction, typically involving the T1-T3 thoracic ganglia. We present a case highlighting the distinctive clinical features and diagnostic approach to this often-overlooked syndrome.

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

#### **Results:**

A 38-year-old woman with hypothyroidism presented with recurrent episodes of strictly unilateral left facial erythema and hyperhidrosis persisting for one year. Symptoms occurred during heat exposure or physical exertion, lasting 30 minutes before spontaneous resolution. Physical examination revealed striking left hemifacial flushing and sweating with concurrent right-sided facial pallor and anhidrosis. No ptosis or miosis were present. Comprehensive evaluation revealed no evidence of underlying pathology. The diagnosis of idiopathic Harlequin syndrome was made.

#### Conclusion:

Harlequin syndrome poses significant diagnostic difficulties due to its striking but commonly misattributed clinical presentation. The hallmark unilateral facial flushing and anhidrosis frequently lead to evaluation for more concerning conditions including Horner syndrome, trigeminal autonomic cephalalgias, or cerebrovascular events. Key differentiating features from Horner syndrome, specifically the absence of ptosis and miosis, are frequently overlooked in initial assessments. While mostly idiopathic, clinicians must remain vigilant for secondary causes such as thoracic outlet syndrome, apical lung neoplasms (particularly Pancoast tumors), or iatrogenic injury to the sympathetic chain. This diagnostic dilemma highlights the importance of recognizing the syndrome's pathognomonic features: strictly unilateral sweating abnormalities triggered by thermal or exertional stimuli without other neurological deficits.

To conclude, increased physician awareness of this clinical pattern can optimize diagnostic efficiency, preventing unnecessary testing while maintaining appropriate suspicion for underlying pathology in atypical presentations.

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medical tattooing (micropigmentation) as technique of camouflage skin and scalp in some skin diseases.

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## **Introduction & Objectives:**

Micropigmentation, which is also known as medical tattooing, has emerged in recent years in the field of aesthetic medicine, plastic reconstructive surgery, and dermatology

By implementing a pigment that blends with the colour of skin, we can create a nice camouflage for scars and vitiligo.

It is considered a finishing procedure for male and female pattern baldness after hair transplant

. By drawing a hair follicle of hair strokes in scalp, we can create an illusion of real hair that covers the visible scalp in bald people

It helped a lot of breast cancer patients who had mastectomy and breast reconstructive surgery to correct and simulate nipple areola complex

**Materials & Methods:** 

Results:

**Conclusion:** 

Empowering patients with electronic patient-reported outcome measures (PROMs) at their fingertips and expanding access globally

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**Introduction & Objectives:** Skin disease can have a severe effect on patients' quality of life. The use of Patient Reported Outcome Measures (PROMs) to measure this impact can inform consultations and management decisions, but paper-based PROMs are time-consuming and unwieldy. Electronic PROM applications ('Apps') enable this data to be collected on a smart device. This provides immediate meaningful scoring and monitoring over time resulting in a better experience for patients as they can communicate their concerns and influence treatment decisions.

The Dermatology Life Quality Index (DLQI) is the most used dermatological PROM in clinical practice and research worldwide. A validated (free) DLQI App, available in 8 languages, is already available to allow easy use by patients in clinical and home settings. This has been downloaded in 79 countries. Following the widespread uptake of the DLQI App, a Children's DLQI cartoon and text App has been launched in 2025, and the number of available languages for the DLQI App will be expanded.

The aim of this review is to identify data on usage of other electronic PROM Apps in Dermatology.

**Materials & Methods:** A search was conducted on PubMed using the terms patient-report\* outcome AND mobile app\*, which yielded 415 articles. This was further refined by adding 'AND dermatology' as a search term, which narrowed the results to 15.

**Results:** In seven of these publications, there was evidence of mobile Apps being used to monitor PROMs across a narrow range of dermatological conditions; with three focusing on atopic dermatitis, two on psoriasis with one each on chronic spontaneous urticaria and on sarcoidosis. Six (86%) of the articles reported that users preferred digital assessment of PROMs to using a paper version. There was high overall engagement across all these Apps and increased treatment adherence as patients were able to effectively track their disease activity and improvement over time.

**Conclusion:** The initial data from the usage of the DLQI App demonstrates an appetite for using e-PROMs, however there is still little data on App usage within Dermatology to aid patient care. Although there are many dermatology apps available, available languages are restricted and there is limited published evidence of their use. Mobile App PROMS should be made more widely available and in multiple languages, to enable accessibility to patients, and to encourage patients to take charge of their own health. This should ultimately result in a better patient experience as they can communicate their concerns and influence treatment decisions. Empowering patients with electronic patient-reported outcome measures (PROMs) at their fingertips and expanding access globally.

The Dermatology Life Quality Index (DLQI) in 27 guidelines and 38 registries- a systematic review involving 45 countries: The International Standard of Care.

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**Introduction & Objectives:** Since its publication in 1994, the DLQI has become the most widely used patient-reported outcome instrument in dermatology globally. A 2020 survey identified its use in national guidelines and disease registries in >45 countries worldwide. This study aimed to systematically review peer reviewed publications using DLQI data taken from registries, or studies using the DLQI in dermatology guidelines.

Materials & Methods: This study searched MEDLINE (Ovid), EMBASE (Ovid), Scopus and World of Science databases for articles describing registries collecting data from routine clinical practice, and guidelines that inform use of DLQI in clinical decision making, using Gliklich and Dreyer's definition of a patient registry as "an organized system that uses observational study methods to collect uniform data to evaluate specified outcomes for a population". The guidelines/registry scope (country, region, international or collective), guidelines names, launch dates, diseases, drugs and treatments covered and how the DLQI was used within the guideline was recorded. We also captured registries' purpose, launch date, number of records collected, time periods for the DLQI collection, use of biologics or other drugs/treatments and diseases covered. In addition, any other PRO/QoL or disease severity measures collected by the registries were recorded.

**Results:** 2593 publications were found by online searching and 143 matched the study inclusion criteria from 45 countries. 27 studies used the DLQI and referred to dermatological guidelines for the study, and 102 studies used DLQI data derived from 38 registries. Additionally, 20 were generic publications referring to guidelines or registries and the DLQI, and two were guideline adaptations. The majority of studies using guidelines (22/27, 81.5%) focused on psoriasis, 22.0% atopic dermatitis/eczema, 15.0% urticaria, and 11.0% hidradenitis suppurativa. Studies used data from 37 different registries where diseases studied were psoriasis (80/102 studies, 78.4%), atopic dermatitis/eczema 33%, psoriatic arthritis 4.6%, psoriasis and atopic dermatitis 3.4%, psoriasis and psoriatic arthritis 3.4%, hidradenitis suppurativa 2.0%, and 1 study each (1.0%) with alopecia and urticaria. 44 registries were authored by dermatology groups e.g. BADBIR, 25 by national agencies, 5 by pharmaceutical companies, and 5 by trusts or foundations.

**Conclusion:** There is accumulating evidence of the DLQI's application in registries and clinical and reimbursement guidelines. The uniform use of the DLQI in multiple registries internationally contributes to improved global health and facilitates meaningful comparison of QoL data across countries and between different skin conditions, as well as permitting collaboration between registries for pharmaceutical studies.

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## Mudichood: revisitng a rare dermatoses

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**Introduction & Objectives:** The socio-cultural practices influence the skin causing various dermatoses, mudichood being one of them.

**Materials & Methods:** Here, we report a 19 year old female, with occasionally itchy lesions on the nape of the neck. On examination, multiple, follicular, papular lesions were noted on the nape of the neck. She had history of oiling her hair and washing the hair, with some residual oil left behind even after washing. Based on the history and clinical presentation we diagnosed it as a case of mudichood.

**Results:** The lesions of mudichood appear as follicular, flat topped, scaly, papular eruptions usually on the nape of the neck, and upper back. Sometimes the lesions of mudichood can appear on the pinna of young women, and very rarely on forearms. Coconut oil and other Ayurvedic oils that are left in the hair, after washing hair that come in contact with the skin in hot and humid environment are thought to produce a non-specific follicular reaction pattern which gives rise to mudichood. The factors that contribute to mudichood are, coarse hair, bathing habits, posture in which the patient sleeps, hair oil, and excessive sweating. Mild keratolytics, with or without steroids leads to resolution of the lesions of mudichood. Short hair and regular washing shampoos helps to prevent this condition.

Conclusion: We report this case, as it rare case to be reported from our geographic area.

# May-Thurner Syndrome: A Challenging Diagnosis of Asymmetric Lower Limb Edema in a Young Patient on Biologic Therapy

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**Introduction & Objectives:** With the ongoing evolution of therapeutic technologies, immunobiologics are increasingly important treatment options across various medical specialties, particularly in Dermatology. One potential adverse effect of some of these medications is lower limb edema, which may develop after several months, especially in patients with underlying anatomical or clinical conditions. We aim to highlight a case of May-Thurner Syndrome (MTS) as a differential diagnosis of asymmetric lower limb edema, with dupilumab use acting as a confounding factor in the evaluation of the patient.

**Materials & Methods:** We describe a case of MTS presenting as asymmetric lower limb edema in a youngfemale patient undergoing treatment with an immunobiological drug.

**Results:** A 27-year-old female patient with atopic dermatitis developed progressive asymmetric painful lower limb edema seven months after initiating dupilumab. Symptoms persisted despite discontinuation of the medication. An initial lower limb Doppler ultrasound excluded thromboembolic events and lower limb CT scan showed no significant abnormalities.

The patient was referred to our tertiary care center reporting persistent bilateral leg pain, especially on the left, with asymmetric edema and improvement of symptoms with elevation of the limbs. The maximum difference between calf circumferences was 3 cm, greater on the left.

Extensive laboratory investigations excluded renal, hepatic, thyroid, and rheumatologic abnormalities. A second Doppler ultrasound also ruled out signs of acute or chronic venous thrombosis or insufficiency. Dermatologic ultrasound revealed features consistent with lipedema, without evidence of edema or varicose veins.

Further evaluation with pelvic magnetic resonance imaging revealed focal narrowing of the left common iliac vein caused by extrinsic compression from the overlying right common iliac artery—findings consistent with MTS.

**Conclusion:** Symmetrical lower limb edema is a potential adverse effect of certain drugs including mTOR inhibitors, VEGF inhibitors, calcineurin inhibitors and IL-31 antagonists.

Rare cases of dupilumab-induced lower limb edema were reported, usually associated with other dermatoses such as pyoderma gangrenosum and eosinophilic granulomatosis with polyangiitis. Our patient presented with the onset of asymmetrical edema several months after initiating dupilumab but without improvement following withdrawal of therapy, which is one of the recommended approaches after failure of compressive methods and reduction of the dosage of the medication.

MTS was first described in 1957, and involves compression of the left iliofemoral vein by the right common iliac artery with a female predominance between 30–50 years of age. It typically presents with painful, asymmetric lower limb edema of either acute onset or gradual progression, potentially leading to venous insufficiency, obstruction, or thrombosis.

Our case highlights the importance of a comprehensive workup to establish the etiology of lower limb edema in

patients using immunobiologics, as it may not be drug-related. MTS should be considered a differential diagnosis in female patients with asymmetrical painful lower limb edema, to allow the correct management and prevent long-term complications.

Initial circumference measurements (in cm)					
	Right	Left			
Forearm	25	25			
Arm	29	30			
Thigh	69	69			
Knee	43	45			
Leg	32	35			
Calf	29	29			

### A case of granuloma annulare - treated with reverse koebnerisation induced by normal saline injections

prachy garg\*1, shikha shivhare2

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## **Introduction & Objectives:**

Granuloma annulare represents a challenging necrobiotic disorder with variable clinical presentation and limited therapeutic options. Despite numerous treatment modalities explored in dermatological practice, consistent efficacy remains elusive. This study evaluates the potential utility of reverse pathergy as an innovative therapeutic approach for recalcitrant granuloma annulare.

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

We present a 60-year-old female with a two-year history of progressive, asymptomatic papular eruptions forming annular plaques and linear lesions accompanied by purulent exudation. The eruptions involved bilateral arms, neck, back, and legs, with lesions ranging from 4cm × 3cm to 30cm × 18cm, demonstrating persistence without spontaneous resolution. Histopathological assessment confirmed the diagnosis of granuloma annulare. Following failed response to conventional therapy with dapsone and topical tacrolimus after one month, we implemented reverse pathergy by administering intradermal normal saline injections at 2cm intervals along linear lesions using an insulin syringe.

## **Results:**

Remarkably, the implementation of reverse pathergy produced significant clinical improvement within one month. Both directly treated lesions and distant untreated sites demonstrated notable regression in size and severity. This positive therapeutic response contrasted sharply with the patient's lack of improvement following previous conventional interventions.

#### **Conclusion:**

This case highlights the therapeutic challenges in managing granuloma annulare and presents reverse pathergy as a promising alternative approach. The observed improvement in both treated and untreated lesions suggests potential immunomodulatory mechanisms worthy of further investigation. These findings merit additional research to elucidate the underlying pathophysiological mechanisms and to validate the reproducibility of this therapeutic modality in larger cohorts of patients with recalcitrant granuloma annulare.

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# Dermatological diseases on the pigmented skin in patients from Ethiopia compared to patients with lighter pigmented skin

Babora Reznakova\*<sup>1, 2</sup>, Stephan Meller<sup>1</sup>, Torsten Feldt<sup>2, 3</sup>, Tafese Beyena Tufa<sup>2, 3</sup>

## **Introduction & Objectives:**

The typical skin conditions seen in outpatient clinics in Ethiopia are not vastly different from patients from other parts of the world. However, the clinical presentation of common skin diseases can vary significantly on pigmented skin. In Ethiopia, the majority of the population has Fitzpatrick skin type V, with fewer individuals having type VI. Diagnosing skin diseases can be particularly challenging for clinicians who lack experience with darker skin tones, especially those from outside Africa. For example, vitiligo can sometimes be mistaken for tuberculoid leprosy and vice versa, which may discourage individuals from seeking medical care in fear of stigmatization (1).

### **Materials & Methods:**

For taking pictures was a written informed consent obtained from the patients or patients guardian.

#### **Results:**

A big group of skin diseases are infections of the skin. Among the most common conditions is Tinea capitis, which affects an estimated 25–30 % of school-aged children in Ethiopia (2). The clinical presentation of Tinea capitis in Ethiopia typically includes gray, widespread scaling patches with minimal signs of inflammation. Due to the common hairstyle of Ethiopian female patients, the characteristic reversible alopecia can be difficult to detect (pict.1). A potassium hydroxide (KOH) test should be performed to confirm the diagnosis and to differentiate it from psoriasis capitis, especially in older patients. Other fungal infections, such as Tinea faciei and Tinea corporis, appear more subtle on pigmented skin than on lighter skin tones (pict.2 and 3). In picture 3, a discrete, darker pigmented plaque with a slightly elevated margin can be observed on the right side of the hand. However, the erythematous inflammation typically seen in Caucasian patients is absent. Chronic inflammatory skin diseases, such as atopic dermatitis or psoriasis are also common. Picture 4 shows a 60-year-old woman with severe xerosis cutis and lichenification on both arms and forearms which is typical for atopic dermatitis. Scratch marks and erythematous background are less visible than in Caucasian patients.

#### **Conclusion:**

In Ethiopia, there is a high burden of skin-related diseases. Proper diagnosis and treatment are crucial for patient recovery. Additionally, with increasing migration, it is important to enhance medical training in Europe on diagnosing and treating patients with pigmented skin.

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- 2. Birhanu MY et al. Tinea capitis among schoolchildren in Ethiopia: A systematic review and meta analysis. PLoS One. 2023 Feb 10;18(2):e0280948

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# Childhood granulomatous periorificial dermatitis - a case report with dermoscopic and reflectance confocal microscopy clues

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## **Introduction & Objectives:**

Childhood granulomatous periorificial dermatitis (CGPD) is a rare granulomatous facial dermatosis affecting prepubertal children, predominantly of African descent. The etiology of CGPD remains unclear. Clinically, CGPD typically presents as an asymptomatic eruption of multiple monomorphic, skin-colored/erythematous papules distributed around the periorificial regions of the face including perioral, perinasal, periorbicular areas. Dermoscopic and RCM features of CGPD have been scarcely described in the literature. Herein, we report a case of CGPD in a Caucasian female child, emphasizing non-invasive imaging features potentially valuable in the differential diagnosis.

## **Case presentation:**

A 7-year-old, otherwise healthy, Caucasian female presented to the outpatient clinic with a one-year history of asymptomatic, monomorphic, skin-colored to erythematous papules with fine scaling, located around the mouth, nose, eyes, and in the region of glabella. Despite several previous consultations in different dermatology centers the final diagnosis had not been made. According to the patient's mother, prior empirical treatment with topical tacrolimus did not result in a clinical improvement. On dermoscopy yellow clods with perifollicular scaling, and yellowish to orange and brownish structureless areas surrounding follicular openings along with peripherally distributed linear vessels were observed. Reflectance confocal microscopy (RCM) examination showed roundish dermal structures composed of multinucleated giant cells and small hyperreflective cells, consistent with granulomatous infiltration. Based on dermoscopic and RCM examination, a granulomatous disease was suspected. The diagnosis of CGPD was confirmed by histopathology, which demonstrated perifollicular, non-caseating, sarcoid-type granulomas composed of epithelioid histiocytes with sparse lymphocytic infiltrates along with ruptured and partially resorbed dilated hair follicles. The patient experienced marked clinical improvement following an 8-week course of systemic and topical erythromycin in association with topical metronidazole and adapalene.

## Conclusion:

This case demonstrates diagnostic difficulties associated with CGPD. While none of the non-invasive imaging modalities provides specific findings for CGPD, combined use of dermoscopy and RCM may help to narrow the differential diagnosis by indicating a granulomatous process. Treatment of CGPD is challenging. First-line treatment typically includes topical calcineurin inhibitors and topical or systemic antibiotics (metronidazole or erythromycin).

## Navigating Immunotoxicity in Dermatology: What History Teaches Us

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## **Introduction & Objectives:**

A surge in publications surrounding immunotoxicity reflects the increasing scholarly focus on immunotoxicity within dermatology. This reflects dermatologists' recognition of the skin's integral role in immune function and the effects of agents on dermatological health. Over the decades, immunosuppressive and immunomodulatory treatments have transformed dermatologic care, particularly for inflammatory and autoimmune conditions such as psoriasis, atopic dermatitis and lupus. This retrospective study traces the evolution of immunotoxicity within Dermatology and how we can learn from our past.

#### Materials & Methods:

Literature review and narrative synthesis.

Databases searched: MEDLINE, EMBASE, CENTRAL, ClinicalTrials.gov and Web of Science. No limits placed on language or year of publication.

## **Results:**

Dermatological immunotoxicity was first recognised in occupational settings, where workers exposed to chemicals such as arsenic, nickel, and coal tar developed skin conditions, including hypersensitivity reactions and carcinogenesis. The mid-20th century saw an increase in adverse cutaneous reactions secondary to pharmaceutical agents, notably antibiotics and anticonvulsants, leading to severe immune-mediated reactions such as Stevens-Johnson syndrome.

The emergence of immunosuppressive therapies revolutionized treatment but required the introduction of pretreatment screening and monitoring to monitor for immunotoxicity. Immunosuppressants: corticosteroids (1950s), methotrexate (1950s), azathioprine (1960s), and cyclosporine (1980s) provide effective disease control but carry side effects such as skin atrophy and adrenal suppression with corticosteroid use. Other associations include hepatotoxicity or bone marrow suppression with methotrexate, and lymphoproliferative disorders with azathioprine due to its broad immunosuppressive activity. Cyclosporine offers a targeted approach by inhibiting T-cell activation, yet long-term use confers immunotoxic effects.

The advent of biologic therapies in the late 1990s, starting with TNF-alpha inhibitors, introduced more specific immune modulation but did not eliminate immunotoxicity concerns. TNF inhibitors were associated with reactivation of latent tuberculosis and paradoxical inflammatory responses. Subsequent biologics targeting IL-12/23, IL-17, and IL-23 pathways showed improved safety profiles but still posed risks such as candida infections (IL-17 inhibitors) and potential cardiovascular effects (IL-23 inhibitors). More recently, JAK inhibitors, used for atopic dermatitis and alopecia areata, have recommended cautions with thrombosis, infections, and risk of malignancy, limiting their use in higher risk cohorts.

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### **Conclusion:**

Understanding the history of immunotoxicity within dermatology underscores the need for a multidisciplinary approach, integrating dermatologists, immunologists, toxicologists, and pharmacologists to optimise patient outcomes. Advancements in understanding immune-pathways and subsequent therapeutic targets will help mitigate adverse side effects and develop tailored interventions, enhancing patient safety and ultimately improving dermatologic care in an era of expanding immunomodulatory treatments.

## Rewriting the Skin Story: A History of Dermatology Terminology

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## **Introduction & Objectives:**

The evolution of dermatological diagnoses and terminology has been profoundly influenced by patient experience, symptom descriptions, and advocacy efforts. From ancient civilizations to modern medicine, patients have played a critical role in shaping how dermatological conditions are classified, described, and understood. This retrospective review reflects this.

#### Materials & Methods:

Literature review and narrative synthesis. Databases searched: Pubmed, MEDLINE, EMBASE.

#### **Results:**

Early dermatological nomenclature was largely descriptive, often based on visible symptoms or patient-reported sensations. Terms such as psora originated from patient observations, from Greek/Latin language. However, the lack of scientific understanding often led to stigmatising language, with conditions like leprosy carrying significant social and religious connotations. The renaissance experienced cultural and social influences that reflected dermatological perceptions, such as "Scrofula" (tuberculosis of the lymph nodes) was called the "King's Evil" because patients believed the royal touch could cure it.

The 18th and 19th centuries witnessed the birth of Dermatology as a medical entity, enabling a shift towards a systematic approach. Physicians Robert Willan and Jean-Louis Alibert classified skin diseases based on patient-reported symptoms and clinical presentation. As microbiology and pathology advanced in the 20th century, patient-reported symptoms were linked to underlying causes, leading to more precise diagnostic terms such as atopic dermatitis and tinea corporis. Furthermore, the recognition of psychodermatology—the intersection of dermatology and mental health—was largely driven by patients reporting stress-induced flares, compulsive skin-picking behaviours, and sensations of infestation, resulting in terms like delusional parasitosis and body-focused repetitive behaviours.

Patient advocacy has been instrumental in modern dermatology, challenging stigmatizing or misleading terminology, and pushing for the recognition of overlooked conditions. For example, the term Hansen's disease replaced "leprosy" to reduce stigma, and hidradenitis suppurativa gained broader recognition. Social media and digital platforms further amplified patient voices, with online communities coining and popularising neologisms such as maskne (mask-induced acne) and Zoom dysmorphia (appearance anxiety due to video conferencing). Moreover, diversity advocation prompted representation of skin of colour terminology and inclusive descriptors like post-inflammatory hyperpigmentation and revised diagnostic criteria for conditions historically studied in lighter skin tones. Moreover, the social media representation of topical steroid withdrawal and Morgellon's

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disease as clinical entities requires further research.

## **Conclusion:**

Patients have become increasingly central to the evolution of dermatology terminology. From traditional, descriptive terms to modern, inclusive language, their experiences, narratives, and advocacy have ensured that dermatological terminology reflects not only clinical understanding but also the human aspect of skin health. As patient voices continue to grow louder in the digital age, the language of dermatology will likely continue to evolve in a more empathetic, holistic and comprehensive direction that aims to eradicate stigma associated with diagnoses.

## Germline Variants in Melanoma-associated genes in a Singapore Melanoma cohort

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## **Introduction & Objectives:**

Melanoma has a relatively high mortality of 50% despite its low incidence in Southeast Asia. Approximately 9.9% of melanoma patients harbour pathogenic germline variants, with high-penetrance variants in genes like CDKN2A affecting 20-40% of familial melanoma patients. However, current literature is predominantly derived from studies on Western populations, with few reporting the mutation spectrum among Asian melanoma patients. Here, we investigated the germline variation in a Singaporean cohort of melanoma patients.

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

Whole exome sequencing was performed on 69 patients diagnosed with melanoma. Germline variants in 31 genes were prioritized, including known melanoma predisposition genes and genes associated with melanoma susceptibility. Variants were curated using the American College of Medical Genetics and Genomics guidelines.

#### **Results:**

84 unique variants in 69 patients were identified. Eight pathogenic or likely pathogenic variants were found in eight (11.6%) patients across 5 genes (*ACD, BRCA2, CDKN2A, CWH43, SF3B1*).

### **Conclusion:**

The frequency of pathogenic germline variant carriers in melanoma-associated genes among our Singaporean cohort at 11.6% is similar to those of Western populations, although the spectrum of genes detected was variable. With the exception of *CDKN2A*, there was a lack of pathogenic variants in genes frequently reported among Western cohorts such as *POT1*, *CDK4*, *TERT*. Instead, genetic variants were identified in genes such as *ACD*, *CWH43*, *SF3B1*, which suggests that the spectrum of germline variation among Asian melanoma patients may differ from those of western populations.

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Pyrroloquinoline quinone (PQQ) ameliorates circadian rhythm disruption-induced yellowish skin complexion via antioxidant-angiogenic-hydrating-anti-inflammatory-whitening pentad mechanism

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## **Introduction & Objectives:**

Disruption of the human circadian rhythm exacerbates yellowish skin complexion, which is attributed to variety mechanisms, including oxidative stress, impaired blood microcirculation, excessive melanin, inflammation, reduced hydration and the pigment content (bilirubin and carotene). Bilirubin accumulation are considered pathological, and carotene deposition is relevant to diet. Thus, both are excluded from research on skin cellular biology. While lifestyle adjustments are challenging, topical interventions targeting these pathways are needed. Pyrroloquinoline quinone (PQQ), known for the remarkable antioxidant properties, has recently become a promising cosmeceutical candidate. Hence, we sought to investigate its potential in improving disordered circadian rhythm-induced yellowish complexion. Multiple *BMAL1*-silenced cell models were established to simulate circadian disruption for determining PQQ's integrative effect via pentad mechanism, ultimately achieving an overall skin lightening.

## **Materials & Methods:**

Circadian rhythm disruption was achieved by silencing BMAL1 with siRNA *in vitro*. Using untreated knockdown cells as controls, we assessed the pentad performance of PQQ in multiple circadian rhythm-disrupted cell models: Antioxidant: NRF2/HO-1 pathway activation and radical scavenging in HaCaT; Haemoglobin: HIF-1 $\alpha$ /VEGF-A induction using HFF-1; Hydration: Hyaluronic acid production and AQP3 expression in HaCaT; Anti-inflammatory: IL-6/TNF- $\alpha$  suppression in RAW264.7; Whitening: Tyrosinase activity and melanin reduction in B16F10. Three replicates at least were measured in each group for each readout. Data were statistically analysed with one-way analysis of variance and independent sample equal variance t test.

## **Results:**

BMAL1 knockdown with siRNA induced yellowish complexion through pentad mechanistic dysregulation, which was significantly attenuated by PQQ intervention. NRF2/HO-1 pathway activation with ROS and mitochondrial superoxide reduction was observed. HIF-1α/VEGF-A upregulation by PQQ could also enhance dermal microcirculation. AQP3 overexpression and hyaluronic acid elevation by PQQ could improve skin hydration. In RAW264.7, PQQ suppressed the secretion of IL-6/TNF-α. In B16F10, PQQ exerted an effect on tyrosinase inhibition and melanin reduction. Taken together, multivariate analysis confirmed the high performance of PQQ via pentad mechanism, effectively ameliorating circadian rhythm disruption-induced yellowish complexion.

## **Conclusion:**

BMAL1 downregulation precipitated multifaceted cutaneous dysfunction *in vitro*, which was substantially ameliorated by PQQ through pentad mechanisms: Potent antioxidant activity via NRF2/HO-1 pathway activation with concomitant free radical suppression; Hypoxia mitigation through HIF- $1\alpha$ -mediated oxygen homeostasis and VEGF-A-driven angiogenesis, indirectly upregulating oxygenated haemoglobin and improving blood microcirculation for ruddy complexion; Hydration capacity elevation for skin glossiness; Proinflammatory cytokines

inhibition; Melanogenic suppression through tyrosinase activity reduction. This multimodal intervention coordinately counteracts circadian disruption-induced yellowish complexion by simultaneously addressing antioxidant-angiogenic-hydrating-anti-inflammatory-whitening pathologies from the perspective of skin cell biology.

## The impact of hormones on skin health: an integrative and holistic approach

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## **Introduction & Objectives:**

Hormones play a critical role in regulating a wide range of physiological processes, including growth and development, metabolism, reproduction, and stress response. They interact with specific receptors on target cells, leading to changes in gene expression, enzymes activity, and other cellular processes. Hormonal imbalances have a significant impact on skin health and overall wellbeing.

This work provides an overview of the impact of hormones on skin health with a focus on acne, skin ageing, hyperpigmentation and xerosis.

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

A meta-analysis of the literature focusing on the impact of hormones on acne, ageing, hyperpigmentation and xerosis and published between January 2012 and December 2022. The source of articles was from PubMed, Scopus, Google Scholar and countries clinical trials databases. Key words among others included hormone, endocrine, melasma, ageing, skin inflammation, and acne.

## **Results:**

Overall, 8379 references from PubMed and Scopus were identified and 3598 were removed being duplicated or ineligible. Following PRISMA methodology, 1030 were screened and 200 were considered eligible for review. Of these, 123 were relevant and reviewed - 79 were research articles and 44 review articles.

In acne, reports evidenced that cortisol, lepin, growth factors including IGFs, androgens, prolactin and luteinizing hormone are increased, while melatonin, oestrogens and parathyroid hormones are decreased.

During ageing, cortisol and pein levels are increased while growth factors, melatonin, melanocyte stimulating hormones, oestrogen, IGFs and androgens are decreased.

In subjects with hyperpigmentation disorders, the melanocyte stimulating hormone, growth hormones, oestrogens, progesterone and thyroid hormones are increased going along with a decrease in melatonin, cortisol and vitamin D levels.

Finally, in subjects with xerosis, IGF-1, cortisol, growth factor, leptin, oestrogen, androgen and thyroid levels are decreased.

## **Conclusion:**

The hormonal balance impacts on skin health, emphasizing the need to move beyond superficial treatments and address underlying physiological factors asking for a holistic and personalised treatment approach by understanding the intricate relationship between hormones and skin health.

## **Cutaneous Collagenous Vasculopathy - a case report**

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## **Introduction & Objectives:**

Cutaneous Collagenous Vasculopathy (CCV) is a rare idiopathic primary cutaneous microangiopathy, presenting with asymptomatic, diffuse, blanchable macular telangiectasias, typically affecting the lower limbs and resulting from perivascular deposition of type IV collagen in the superficial dermis. Fewer than 100 cases have been reported in the literature. The pathogenesis remains uncertain, though microvascular injury has been proposed. We present a case of CCV diagnosed through histopathological analysis prompted by a high clinical suspicion.

#### Materials & Methods:

A retrospective review of clinical data was conducted for a patient under dermatologic follow-up at a tertiary hospital since September 2024.

## **Results:**

A 33-year-old woman presented with progressive telangiectatic erythematous macules on the feet, legs, thighs, and forearms. Additional scattered macules (1–3 cm) were noted on the abdomen, right shoulder, and left breast. The lesions first appeared three years earlier on the left lower limb, progressively spreading without associated pruritus or pain, and worsening with heat exposure. Her medical history included Hashimoto's thyroiditis. Differential diagnoses included generalized essential telangiectasia (GET) and CCV. A skin biopsy from the right lower limb revealed a preserved epidermis and superficial dermal vessels surrounded by eosinophilic hyaline material, suggestive of CCV. Special stains, including PAS diastase, colloidal iron, and Masson's trichrome, highlighted the collagenous deposits. Autoimmune serologies, including ANA, were negative.

#### **Conclusion:**

CCV is a slowly progressive condition, predominantly affecting women, with symmetric telangiectasias primarily on the lower limbs and occasionally extending to the trunk and upper extremities. Lesions typically become more prominent during warmer months, implicating a role for heat or UV exposure in disease expression. More than 60% of reported cases are associated with cardiovascular comorbidities—hypertension, dyslipidemia, arrhythmia, myocardial infarction, and diabetes—which may contribute to vascular wall remodeling and collagen deposition. Common medications such as statins and beta-blockers have also been implicated in disease onset.<sup>3</sup> Clinically, CCV may resemble GET, benign hereditary telangiectasia (BHT), and hereditary hemorrhagic telangiectasia (HHT); however, the latter two are inherited conditions that often involve mucosal or visceral organs. Histologically, GET and HHT lack the perivascular collagen deposition seen in CCV.<sup>5</sup> Definitive diagnosis requires histopathology, which demonstrates dilated superficial vessels with perivascular eosinophilic hyaline material and may include a mild lymphocytic infiltrate.<sup>1</sup> Given its benign, asymptomatic course, treatment is usually not required. Pulsed dye laser has been used for cosmetic improvement. This case underscores the importance of clinical suspicion and histopathological evaluation in diagnosing CCV, an underrecognized entity with distinct features requiring differentiation from other telangiectatic disorders.

## Persistent pruritic axillary papules in a young female patient - a case of Fox-Fordyce disease

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**Introduction & Objectives:** Fox-Fordyce disease (FFD) is a rare apocrine gland disorder affecting mainly postpubertal and premenopausal women. The exact pathogenesis is not yet elucidated, but it includes follicular occlusion, apocrine gland duct breakage and subsequent inflammation. There are some reports on laser hair removal as a trigger for the onset of FFD. The disease is confined to apocrine gland bearing areas, resulting in multiple skin-coloured papules in axillary, inguinal and anogenital regions, areolae and umbilicus. Lesions are commonly bilateral and intensely pruritic, with worsening in stressful situations that cause apocrine sweat production. Given the absence of specific dermoscopic and histologic features, the diagnosis is based mostly on the highly specific clinical picture.

**Materials & Methods:** A 19-year-old female patient presented with an increasing number of pruritic skin lesions in both axillary regions which initially appeared three years earlier after a hair removal treatment. Physical examination revealed skin-coloured follicular papules 2 mm in size, densely distributed in both axillary regions, with no similar lesions elsewhere on the body. She was otherwise healthy, with family history positive for seborrhoea. Topical adapalene 0.1% gel QID was chosen as initial therapy, while some lesions were treated with electrocoagulation. On first control visit 4 weeks later, there was no improvement. Adapalene gel was replaced by cream formulation every other day, due to reported burning in treated areas. A low potency topical corticosteroid (TCS) alclomethasone dipropionate was added to therapy twice a day. Electrocoagulation was not repeated due to strong inflammatory reaction in previously treated lesions and possibility of scarring. In the following weeks, the patient discontinued adapalene due to persisting side-effects, but continued to use TCS cream. On her next control visit, a decreased size and number of papules was observed and TCS monotherapy was extended.

**Results:** Since FFD is a rare disorder, there are no official treatment guidelines. Various approaches are being described mainly through case reports. Treatment is long-term, given the chronic and recurrent disease course, and includes topical and systemic medications as well as procedures. Low potency TCS, topical clindamycin and calcineurin inhibitors are suggested as the first line of therapy, whereas topical retinoids and intralesional CS are suggested as the second line. Systemic treatment includes oral contraceptives and isotretinoin, while procedures include electrocoagulation and laser treatment. Furthermore, good response to botulinum toxin A was reported in refractory disease.

**Conclusion:** Despite adapalene intolerability, our patient had a good initial response to TCS monotherapy and is currently in follow-up. In case of poor further treatment response, oral isotretinoin is planned as the next step in therapeutic approach along with topical therapy.

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## A fatal case of malignant atrophic papulosis in a middle age woman

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**Introduction & Objectives:** 

**Materials & Methods:** 

**Results:** 

#### Introduction:

Degos' disease, is a rare thrombo-occlusive microvasculopathy of unknown cause. There are two types: benign atrophic papulosis limited to the skin and malignant atrophic papulosis (MAP) affecting multiple organs. MAP is a potentially lethal microvasculopathy characterized by cutaneous papules that appear on the patients' skin with porcelain white atrophy of the center and telangiectatic edge. Moreover, MAP can lead to perforation, thrombosis and hemorrhage in the gastrointestinal and central nervous system. It was also described that the cardiovascular system can be affected by MAP. We report a fatal case of degos' disease in a middle age woman.

## **Case report**

A 58-year-old female, known to have diabetes mellitus, hypertension and previous stroke. Admitted as a case of septic shock. Patient had CT chest that shows pleural effusion. CT abdomen showing signs of intestinal inflammation and ascites. Endoscopy showing gastric ulcer. Also, patient have chest pain with high troponin, atypical ECG and Echo showing cardiac muscle thickening, mitral regurgitation and systolic function at the lower limit of normal.

Dermatology was consulted for painless lesions that have been present over the legs for months; to rule out pyoderma gangrenous. Upon examination, she has bilateral multiple confluent dry ulcerated plaques with central blackish eschars and a peripheral erythematous rim. The lesions started 3 months back as crops of painless erythematous papules Evoluted to have varioliform scars. Previous biopsy was not specific but the repeated biopsy shows features of degos'disease, no features of pyoderma gangrenous. She passed away secondary to septic shock and status epileptics that did not respond to treatment.

## **Conclusion:**

Degos' disease, or malignant atrophic papulosis, is an extremely rare vascular disorder, with fewer than 200 reported cases worldwide. The systemic form is aggressive, leading to a high mortality rate as our patient.

Diagnosis relies on clinical evaluation and skin biopsy, as there are no specific blood tests. While no proven treatment exists, experimental therapies like eculizumab and treprostinil have shown some promise. Anticoagulants have also helped achieve partial regression in some cases.

Early detection is crucial, and collaboration between dermatologists and other specialists is essential for effective management when internal organs are involved.

Virtue ethics and the dermatologist's environment: the identification of dermatologists who displayed courageous behaviour during the Holocaust

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Introduction & Objectives: There is increasing interest within medicine in virtue ethics, a school of ethics which emphasises moral character in how people lead their lives. The Holocaust – the murder of six million Jews during National Socialism (1933-1945) – had a seismic impact on dermatology, and research on the subject has largely focused on Jewish dermatologists who were killed, those who survived, and dermatologists who collaborated with the Nazi regime. A recent study identified five non-Jewish dermatologists (from Italy, Hungary, Holland, Greece and Croatia) who were awarded the title Righteous Among the Nations for saving Jews in that period. The aim of the present study was to identify and collate information about a wider group of dermatologists who displayed courageous behaviour resisting National Socialism and helping Jews, both for the historical record and to facilitate modelling of virtuous behaviour for dermatologists in their environments.

**Materials & Methods:** Various sources were used to identify dermatologists who demonstrated courage during the Holocaust. Online medical, history and media databases were searched, and relevant journal articles, other documents, books, websites and video clips were then examined. Relevant holdings of State and National archive departments were explored. Pertinent documents in languages other than English were translated into English.

Results: Both non-Jewish and Jewish dermatologists who were courageous in resisting the National Socialist regime and helping Jews were identified, and they did so in various ways. Tadeusz Stepniewski (1905-1987) was newly identified as Righteous Among the Nations. During the German occupation, Stepniewski assisted Jews by helping them escape from the Warsaw ghetto, hiding them in various locations, providing dermatological care and other medical treatments, contributing to an underground medical publication, and giving financial aid. Halina Szenicer-Rotstein (1907-1942), in addition to other heroic deeds, smuggled Jewish babies out of Warsaw, before she and her patients were forced to board a train for Treblinka, where they were all murdered. A small number of dermatologists demonstrated active opposition to the toxic influence of the Nazi Party on dermatology departments. These included Erich Hoffmann (1868-1959), Professor of Dermatology at the University of Bonn, and Walter Frieboes (1880-1945), Chair of Dermatology at the Charité Hospital in Berlin. Another example of courage by dermatologists is witnessed in the military service of Ukrainian dermatologist Vera Shukhman (1900-1987), who led a brigade that captured a German unit which was occupying a town's railway buildings. Lisbon dermatologist Augusto Isaac d'Esaguy (1899-1961) provided visas and passports to allow Jews to travel from France to the safety of Portugal. Finally, Czech dermatologist Karel Fleischmann (1897-1944) demonstrated courage and "creative resistance" through artworks he surreptitiously produced in the Theresienstadt ghetto that depicted the suffering of Jews under Nazi rule.

**Conclusion:** Just as we acknowledge eminent dermatologists for research and clinical contributions, it is important to recognise dermatologists for other reasons. The heroic actions of the described dermatologists in diverse environments in the period of National Socialism warrant recognition and occupy a special place in the history of our field. Those dermatologists also serve as role models for virtue.

## The Purple Finger that didn't hurt: recognizing Achenbach Syndrome

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## The Purple Finger that didn't hurt: recognizing Achenbach Syndrome

## **Introduction & Objectives:**

Achenbach syndrome is a rare, benign condition of unknown etiology, characterized by sudden discoloration of the fingers—occasionally the toes—typically accompanied by swelling and pain. The condition predominantly affects middle-aged women and is not associated with trauma, drug use, bleeding disorder, or rheumatologic disease.

We aim to raise awareness of this underdiagnosed syndrome and its benign nature, to prevent unnecessary referrals, invasive procedures, and extensive investigations.

## **Materials & Methods:**

This is a case report of a 48-year-old female patient evaluated in the emergency department for sudden-onset digital discoloration. We detail clinical presentation, diagnostic reasoning, and management approach.

#### **Results:**

The patient reported painless, sudden-onset violaceous discoloration of the third finger of the left hand a few hours prior, accompanied by a sensation of upper limb heaviness but without sensory changes or paresthesia. She denied any trauma. Past medical history included hypertension and dyslipidemia. On examination, violaceous discoloration and mild swelling were noted on the third finger, sparing the distal tip and nail bed. Radial and ulnar pulses were full and symmetrical; Allen's test and neurological assessment were unremarkable. No temperature asymmetry was noted. Laboratory work-up revealed no abnormalities. A clinical diagnosis of Achenbach syndrome was made. The patient was reassured and discharged with a one-week follow-up appointment and advised to return if alarming symptoms developed. Discoloration resolved in 7 days.

## **Conclusion:**

Despite its striking clinical appearance, Achenbach syndrome is a self-limiting and benign vascular phenomenon thought to result from increased vascular fragility, possibly age-related or trauma-induced, leading to capillary micro-hemorrhages, though it may also arise without identifiable triggers, potentially involving vasospasm, hematoma compression, or minor arterial changes. It most commonly affects the index, middle, or ring fingers, particularly the proximal and middle phalanges, while sparing the fingertip. Associated features may include paresthesia, swelling, pruritus, and joint stiffness. Typically resolves spontaneously within 2 to 14 days, though recurrences may occur. Diagnosis is clinical and primarily one of exclusion, with routine laboratory and imaging investigations frequently yielding unremarkable findings. The differential diagnosis of Achenbach syndrome includes Raynaud's phenomenon, acrocyanosis, Gardner-Diamond syndrome, spontaneous digital venous thrombosis, acute limb ischemia, vasculitis, Buerger's disease, traumatic hematoma, collagen vascular diseases, microemboli, thoracic outlet compression syndrome, polycythemia, and drug-induced vasospasm (e.g., ergot alkaloids). A normal arterial doppler sonography reassures diagnosis. No treatment is advised. Increased clinical

recognition can reduce patient anxiety, limit unnecessary investigations, and prevent inappropriate referrals to specialties such as rheumatology, hematology, or vascular surgery.

## In vitro differentiation of human dental mesenchymal stem cells into epithelial-like cells

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**Introduction & Objectives:** Human dental mesenchymal stem cells (hD-MSCs) are a heterogeneous population of multipotent cells derived from various dental tissues. They possess the ability to differentiate into cell types representative of different embryonic layers, including osteoblasts, adipocytes, chondrocytes, and myoblasts. However, reports detailing the in vitro differentiation of hD-MSCs into epithelial cells, specifically keratinocytes relevant for skin regeneration, remain limited. This study aimed to investigate the potential of hD-MSCs, isolated from dental periosteum, apical papilla, and dental follicle, to differentiate into functional epithelial-like cells under specific in vitro culture conditions.

Materials & Methods: hD-MSCs were isolated from dental periosteum, apical papilla, and follicle tissues obtained from patients undergoing third molar extraction. The mesenchymal phenotype of these cells was previously confirmed. To induce epithelial differentiation, hD-MSCs were cultured in media supplemented with various combinations of growth factors, including Epidermal Growth Factor (EGF), Keratinocyte Growth Factor (KGF), Hepatocyte Growth Factor (HGF), Insulin-like Growth Factor-2 (IGF-2), Fibroblast Growth Factor (FGF), insulin, and all-trans-retinoic acid (ATRA). Additional conditions involved sequential culture in ATRA-containing medium followed by commercially available keratinocyte growth media (KGM-2 or KSFM). Differentiated cells were characterized morphologically and assessed for the expression of epithelial lineage markers. The expression of cytokeratin (CK)-14 and CK-19 was evaluated by semi-quantitative RT-PCR and Western blot analysis. CK-19 protein expression was further confirmed by immunocytochemistry.

**Results:** hD-MSCs cultured in differentiation medium containing 5 µM ATRA exhibited morphological changes, adopting a rounded or polygonal epithelial-like shape. Immunocytochemical analysis revealed positive staining for CK-19 in approximately 35% of these differentiated cells, a marker absent in undifferentiated hD-MSCs. RT-PCR and Western blot analyses confirmed the upregulation of CK-19 mRNA and protein, respectively, in ATRA-treated cells. Conversely, the expression of the mesenchymal marker vimentin was downregulated, while CK-14 expression was not detected in differentiated cells. Further experiments indicated that ATRA was a key factor in inducing CK-19 expression, while high concentrations of calcium inhibited differentiation. Sequential culture in ATRA medium followed by KSFM enhanced CK-19 expression, particularly in periosteum-derived stem cells (PSCs). Comparative analysis showed that PSCs exhibited the strongest epithelial differentiation potential among the three hD-MSC types tested, especially when cultured sequentially in ATRA medium and KSFM.

**Conclusion:** hD-MSCs, particularly those derived from dental periosteum, can be successfully differentiated *in vitro* into cells exhibiting an epithelial-like phenotype, characterized by morphological changes and expression of CK-19. These findings suggest that hD-MSCs represent a potentially valuable and accessible cell source for skin tissue engineering and cell-based therapies for skin diseases and wound healing.

# Enhancing Teledermatology Diagnosis: A Cross-Sectional Explorational Comparative Study of AI-Generated Clinical Image Descriptions

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# **Introduction & Objectives:**

The performance of AI models, such as ChatGPT, in dermatology is well-studied; however, the practical use of AI-generated clinical image descriptions requires further exploration. This study assesses dermatologists' ability to diagnose based on clinical image descriptions generated by ChatGPT-4, evaluating the potential integration of this technology into the Electronic Medical Record.

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

Our cross-sectional study included images and clinical descriptions from teledermatology consultations conducted between December 2023 and February 2024. ChatGPT-4 generated clinical descriptions for these images, and two senior dermatologists subsequently analyzed these descriptions to formulate differential diagnoses. Similarly, we analyzed the clinical image descriptions provided by the teledermatologists at the time of consultation (as documented in the medical record) using the same methodology. The resulting diagnoses were compared against the teledermatologists' original diagnoses and with the diagnoses generated based solely on the ChatGPT-4 descriptions. Concordance rates among diagnoses were classified as 'Yes' (with 'Top1' indicating an exact match and 'Top3' indicating the correct diagnosis appeared among the top three differential diagnoses), 'No', or 'Partial' for similar but not identical diagnoses.

## **Results:**

The analysis included 130 image descriptions from 57 males (43.8%) and 73 females (56.1%), aged from newborn to 93 years. ChatGPT-4 generated descriptions averaging 74.9 ± 33.8 words, compared to teledermatologists' average of 7.2 ± 2.7 words. For Top1 complete match, ChatGPT-4 achieved a 63.1% diagnostic concordance rate when using its own clinical image descriptions and 69.2% when using teledermatologists' descriptions. Investigators' diagnostic concordance rates ranged from 31.5% to 70.0% when using ChatGPT-4's descriptions, and from 43.1% to 65.4% when using teledermatologists' descriptions. For Top3 concordance, ChatGPT-4 achieved 77.7%, while investigators' rates ranged from 58.5% to 86.2% with ChatGPT-4's descriptions and from 55.4% to 85.4% with teledermatologists' descriptions. The Cohen's Kappa values for agreement between ChatGPT-4 and investigators ranged from 0.474 to 0.564, whereas the agreement between investigators using

ChatGPT-4's descriptions and those using teledermatologists' descriptions ranged from 0.279 to 0.464.

# **Conclusion:**

Our findings, which should be regarded as preliminary, underscore the potential for integrating AI-generated clinical image descriptions into the Electronic Medical Record to enhance diagnostic accuracy in teledermatology consultations. While demonstrating a substantial promise in supporting dermatological diagnosis, these AI tools also highlight the need for expert validation to ensure clinical efficacy and reliability.

## Evaluation of a Phototriage Service: effective referral management tool or sunk cost fallacy?

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## **Introduction & Objectives:**

The phototriage service in Northern Ireland, fully implemented in June 2022, enables rapid triage of lesions concerning for skin cancer sent directly from general practitioners to secondary care. Potential outcomes are 'discharge with advice', outpatient face to face assessment, referral for surgical removal or to another specialty. Quality standards require four high-quality images (macroscopic and dermoscopic) with ruler measurement, together with body image map and patient identifiers. A service evaluation audit was conducted to assess referral numbers, image quality, triage outcomes, and changes compared to a baseline audit (June 2022–April 2023).

#### Materials & Methods:

Data from primary care phototriage referrals within a single Trust from June to July 2024 were analysed. Data captured included lesion characteristics, image quality, and triage outcomes and final diagnosis.

## **Results:**

A total of 239 referrals were analysed, compared to 250 in the previous 10-month audit. Outcomes were as follows: 66% still required outpatient assessment, 14% were discharged, 12% were downgraded to urgent, and 8% were triaged direct to surgery, compared to 70%, 10%, 2%, and 16% respectively in the previous audit. While 83% of referrals included the required four images, only 39% met the overall image quality standard. Conversion rates revealed 9% were true red flag lesions, and 21% were true urgent lesions.

### **Conclusion:**

The audit showed an 848% increase in monthly referrals, with 239 cases in one month compared to 250 over 10 months previously. Most phototriage referrals still required face to face appointments, with lower discharge rates and fewer cases directed to surgery compared with the baseline data. Poor image quality and failure to meet baseline standards likely contribute to the high outpatient appointment rates. Inappropriate referrals, including lesions in hair-bearing sites and multiple lesions, accounted for 11% of cases, and also generate further outpatient appointments. Current service structure funding with allocation of Consultant PAs to phototriage sessions in place of a face-to-face clinic raises questions about resource efficiency.

Better education and photography facilities are essential to improve referral quality. However, the marked increase in referrals since the service's implementation suggests the system's accessibility may be potentiating demand. Strategic investments in time, resources, and workforce are critical to addressing the growing challenges and ensuring the service's sustainability and effectiveness.

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Diffuse blaschko-linear epidermal nevus with isolated dorsal kyphosis: incomplete or attenuated form of epidermal nevus syndrome?

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## **Introduction & Objectives:**

Epidermal nevi following Blaschko's lines are usually localized. Their generalized form, which is exceptional, often corresponds to an epidermal nevus syndrome (ENS). We report the rare case of a 14-year-old adolescent with diffuse epidermal nevus without significant extra-cutaneous abnormalities except for isolated dorsal kyphosis, raising the question of an incomplete or attenuated form of ENS.

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

A 14-year-old adolescent born to consanguineous parents presented with diffuse pigmented skin lesions present since birth. Clinical examination revealed brownish verrucous lesions, more or less confluent with a rough surface, arranged in narrow to wide bands following Blaschko's lines with a bilateral, symmetrical, and generalized distribution. The rest of the physical examination was unremarkable except for dorsal kyphosis. Histological study showed orthokeratotic hyperkeratosis, acanthosis, and papillomatosis compatible with verrucous epidermal nevus (keratinocytic hamartoma). The diagnosis of congenital keratinocytic epidermal nevus was suggested. A workup was performed for ENS given the generalized cutaneous extension (ophthalmological, neurological examinations, brain MRI, echocardiography, abdomino-pelvic ultrasound), which returned without abnormalities. CO2 laser treatment was considered for aesthetic purposes.

## Results:

Epidermal nevi are benign cutaneous hamartomas classically following Blaschko's lines. They are due to postzygotic mosaic mutations of genes in the RAS pathway. They are generally localized, unilateral, and present from birth. When they are diffuse and bilateral, this reflects an earlier mosaic mutation in embryonic development, which increases the risk of extra-cutaneous involvement, then integrating into the framework of epidermal nevus syndrome (ENS), associating cutaneous involvement with extra-cutaneous manifestations of neurological, skeletal, ocular, or visceral nature.

The peculiarity of our case lies in the generalized distribution, without major extra-cutaneous involvement, with the exception of isolated dorsal kyphosis, whose etiological link remains uncertain; potentially corresponding to an attenuated or incomplete form of ENS or a non-syndromic generalized form, with very limited literature on diffuse forms without associated abnormalities, making classification difficult.

## Conclusion:

We describe here an unusual presentation of an atypical, possibly attenuated form of ENS. The absence of associated abnormalities does not exclude regular multidisciplinary follow-up, given the potential risk of late manifestations and the rarity of this presentation.

## Utility of Multipurpose Biodegradable Toe Separator in Dermatology: A Prospective Pilot Study

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## **Introduction & Objectives:**

Interdigital infections—like intertrigo, soft corns, candidiasis, verruca vulgaris, and tinea pedis—are common but often overlooked in dermatology. Typically caused by fungi and occasionally bacteria, these infections can be asymptomatic or cause chronic scaling, pruritus, pain, or odour. They may become chronic or develop secondary bacterial infections if untreated. Moisture from footwear, perspiration, and humid climates (e.g., in India), along with conditions like diabetes, worsen healing. Pharmacological therapy remains central to treatment, but maintaining a dry, well-aerated interdigital space is crucial for faster healing The structure of the toes, constant footwear use, perspiration, and occlusive socks create a perpetually moist environment. In tropical climates like India's, high humidity worsens the issue. Conditions such as diabetes mellitus further hinder healing and raise the risk of complications. To address these challenges, a biodegradable toe separator was developed. Its aim is to keep the interdigital space open and ventilated, preventing reinfection. To improve outcomes, a biodegradable toe separator was developed to keep the interdigital space open, dry, and ventilated. Designed in Fusion 360 and 3D-printed using PLA, the device is user-friendly, reusable, non-allergenic, and suited to Indian anatomical needs. It has two open-ended cylindrical sleeves connected by a central separator and side stabilizers. It is made from biodegradable polylactic acid (PLA), which is non-allergenic. The device is user-friendly, reusable, easy to clean, and suitable for both clinical and home use.

This study evaluates the device's effectiveness as an adjunct to standard therapy in patients with interdigital infections.

### **Materials & Methods:**

A six-month prospective pilot study was conducted at a tertiary care center. Adults over 18 with interdigital infections lasting over a month (e.g., intertrigo, diabetic ulcers, macerated corns, or contact dermatitis) were included. Exclusions were recent infections (<1 month) or trauma-induced ulcers.

Twenty-five patients enrolled. After baseline evaluation and standard pharmacological treatment, each received the separator with usage instructions. Follow-ups were at 2, 4, 6, and 8 weeks. Improvement was assessed via:

- Investigator's Global Assessment (IGA) clinician-evaluated signs.
- Subject's Global Assessment (SGA) patient-reported outcomes.
- Plaque thickness of a target lesion was measured at each visit.

#### **Results:**

Of the 25 participants (17 males, 8 females; median age 45), most had chronic infections: 40% between 6–12 months and 36% over a year. Intertrigo (64%) and soft corns (34%) were most common.

All patients improved. By week 8:

• 48% had full resolution.

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- 56% improved from grade 4 to grade 2 plaques.
- At week 2, 52% had reduced plaque thickness. By week 6, 64% had grade 2 lesions.

Patient feedback was positive:

- 64% found the device easy to use.
- 60% reported no discomfort.
- 7 had mild discomfort removing it; 3 had pain while wearing, often due to toe structure.
- 48% found the separator highly effective.

**Conclusion:** The PLA toe separator significantly aided healing in interdigital infections by improving aeration and reducing moisture. Its dermatology-specific design, comfort, and eco-friendliness support its use as an effective adjunctive tool. Future designs could adapt for broader foot pathologies and multiple web spaces.

## Melatonin reduces melanocyte senescence in human epidermis ex vivo

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## **Introduction & Objectives:**

Melanocyte senescence may drive overall epidermal aging, since senescent epidermal melanocytes secrete inflammatory mediators and proteases (senescence-associated secretory phenotype [SASP]) that promote senescence in neighboring keratinocytes and melanocytes of the epidermal pigmentary unit (EPU). Since senolytic drugs can counteract this, but exhibit considerable toxicity, we aimed to find a well-tolerated non-drug that improves biomarkers of human melanocyte aging *in situ*. We have recently shown that the safe indoleamine neurohormone, melatonin (MT), slows epidermal aging, and stimulates both epidermal melanogenesis and the entire EPU in human skin *ex vivo*. We now have asked if MT also specifically impacts epidermal melanocyte aging/senescence in aged human skin.

### **Materials & Methods:**

This was interrogated in healthy, organ-cultured, fast-aging, full-thickness human eyelid skin (n=5, male and female, mean age: 68 years), by adding 100 or 200 uM MT, which improve epidermal aging read-outs and stimulate the EPU, or vehicle to the culture medium for 6 days, thus imitating oral MT intake. Double stains for melanocyte (gp100 or MITF) and key aging/SASP biomarkers (p16INK4, CXCR3, Lamin B1, and VEGFA) were assessed by quantitative immunohistomorphometry (qIHM).

#### **Results:**

Our *ex vivo* qIHM results showed that both tested concentrations of MT decreased epidermal melanocyte senescence as indicated by a significant reduction of the % of gp100+ epidermal melanocytes double-positive for p16INK4, a key senescence marker, and CXCR3, a SASP-associated cell surface receptor expressed by senescent melanocytes, whose activation results in telomere shortening. MT also increased the % of MITF+ melanocytes with an intact peripheral ring of Lamin B1 in the nuclear membrane indicating specific anti-senescent effects of MT on epidermal melanocytes *ex vivo*. These senescence-inhibitory effects of MT did not appear to result from an increase in melanocyte proliferation (Ki-67). Interestingly, MT also significantly increased the % of epidermal melanocytes expressing the key skin rejuvenating growth factor, VEGFA.

#### **Conclusion:**

These preliminary data, obtained directly in organ-cultured human skin, expand the range and quality of known anti-skin aging effects of MT. They suggest that "systemic" MT can counteract human epidermal melanocyte senescence, a recognized driver of epidermal senescence, thereby potentially slowing overall human skin aging. Mechanistically, we are currently probing by VEGFA-neutralizing antibody if this effect of MT on epidermal melanocytes is VEGFA-dependent.

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## Comparative Analysis of Dermatovenereology Education in France, Italy, and Ukraine

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## **Introduction & Objectives:**

As Ukraine progressively aligns with European standards in medical education, comparative evaluation of dermatology and venereology teaching systems in EU countries becomes essential. This study aims to analyze the structure, methodology, and clinical integration of dermatology education in France, Italy, and Ukraine, to identify best practices and areas for improvement within the Ukrainian context.

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

A comparative content analysis was conducted using official academic programs from three institutions: La Sapienza University (Italy), Université Claude Bernard Lyon 1 (France), and Bogomolets National Medical University (Ukraine). Key indicators included curriculum duration, clinical access, postgraduate training structure, digital resources, and examination formats.

## Results:

French and Italian students benefit from strong clinical integration, electronic patient databases, and structured residency programs lasting 4 years. Practical training is emphasized through mandatory diagnostic and surgical procedures. In France, the DES system combines university courses with monthly clinical case seminars. Italian residents must complete a defined number of biopsies, dermatologic surgeries, and laboratory investigations. Ukrainian education remains largely theoretical, with a 2-week undergraduate course (~90 hours) and a 2-year internship focused on didactics. Digital infrastructure and access to clinical information are significantly more limited in Ukraine. Examination formats also vary: France uses MCQ/QROC tests, Italy prefers oral exams, and Ukraine relies on electronic testing systems.

#### **Conclusion:**

The dermatology education systems in France and Italy prioritize clinical experience and autonomy, integrating students and residents into real patient care. Ukraine should adopt a more practice-oriented approach, extending residency duration to 4 years, improving digital access, and increasing hands-on training opportunities. Active involvement of students in patient consultations, as seen in EU systems, should become a standard to enhance medical competence and align with international quality benchmarks.

## Social Media Use in Dermato-Cosmetology: A Moroccan Study

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## **Introduction & Objectives:**

This study investigates the impact of social media on dermatological and cosmetic health behaviors, patient decision-making, and medical information-seeking among Moroccan users. It aims to characterize usage patterns, motivations, and perceived influences, with particular focus on key groups such as young adults and women, who are especially exposed to appearance-related pressures amplified by digital media.

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

A descriptive, analytical, cross-sectional study was conducted from July to December 2024, involving 500 Moroccan participants aged  $\geq 16$  years. Data were collected using a structured online questionnaire distributed via email and social media platforms (WhatsApp, Facebook). The questionnaire assessed demographic and clinical characteristics (age, gender, dermatological history), general and health-related social media use, motivations, perceptions of telemedicine, exposure to cosmetic product information, and the influence of social media on dermatological decision-making. Inclusion criteria included Moroccan nationality, age  $\geq 16$ , and informed consent; exclusion criteria were non-Moroccan nationality, age <16, or refusal to participate. Statistical analyses were conducted using Jamovi software, with significance set at p < 0.05.

## **Results:**

Participants were predominantly female (75.5%), with a mean age of 36.3 years, mainly in the 20–30 and 16–20 age groups. Nearly all respondents (98.9%) reported daily social media use, primarily Instagram (95.7%) and Facebook (85.3%). Main motivations were social interaction (71.7%) and access to health information (71%). Over half (54.5%) reported dermatological conditions, primarily acne. WhatsApp was the most used platform for medical follow-up (87%). Although 73.5% used social media for health-related purposes, only 15.1% perceived teleconsultations as comparable in effectiveness to in-person visits. Social media influenced cosmetic product choices in 45.9%, mainly based on perceived efficacy (82.3%). Significant associations were found between social media use, female gender, younger age (18–30), and concerns related to skin appearance (p < 0.001).

#### **Conclusion:**

This study highlights the substantial role of social media in shaping dermatological care practices, health information behaviors, and cosmetic decision-making among Moroccan users. The findings underscore the importance of implementing evidence-based digital health strategies, ethical communication practices, and targeted educational initiatives to ensure accurate health information dissemination and mitigate appearance-related pressures, particularly among young female populations.

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## 4P Dermatology: A Shift to a Comprehensive Patient-Centered Model

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**Introduction & Objectives:** Traditional dermatology has historically operated on a reactive, one-size-fits-all basis, overlooking individual complexities of skin health. Recent scientific and technological advances have enabled a transition to personalized, proactive care. The 4P model—personalized, predictive, preventive, and participatory—offers potential to transform dermatologic practice through individually tailored strategies. This review explores applications of the 4P medicine model in dermatology, examining its principles, implementation examples, and adoption challenges.

**Materials & Methods:** We employed a three-step methodology: 1) An iterative expert consensus approach to conceptualize the 4P framework in dermatologic practice; 2) Semantic search using cosine distance on a database of abstracts published between 2015-2025 from the top 10 journals by impact factor in each relevant category (dermatology, oncology, medicine, AI, climate science, ...); this yielded approximately 400,000 abstracts from which we identified and verified the relevance and quality of candidate abstracts; 3) Structured paper construction integrating verified scientific evidence while maintaining narrative coherence.

**Results:** The 4P approach has potential to transform dermatology through multiple dimensions. Personalized strategies integrate genetic profiles, microbiome composition, and exposome factors, evident in pharmacogenetic advances for psoriasis (HLA-Cw6 predicting IL-12/IL-23 inhibitor response) and melanoma (BRAFV600 mutations guiding therapies). Predictive technologies utilizing genetic predispositions, AI, and machine learning quantify disease risk and treatment outcomes, while preventive approaches focus on averting disease onset through interventions like microbiome modulation for atopic dermatitis and photoprotection for skin cancer. Participatory elements emphasize shared decision-making and digital patient engagement, improving treatment adherence and outcomes. Dermato-oncology and microbiome management are presented as illustrative frameworks demonstrating how currently separated implementations of individual "P" components could be integrated into comprehensive 4P approaches. Despite this potential, the model faces challenges including economic sustainability of personalized treatments, data privacy concerns, healthcare access disparities, and the need for interdisciplinary research.

**Conclusion:** The 4P Medicine model represents a promising framework for comprehensive, patient-centered dermatology with potential to enhance disease management and improve outcomes. This review illustrates how currently separate elements could be integrated into cohesive 4P approaches, particularly in dermato-oncology and microbiome management. Realizing this vision requires addressing economic, ethical, and accessibility challenges through stakeholder collaboration. With continued innovation and commitment to equity, the 4P model may create a future where dermatologic care is more effective, efficient, and responsive to individual needs, ultimately improving skin health for all.

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# Superior Efficacy of a Sunscreen with the MCE filter in Preventing UVA and Long UVA-Induced Skin Damage in a Reconstructed Skin Model

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## **Introduction & Objectives:**

While the harmful effects of UVB (290-320nm) are well characterized, recent evidence has drawn attention to the impact of chronic UVA (320-400nm) exposure on carcinogenesis. Long UVA rays (UVA1; 340-400nm) cause DNA damage and immunosuppression, which are known to contribute to skin cancer development. This study compared the photoprotective efficacy of a sunscreen with the Methoxypropylamino Cyclohexenylidene Ethoxyethylcyanoacetate (MCE) filter (offering protection against UVA1 up to 400nm) *versus* a commercially available sunscreen using a reconstructed skin model.

## **Materials & Methods:**

Reconstructed skin tissues (T-SKIN<sup>™</sup>, Episkin) were exposed to total UVA (35, 70 or 90 J/cm2) or UVA1 (50, 80 and 100 J/cm2) doses. Tissues were either non-protected or protected by 3 different sunscreens: vitro reference standard (S2, ISO24443:2021), MCE-containing sunscreen (MCE sunscreen; SPF50+, UVA>40) and a commercially available product (SPF50, UVA<20). 24-hour after exposure, samples were analyzed for dermal viability (MTT assay), DNA lesions (CPD immunolabelling), and inflammatory mediator levels (Luminex multiplex protein assay).

## Results:

Unprotected skin exposed to total UVA or UVA1 exhibited a dose-dependent decrease in dermal viability and a significant increase of CPD+ nuclei and inflammatory mediators (e.g., TNF $\alpha$ , PGE2). While both the reference S2 and the commercially available product offered protection at the lowest total UVA or UVA1 dose, higher doses resulted in decreased dermal viability (for S2 and the commercially available product respectively: 39,8% and 52,6% at 90J/cm2 of total UVA; 72,6% and 81,7% at 100 J/cm2 of UVA1), increased inflammatory mediator levels and CPD+ nuclei (p<0.05). Conversely, no significant changes were observed in skin protected by the MCE sunscreen (more than 99% of dermal viability at both 90J/cm2 of total UVA and 100 J/cm2 of UVA1), with a total absence of CPD, even at the highest doses. Therefore, the MCE sunscreen demonstrated a significant higher photoprotective effect (p<0.05) compared to the commercially available sunscreen for all evaluated parameters.

## **Conclusion:**

This study confirms the detrimental effects of both total UVA and UVA1 on mechanisms relevant to skin carcinogenesis. Of the three formulations tested, only the MCE sunscreen provided complete protection at all doses, confirming its high protective effect even under high UVA/UVA1 exposure.

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## Perforating folliculitis - a rare disease with a good response to isotretinoin treatment

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**Introduction & Objectives:** Perforating dermatoses are a heterogeneous group characterized by a papulonodular rash with transepidermal elimination of dermal components. The main four forms of perforating dermatoses are as follows: acquired perforating dermatosis (includes Kyrle disease), reactive perforating collagenosis, elastosis perforans serpiginosa, and perforating folliculitis (PF). We present a case of PF with a sudden onset of PF being unrelated to dialysis, diabetes, or previous pruritus, which is rarely reported in the literature.

Materials & Methods: A 42-year-old woman presented with a sudden onset of papules on her upper arms and intense pruritus ten months ago. She states that the lesions preceded the symptoms. She sought medical help mainly due to intense e worsening pruritus and was treated with loratadine, bilastine, fexofenadine, dexchlorpheniramine, prednisone, fluconazole, and topical ketoconazole by different practitioners with no satisfactory response. She was then referred to a dermatologist. Her previous pathological history included asthma and systemic hypertension, well controlled with daily administration of budesonide/formoterol inhaler and hydrochlorothiazide, respectively. She denied previous surgeries, alcoholism, and tabagism. Allergic to clavulanate. She mentioned living with her husband and grandson in a rural town - none of the latter presenting similar lesions to hers or pruritus. On physical examination, she presented with umbilicated papular lesions with central keratotic plugs on the extensor face of bilateral forearms. On this first appointment, we performed a punch biopsy and laboratory tests.

Laboratory tests including serological tests were unremarkable. Histopathology revealed perforating dermatosis with epidermal invagination over a parakeratotic plug. Histopathological evaluation described perforating dermatosis represented by epidermal invagination with a parakeratotic plug over it, inflammatory debris, and degenerated dermal matrix.

**Results:** She was treated with isotretinoin 20mg daily. She reported significant and progressive improvement in pruritus after three months of therapy. Lesions were smaller and less keratotic.

**Conclusion:** Isotretinoin seems to work well on pruritus related to PF and it helps flatten papules out or even makes them less keratotic.

Preserving and reintroducing historic high-fidelity wax replicas into modern dermatology by innovative 3D-technologies with the Virtual International Moulage Archive (VIMA)

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## **Introduction & Objectives:**

Starting in the 18th century, the predominant method of documenting and presenting skin conditions was with the help of so called "moulages". Full-coloured, life-sized and high-fidelity replicas of dermatological patients were skilfully crafted by artists employed by most European dermatological clinics, producing collections of up to many thousand models used in teaching, training, patient education and documentation. Starting in Italy, this craft quickly spread throughout Europe leading to enormous collections that experienced a sudden decline with the upcoming colour photography in the 1950s. Many collections were severely decimated by the worsening state of the fragile models, made among others out of wood, wax and human hair, a general need for more storage in the clinics or became victims of shortages in raw materials leading to the moulages being molten and sold as candles.

Although three-dimensional understanding still plays a crucial role in identifying skin diseases by correctly applying haptic characteristics of efflorescences such as 'macula' or 'plaque', the predominant medium in teaching and training dermatology nowadays are two-dimensional pictures. This project aims to combine the preservation of endangered moulage collections across Europe by digitizing them using modern 3D-technologies with the creation of a virtual international moulage archive that allows their reintroduction in dermatological teaching, training and research.

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

After extensive research across Europe, we identified existing moulage collections and initiated this project at the Zurich moulage museum. By scanning around 100 historic models, we found among other techniques photogrammetry to be the most useful method for digitizing moulages, yielding 3D-objects of high texture quality and sufficient three-dimensional resolution. A free to use 3D-modeling software was then chosen for cleaning up and refining the 3D-raw-data. We additionally decided on using a commercially available online 3D-hosting service allowing for qualitative and intuitive viewing of the 3D-models while having control over the access to the virtual models.

#### **Results:**

We applied these experiences to additional collections in Paris, Frankfurt and Bologna, leading to about 500 scanned 3D-models of historic moulages from the early 19th century up to the 20th century that can be viewed via an online 3D-viewer (Fig. 1).

#### Conclusion:

3D-scanning technologies offer a feasible approach to conserve and present fragile three-dimensional replicas of skin conditions, preserving them from further decay and making them available for modern use-cases, reintroducing a forgotten craft with most recent advancements in 3D-technologies. The currently available 3D-

models will be made available shortly on the website of the German Dermatological Society DDG and many more collections across Europe already showed their interest in becoming part of the collection.



Figure 1: Impression of a wax moulage and its 3D-Scan

## Efficacy of 675 nm Laser in the Treatment of Keloids and Hypertrophic Scars: A Prospective Clinical Study

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## **Introduction & Objectives:**

Keloids and hypertrophic scars are challenging fibroproliferative disorders with limited therapeutic success. The RedTouch 675 nm laser offers a novel collagen-targeting, non-ablative approach with minimal downtime. This study aimed to evaluate the clinical efficacy and safety of RedTouch laser in improving scar characteristics.

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

Eighteen patients with stable keloids or hypertrophic scars underwent four sessions of RedTouch laser treatment at monthly intervals. Parameters included 675 nm wavelength, fluence 10-14 J/cm², dwell time 150-200 ms, and spacing 500  $\mu$ m. Clinical outcomes were measured using the Vancouver Scar Scale (VSS) and digital dermoscopy. Adverse events, pain scores, and patient satisfaction were also recorded. Follow-up was conducted at 3 and 6 months post-treatment.

#### **Results:**

There was a significant reduction in mean VSS scores from  $9.8 \pm 2.3$  to  $4.2 \pm 1.7$  at 6 months (p < 0.001). Improvements were most notable in pliability, pigmentation, and vascularity. Hypertrophic scars showed more rapid progress than keloids. No severe adverse events occurred; mild transient erythema was seen in 3 patients. Patient satisfaction was high, with 72% rating results as good or excellent.

#### **Conclusion:**

The 675 nm laser is a practical, well-tolerated option for treating keloids and hypertrophic scars, particularly in patients seeking minimally invasive treatments. Its targeted dermal action and minimal epidermal disruption make it suitable across skin types. Further controlled trials with histological endpoints are recommended.

# Engaging Undergraduate Medical Students in Dermatology Education with an Online Learning Resource Integrated with General Medicine

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## **Introduction & Objectives:**

It is widely known that dermatology is allocated less emphasis than other specialities in undergraduate medical school curricula. This may reflect the ongoing need for training 'generalists' rather than 'specialists', however it leaves a potential knowledge gap in medical students starting their resident doctor posts. Training a well-rounded doctor involves knowledge in all aspects of medicine, and with dermatological presentations at high levels in primary and secondary care, it is important to establish a firm knowledge base to build upon during foundation and medical training.

The NHS Long Term Workforce Plan has recently been published, with the goal of expanding medical school places and leveraging technology to work in our favour. With medical students already struggling to gain enough clinical experience due to large group numbers, we need to implement new ways of learning to ensure we can maintain high quality clinical education.

#### Materials & Methods:

After a survery of 4th year medical students, we have implemented a closed loop feedback online learning tool students attending their dermatology placement. Design and implementation was steered using multiple rounds of quality improvement framework, using qualitative and quantitative methods. Students expressed the need for contextualisation and 'at-home' learning, therefore we created an online tool that integrated general medical and dermatological presentations, using well established educational theories, complementing their spiral curriculum. Instant feedback prompted reflective practice, an established method for consolidation and a skill required for a career in healthcare.

## **Results:**

Implementation streamlined placements, as students were pre-prepared for learning goals of the week and could personalise in-person contact hours alongside their online learning. Anonymous student scores and feedback were continuously analysed and acted upon, identifying areas of weaknesses in each placement group to focus on during in-person small group teaching sessions. The response has been overwhelmingly positive from students and staff.

This small-group tailored approach to clinical placement learning is a novel way to anticipate learners' needs both academically and clinically.

# Conclusion:

This personalised approach complements the NHS workforce plan and continuously evolves using quality improvement methods. We would like to share our experiences to encourage other healthcare professionals to reflect on novel ways of training the next generation of healthcare staff. We will present the initial survey on dermatology undergraduate education, the online learning resource, and qualitative data on student experience.

# Assessing The Holistic Value Of Tirbanibulin For Treating Actinic Keratosis Using Multi-Criteria Decision Analysis (MCDA) In Three European Countries

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## **Introduction & Objectives:**

Actinic keratosis (AK) is a common pre-malignant skin condition caused by cumulative ultraviolet radiation exposure, with an estimated global incidence rate of 1,928 cases per 100,000 people each year. If untreated, AK may progress to invasive squamous cell carcinoma. Diagnosis is primarily clinical, based on erythematous, scaly lesions on sun-exposed skin. Treatment options vary depending on lesion characteristics, patient preferences, and healthcare system factors. Tirbanibulin, a microtubule inhibitor, was approved by the US Food and Drug Administration (2020) and the European Medicines Agency (2021) for the topical treatment of non-hyperkeratotic, non-hypertrophic AK on the face and scalp. A Multi-Criteria Decision Analysis (MCDA) is a structured methodology that integrates multiple value dimensions into healthcare decision-making, enabling a holistic, transparent, and systematic evaluation of new interventions including both comparative and non-comparative criteria.

This study used the MCDA methodology to assess the holistic value of tirbanibulin and identify its key value drivers for AK treatment across Germany, Italy, and Spain. It aimed to capture the perspectives of clinicians, payers, and patients to facilitate evidence-based decision-making.

## **Materials & Methods:**

The study adapted and validated the 10th edition of the Evidence and Value: Impact on Decision-Making (EVIDEM) MCDA framework with clinical experts for evaluating novel AK treatments 2, 3. As a result, 11 criteria from the EVIDEM core model were included. These were categorized into disease-related criteria (burden of disease, size of affected population, unmet needs), non-comparative treatment-related criteria (quality of evidence, alignment with expert consensus, type of therapeutic and preventive benefits), and comparative treatment-related criteria (comparative efficacy, safety, patient-reported outcomes, and cost consequences). The

comparator selected for the comparative criteria was 5-fluorouracil 4% (5FU 4%), an antimetabolite chemotherapy widely used for AK treatment and approved for the target population of tirbanibulin.

The study included 18 participants, with six clinicians, six payers, and six patients equally distributed among the three countries. Each stakeholder group comprised two dermatologists, two payer representatives (regional primary healthcare pharmacists from Spain and Italy and representatives from sickness insurance funds in Germany), and two patients with AK diagnosis.

The MCDA process was conducted in two phases. To ensure objectivity, both treatments were anonymized using coded identifiers. In Phase 1, participants independently assigned a relative weight (on a scale of 1–5) to each criterion based on its perceived importance in assessing an AK treatment. These weights were then discussed in an online session to align perspectives and validate the criteria prioritization. In Phase 2, participants were presented with an evidence matrix containing clinical, economic, and patient-centered data for tirbanibulin and 5FU 4% (for comparative criteria). Participants independently scored each criterion based on the available evidence, followed by an online meeting to refine their assessments.

#### **Results:**

The findings will be submitted as they become available.

## **Conclusion:**

The findings will provide insights into the key value drivers of tirbanibulin to help inform decision making.

## Phynoderma, as a manifestation of Hypovitaminosis

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**Introduction & Objectives:** Phrynoderma, is an entity that was first described in 1933 by Nocholls, It is also known as toad skin, and is a type of follicular keratosis, which can be localized or generalized, Several causes have been described for it however its origin is still controversial, and some causes are described such as Various nutritional deficiencies such as Vitamin (Vit) A, Vit B-complex, Vit E and Essential fatty acid (EFA) deficiency, as well as protein-calorie malnutrition have been suggested as possible etiological factors. There are few cases that are described in the world literature on this entity.

Materials & Methods: Case report

**Results:** A 48-year-old male patient, with no known comorbidities so far, presenting with generalized dermatosis, 13 months of evolution characterized by perifollicular and hyperkeratotic spinulous papules, monomorphic, symmetrical, without pruritus, There were symmetrical, nonpruritic, multiple keratotic, spiny papules over the bilateral extensor surfaces of elbows, ankles, and buttocks with diffuse cutaneous xerosis, causing pain and inflammation in areas of friction, a skin biopsy was performed, which reported stratum corneum with abundant laminar hyperkeratosis and dilated infundibular openings with abundant laminar keratin, with the presence of moderate inflammatory infiltrate by lymphocytes and histiocytes. In suspicion of Phynoderma versus Lichen Spinulosus, laboratory tests were performed in search of hypovitaminosis, which included: B12 levels: 206.07pg/mL (normal range), Vitamin A (Retinol) levels: 24L (Serum vitamin A levels are considered deficient below 38mcg/dl) thus finding the cause of Phynoderma in our patient. Management was carried out with Vitamin A supplementation, 20,000 IU orally, noting partial improvement in 8 weeks.

**Conclusion:** Phynoderma is a rare pathology, with few cases described in the world literature, most frequently being found in developing countries, is a hyperkeratotic folliculitis that occurs due to multifactorial nutritional deficiencies especially described in vitamin A deficiency, and fatty acids. Other differential diagnoses may include keratosis follicularis (familial clustering and distribution over the head and hands), keratosis pilaris (chicken skin appearance over the hair follicles and one of the minor criteria for atopic dermatitis), and lichen spinulosus (clusters of tiny papules appearing like sandpaper). Management is based on improvement of the intake of deficient vitamins with resolution of the condition.



Clinical evaluation of safety and efficacy of the cleansing foam formulated with olive leaf extract, Saccharide isomerate and Lavender flower extract.

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## **Introduction & Objectives:**

Skin cleansing represents the first and essential step of any skincare routine removing daily accumulation of sebum, pollution, impurities and residual topical products.

Effective cleansing is key to maintaining epidermal health and homeostasis but also for optimizing bioavailability and efficacy of subsequently applied topical formulations.

Therefore cleansers should contain gentle yet effective surfactants together with antioxidant, moisturizing and soothing ingredients to support skin resilience.

The objective of the studies was to evaluate safety and efficacy of a cleansing foam containing olive leaf extract, Saccharide isomerate and Lavender flower extract for effective and gentle cleansing.

#### Materials & Methods:

Clinical study 1 (S1): 30 women with all skin types used the foam twice a day for 28 days. Safety was evaluated by dermatologist and dermatologist control. Cleansing efficacy of a color cosmetic with SPF after one use was evaluated by chromameter and pores cleansing score was rated on days 1 and 28 together with a subjective questionnaire. Clinical study 2 (S2): 30 women and men with mixed/oily skin and sensitive skin, comedones and sebum index level of at least  $100 \, \mu \text{g/cm}^2$  used the foam twice daily for 28 days. The study was dermatologist controlled, sebum levels were measured after 1st use and after 28 days and comedones count was done at the beginning and end of the study. Subjective questionnaire was done after 1 st use and on day 28.

#### **Results:**

In S1, the foam significantly removed 91,4% of the impurities after 1 st use (p<0.05). Pores cleansing score showed significant improvement of 28% after 28 days of use (p<0.05). Subjective efficacy was very well evaluated by the subjects with 97% confirming purified skin, removing dirt and impurities effectively and 91% no tight feeling after 1 st use. On D28 97% noted more radiant skin, cleanses respecting the skin, beauty routine

penetrates better and 94% skin free from impurities with daily product use. The product was very well tolerated on skin and eye level in all skin types. In S2, the foam showed a significant reduction of 22,5% in comedones count on day 28 (p<0,001). Sebum levels were significantly reduced by 51% after 1 st use and by 23% on day 28 (p<0,001). The product was very well evaluated by the users with 100% of them liking the product, 97% agreed it cleanses and removes excess sebum respecting the skin and skin stays hydrated after 1 st use. 100% confirmed removes effectively dirt and impurities, skin texture improved, 97% leaves a comfortable feeling, 94% skin feels fresh all day after 28 days of product use.

## **Conclusion:**

The cleansing foam showed to be effective in removing impurities and pores cleansing, imperfections reduction, sebum excess removal and skin oiliness balance. These results were comparable with subjective evaluations. It was very well tolerated in all skin types, including sensitive skin.

## Intralesional Methotrexate for the Treatment of Keratoacanthoma: A Case Report

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## **Introduction & Objectives:**

Keratoacanthomas (KAs) are benign, rapidly growing cutaneous neoplasms deriving from the hair follicle. They closely resemble squamous cell carcinomas (SCC) both clinically and histologically. These lesions characteristically manifest in sun-exposed regions of the skin, particularly in elderly individuals with fair complexions. Although spontaneous regression is a possibility, treatment is generally recommended due to the presence of diagnostic uncertainty and the potential for local tissue destruction. Surgical excision remains the standard of care; however, in select cases, conservative management may be appropriate. Intralesional methotrexate (MTX) has emerged as a cost-effective and minimally invasive alternative, particularly for lesions in cosmetically sensitive areas or in patients with contraindications to surgery.

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

We present the case of a 66-year-old male patient with no prior medical history who developed a rapidly enlarging nodule on the chin over a period of three weeks. Physical examination revealed a  $4 \times 5$  cm indurated, livid erythematous lesion with central necrosis, fixed to underlying tissues and tender to pressure. The laboratory findings were unremarkable. A diagnostic biopsy indicated a well-differentiated SCC; however, considering the clinical presentation, patient history and histological features, a presumptive diagnosis of KA was made.

## **Results:**

In light of the lesion's dimensions and its location in a cosmetically sensitive area, a conservative management approach involving the administration of intralesional MTX at a dose of 7.5 mg was deemed to be the most appropriate course of action. Following the administration of two weekly injections, a partial regression of the tumor was observed, particularly a flattening of the central necrotic plaque. Following the fourth injection, the dosage was increased to 15 mg, owing to the satisfactory tolerability observed. The total number of injections administered was 11. During the subsequent three-month period, the lesion underwent further regression, characterized by a reduction in erythema and minimal little scar formation at the apical pole.

#### **Conclusion:**

This case demonstrates the successful use of intralesional MTX as a conservative treatment option for KA. The therapeutic regimen was well tolerated, induced significant tumour regression and may serve as an alternative to surgery in selected patients, especially where lesion location or patient comorbidities preclude surgical intervention.

## A Case of Pigmented Purpuric Dermatosis with Facial Involvement

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## **Introduction & Objectives:**

Pigmented Purpuric Dermatoses (PPD) are a group of disorders characterized by petechial hemorrhages that are thought to result from capillaritis. Although the exact etiology of PPD remains unknown, factors such as physical activity, venous hypertension, capillary fragility (especially in the lower extremities), and local infections have been implicated in its pathogenesis. Certain medications, such as aspirin, nonsteroidal anti-inflammatory drugs, antibiotics, and oral antidiabetics, as well as dietary components, may act as triggering factors. PPD may also be associated with systemic diseases such as diabetes mellitus, rheumatoid arthritis, and systemic lupus erythematosus.

## **Materials & Methods:**

A 36-year-old female patient was referred to our department from the emergency room due to widespread rash. The patient reported consuming soy sauce three days prior, after which she developed itching, shortness of breath, fever, and a rash that began on her wrists and subsequently spreaded to her legs, face, and neck. She had previously presented to an outside hospital, where she received intravenous pheniramine and dexamethasone twice over two days. Due to persistent fever and worsening rash, she was hospitalized by the Rheumatology department. Urinalysis revealed increased leukocytes, and urine culture grew coagulase-negative, methicillin-resistant staphylococci. Blood tests showed leukocytosis and elevated C-reactive protein level.

## **Results:**

Dermatological examination revealed erythematous papules with accompanying petechiae on an erythematous base over the bilateral malar areas, neck, dorsal hands, and volar wrists. Scattered petechiae were also observed on the abdomen and dorsum of the feet. A 3-mm punch biopsy was performed from the right wrist with the preliminary diagnoses of leukocytoclastic vasculitis, allergic contact dermatitis, and pigmented purpuric dermatosis. Histopathological examination revealed perivascular lymphocytic inflammation, lymphocytic vasculopathy, and erythrocyte extravasation, consistent with pigmented purpuric dermatosis. During hospitalization, rheumatologic testing revealed positive antinuclear antibody (ANA) and lupus anticoagulant, and Rheumatology follow-up was recommended. Our department initiated treatment with topical corticosteroids and oral cetirizine, resulting in partial resolution of the erythematous lesions. The patient was discharged in stable condition in the course of topical corticosteroid and oral cetirizine treatment. No recurrence was reported during follow-up with the Rheumatology department or after discharge.

## **Conclusion:**

Pigmented purpuric dermatoses are chronic, recurrent, and generally benign skin disorders. As noted in the literature, PPD may be associated with various systemic diseases. In our case, elevated ANA and lupus anticoagulant results were observed. The potential cause of PPD in this case was considered to be the dietary component consumed prior to the onset of skin findings, an underlying rheumatologic disease, or the concurrent urinary tract infection. Although PPD commonly affects the lower extremities, this case highlights that facial

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involvement can rarely occur.

#### Favre-Racouchot Disease: When the Face Becomes Disfigured - Two Extreme Cases

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## **Introduction & Objectives:**

Favre-Racouchot disease, also known as nodular elastosis with comedones and cysts, is a dermatological condition associated with photoaging, primarily affecting elderly individuals with fair skin and prolonged sun exposure. Although generally benign, the disease can sometimes progress to severe and disfiguring forms.

#### Materials & Methods:

We report two extreme cases of this disease, in which large epidermoid cysts significantly altered facial appearance.

#### **Results:**

**Case 1** A 60-year-old male, former farmer, presents with progressive facial swelling evolving over several years, accompanied by significant aesthetic discomfort. Clinical examination reveals multiple open comedones and several large epidermoid cysts, some measuring up to 2 cm in diameter. The patient reports a history of chronic sun exposure without protective measures. This severe clinical presentation has a substantial psychological impact, leading to social withdrawal, reduced self-esteem, and a marked decline in quality of life.

**Case 2** A 55-year-old male, chronic smoker, presents with nodular lesions involving the malar and temporal regions. Physical examination shows severe actinic elastosis and numerous large, firm skin nodules, up to 1,5 cm in size, often complicated by recurrent inflammation and abscess formation. The advanced stage of the disease results in major facial disfigurement, significantly impairing the patient's social interactions and professional functioning, with a profound effect on his overall quality of life.

#### **Conclusion:**

These two cases illustrate rare and severe forms of Favre-Racouchot disease, where contributing factors include chronic sun exposure, smoking, and delayed treatment. While the disease is generally benign, these cases highlight the importance of early diagnosis and appropriate management. Patients often suffer from significant psychological distress due to social stigma associated with the visible impact of the disease.

## Complications of Botulinum toxin injections in upper face: Understanding, avoiding, and managements

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## **Introduction & Objectives:**

Botulinum toxin injections are the most popular performed aesthetic procedure. It involves the injection of precise units of the toxin targeting a specific muscle with ultimate aesthetic results. Despite being considered as a relatively safe procedure, a series of adverse events and complications can occur. These adverse effects, fortunately, are mild, transient, and self-limited.

This presentation aims to describe the main complications associated with Botulinum toxin injections on the upper face, how to avoid them and their management.

Results:

Most of the complications post botulinum treatment are mostly technical and avoidable.

Conclusion:

Physician should have good anatomical knowledge and professional training before attempting injecting botulinum toxin

# Adapting Large Language Models to Mitigate Skin Tone Biases in Clinical Dermatology Tasks: A Mixed-Methods Study

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## **Introduction & Objectives:**

SkinGPT-4, a large vision-language model, leverages datasets of annotated skin disease images to augment clinical workflows and treatments in underserved communities. However, its existing training dataset predominantly represents lighter skin tones, and hence may limit diagnostic accuracy for darker skin tones. Here, we evaluated performance biases in SkinGPT-4 across skin tones on common skin diseases, including eczema, allergic-contact dermatitis, and psoriasis on the open-sourced SCIN dataset. We then leveraged the SkinGPT-4 backbone to develop finetuned models for custom skin disease classification tasks and explored bias mitigation strategies.

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

A clinical evaluation of SkinGPT-4 was conducted by a board-certified dermatologist on six clinically relevant skin diseases, including eczema and allergic contact dermatitis, from 300 cases in the open-sourced SCIN dataset. Images were assessed based on diagnostic accuracy, informativity, physician utility, and patient utility. Model fairness metrics, including democratic parity and equalized odds, were calculated over skin tones for each evaluated condition.

Customized image classification models were then designed by attaching a learnable multilayer perceptron (MLP) head to the SkinGPT-4 vision encoder. Hyperparameters such as learning rate, batch size, and MLP-depth were tuned, and custom model performance was evaluated across skin condition pairs with similar presentations. Performance metrics, such as AUROC and demographic parity, were measured.

## Results:

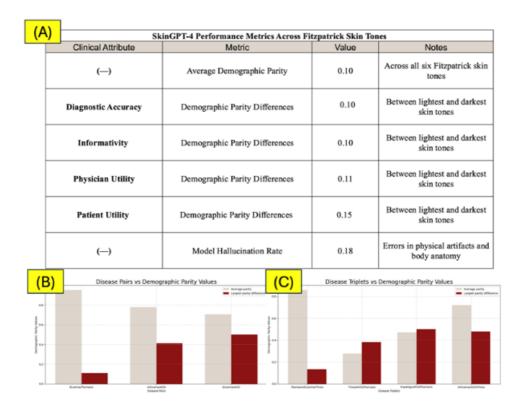
SkinGPT-4 achieved an average demographic parity of 0.10 across all skin tones on the Fitzpatrick scale. Notable differences of 0.10, 0.10, 0.11, and 0.15 in demographic parity were observed between the lightest and darkest skin tones relative to diagnostic accuracy, informativity, physician utility, and patient utility respectively. Model hallucinations in physical artifacts and body anatomy occurred at a rate of 17.8%.

Our customized models achieved an average F1, precision, and AUROC of 0.75, 0.78, and 0.78, respectively, across skin disease pairs with similar appearances. The average demographic parity and the largest difference between distinct skin tones were observed as 0.75 and 0.21, respectively. In our best model, group-stratified demographic parity scores of 0.83, 0.83, 0.76, 0.89, 0.90, and 0.90 were achieved across skin tone categories in the Fitzpatrick scale from 1-6, respectively, indicating robust fairness. Similar performances were observed when adapting our customized model to disease triplets, providing evidence of generalizability.

### **Conclusion:**

Existing large language models such as SkinGPT-4 demonstrate weaker performances on darker skin tones compared to lighter skin tones among prevalent skin conditions. Model biases exist across diverse evaluation

criteria, and model hallucinations may affect diagnostic efficacy. Motivated by these limitations, we demonstrated the efficacy of training accurate and fair machine learning models using existing large language model backbones for custom skin disease classification tasks.



**Fig. 1:** (A) Clinical evaluation results of SkinGPT-4 queried across Fitzpatrick skin tones. (B) Demographic parity results for custom classification models across different skin disease pairs. (C) Demographic parity results for custom classification models across different skin disease triplets.

#### A retrospective study of the microbiological profile and prognostic factors of filler-induced skin necrosis

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## **Introduction & Objectives:**

: Skin necrosis is one of the most severe complications following filler injections that results in long-lasting or permanent aesthetic defects. Although an increasing number of studies have addressed the management of dermal filler complications, no study has described the spectrum of microbial pathogens or prognostic factors associated with skin necrosis caused by fillers.

The aim of this study was to delineate the bacterial profile and prognostic factors of filler-related skin necrosis through a review of the clinical and microbiological features of these patients.

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

A retrospective medical record review of patients undergoing treatment for skin necrosis induced by fillers was conducted.

#### **Results:**

Seventeen patients who developed skin necrosis due to filler injections were included. The filler injection sites were the nasolabial fold (70.6%; n = 12), nasal dorsum (23.5%; n = 4), or nasal tip (5.9%; n = 1). Of the 9 patients who underwent microbiological analysis, after excluding cases of contamination, the true culture-positive rate was 44.44%. The time between filler injection and hospital visit was positively correlated with duration of epithelization. Duration of epithelization was positively correlated with inflammatory markers including erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) level. A significant correlation was revealed between ESR and duration of epithelization, with a Pearson correlation coefficient of r = 0.650 (p = 0.012).

#### **Conclusion:**

We reviewed the microbiological profile of filler-induced skin necrosis and confirmed a positive linear association between serum ESR and duration of epithelization. To avoid permanent sequelae, all physicians should be aware of possible secondary infections when treating filler-induced skin necrosis and should use antibiotics for treatment. In addition, aesthetic surgeons should be aware of factors influencing prognosis and should educate patients accordingly.

The Anterior Saphenous Vein Insufficiency: Treatment Outcome Of Ultrasound-guided Foam Sclerotherapy In Combination With Phlebectomy

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## **Introduction & Objectives:**

The isolated reflux of the anterior saphenous vein (ASV) is common and has the same clinical relevance as the reflux of the great saphenous vein (GSV). While many clinical studies report on the success rates of treatment modalities for the GSV reflux, valid data on the optimal treatment of the isolated VSA reflux are still very limited. The aim of the study is to evaluate the success of the treatment of the isolated VSA reflux with a combination of ultrasound-guided foam sclerotherapy (UGFS) of the intrafascial vein segment (IF) using Polidocanol and the phlebectomy of the extrafascial vein segment (EF).

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

In this retrospective single-center study, we recruited patients who received a combination treatment for the isolated VSA reflux (UGFS and phlebectomy) between July 2013 and July 2021. The VSA, GSV and the formation of new varicose veins in the treated area were examined by duplex sonography. Following data was collected: age, gender, the clinical stage (C grade) of the Clinical-Etiology-Anatomy-Pathophysiology (CEAP) classification, volume of the polidocanol endovenous foam (PEF) applied and the dosage of Polidocanol used. Full-success was defined as follow: a successful foam sclerotherapy of the VSA IF-segment combined with the absence of new varicose veins in the area of EF-segment.

#### Results:

70 patients (56 women, 14 men) who underwent a combination of UGSS and phlebectomy of the isolated VSA reflux were examined. The average follow-up was 6 years. All patients showed a significantly milder C stage of the CEAP classification (p<0.001) after receiving therapy. 57 of 70 patients (81.4%) showed a successful sclerotherapy result of the VSA IF-segment. 61 of 70 patients (87.1%) did not develop new varices in the area of the EF-segment. Overall, this success rate of this treatment combination was 81.4%. A significant correlation was found between the PEF volume applied and the success of the UGFS (p<0.05).

#### **Conclusion:**

The treatment of isolated VSA reflux using a combination of UGFS of the IF-segment and phlebectomy of the EF-segment proved to have a high success rate on the long term. It represents an inexpensive and effective method for the treatment of the isolated VSA insufficiency compared to the other available modalities.

#### **Developing the Deep Imaging Phenotype for Melanoma Risk Stratification**

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**Introduction & Objectives:** The increasing use of total body photography (TBP) for skin cancer screening, and artificial intelligence (AI) have supported the rise of an innovative risk profiling method, referred to as the **deep imaging phenotype**. Unlike self-reported or subjective observations that can present poor reproducibility, the deep imaging phenotype leverages TBP and AI to extract objective information from images related to melanoma risk. Most notable risk features assessable through imaging include naevi characteristics (number, size and spatial distribution), skin colour (both facultative and innate), skin UV photodamage, and body-mass index (BMI). While AI tools for capturing naevi characteristics from TBP already exist, methods for automating assessment of other phenotype risk factors are lacking.

**Materials & Methods:** We developed novel photo-numeric scales for assessing both skin UV photodamage and freckling from TBP images, and validated the utility of these scales for laypeople to annotate skin images. A test and training dataset was developed to train a convolutional neural network (CNN) for UV photodamage assessment.

To develop an automated method for measuring skin colour from 3D-TBP images, individual typology angle (ITA) measurements were extracted from TBP images (137 participants), to compare with manual colorimetry ITA values. Deming regression was used to adjust for systematic underestimation, accuracy was evaluated using Bland-Altman analysis and Cohen's Kappa.

Methods to estimate BMI from 3D-TBP used body volume measurements and vertical height approximations. Measurements from 100 participants were used to develop a linear regression model to estimate weight, height and BMI. The final model was applied to a test cohort of 25 participants, and the accuracy was measured using Bland-Altman limits of agreement (LoA) and root square mean error.

**Results:** Validation assessment of the photo-numeric scale showed substantial-to-almost perfect agreement for image annotation between laypeople and dermatology researchers (k=0.77-0.83). The CNN showed an area under the receiver operator curve (ROC-AUC) of 0.94, with class-specific accuracy for mild, moderate and severe UV damage scoring 0.90, 0.69, and 0.87 respectively. For skin colour measurement, ITA values extracted from 3D-TBP were systematically underestimated, however after applying adjustment models, ITA values from images had a moderate-substantial agreement with manual measurements. For BMI estimates, our model showed a high correlation (R2=0.93) with actual BMI.

**Conclusion:** Our CNN provides a novel tool to automatically and objectively report on an individual's photodamage phenotype from 3D-TBP. Our model to adjust for the underestimation of ITA values by 3D-TBP demonstrated moderate-substantial agreement with manual measurements, offering promise for automating skin colour assessment. Lastly, we have demonstrated that BMI, height, and mass can be quickly and accurately estimated from 3D-TBP. Incorporating these assessments into risk prediction models along with traditional risk factors, may improve precision and inform targeted screening initiatives.

Regenerative medicine in the treatment of specific dermatologic disorders: a systematic review of randomized controlled clinical trials

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## **Introduction & Objectives:**

The aim of this study is to systematically review randomized controlled clinical trials (RCTs) studying various types of regenerative medicine methods (such as platelet-rich plasma, stromal vascular fraction, cell therapy, conditioned media, etc.) in treating specific dermatologic diseases. Rejuvenation, scarring, wound healing, and other secondary conditions of skin damage were not investigated in this study.

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

Major databases, including PubMed, Scopus, and Web of Science, were meticulously searched for RCTs up to January 2024, focusing on regenerative medicine interventions for specific dermatologic disorders (such as androgenetic alopecia, vitiligo, alopecia areata, etc.). Key data extracted encompassed participant characteristics and sample sizes, types of regenerative therapy, treatment efficacy, and adverse events.

#### **Results:**

In this systematic review, 64 studies involving a total of 2888 patients were examined. Women constituted 44.8% of the study population, while men made up 55.2% of the participants, with an average age of 27.64 years. The most frequently studied skin diseases were androgenetic alopecia (AGA) (45.3%) and vitiligo (31.2%). The most common regenerative methods investigated for these diseases were PRP and the transplantation of autologous epidermal melanocyte/keratinocyte cells, respectively. Studies reported up to 68.4% improvement in AGA and up to 71% improvement in vitiligo. Other diseases included in the review were alopecia areata, melasma, lichen sclerosus et atrophicus (LSA), inflammatory acne vulgaris, chronic telogen effluvium, erosive oral lichen planus, and dystrophic epidermolysis bullosa. Regenerative medicine was found to be an effective treatment option in all of these studies, along with other methods. The regenerative medicine techniques investigated in this study comprised the transplantation of autologous epidermal melanocyte/keratinocyte cells, isolated melanocyte transplantation, cell transplantation from hair follicle origins, melanocyte-keratinocyte suspension in PRP, conditioned media injection, a combination of PRP and basic fibroblast growth factor, intravenous injection of mesenchymal stem cells, concentrated growth factor, stromal vascular fraction (SVF), a combination of PRP and SVF, and preserving hair grafts in PRP.

#### **Conclusion:**

Regenerative medicine holds promise as a treatment for specific dermatologic disorders. To validate our findings, it is recommended to conduct numerous clinical trials focusing on various skin conditions. In our study, we did not explore secondary skin lesions like scars or ulcers. Therefore, assessing the effectiveness of this treatment method for addressing these conditions would necessitate a separate study.

#### Tatoo-sarcoidosis - clinical, dermoscopic and morphological characteristics

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### **Introduction & Objectives:**

The use of tattooing, including for cosmetic purposes, has become widespread within the population. This is accompanied by a variety of adverse events following the introduction of pigment into the skin. Among these, sarcoidal reactions occupy a particular place. Tattoo - sarcoidosis can affect internal organs, as the classical form of the disease, including the lungs and mediastinal lymph nodes.

The aim of the study was to determine the clinical, dermoscopic and morphological characteristics of cutaneous tatoo-sarcoidosis.

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

We observed 30 patients with cutaneous sarcoidosis. Of these, in nine patients, who composed study group (30%), lesions arose at the sites of tattoo. The control group consisted of 21 (70%) patients with cutaneous sarcoidosis without tattoos. All patients underwent histological examination of the skin. We assessed the gender and age composition of the groups, the severity of skin involvement using the Cutaneous Sarcoidosis Activity and Morphology Index (CSAMI) [Rosenbach M. et al., 2013], dermatoscopic features [Loo Lim A. Y. et al., 2021] and histological changes [Shinohara M. M. et al., 2012].

## **Results:**

Women predominated among patients in both groups, with their proportion reaching 88.9% (8/9) in the study group, compared to 66.7% (14/21) in the control group. Patients in the primary group were younger (38 years, Q1=36, Q3=43, P=0,0393). Sarcoidosis more frequently developed in tattoos using black pigment – in women in the eyebrow area, and in one man on the skin of the back. Only in 22.2% (2/9) cases lesions form at the site of pink pigment introduction in the area of the vermilion border of the lips.

Lesions in patients in the primary group were predominantly papulo-nodular (88,9%,  $\chi$ 2=15.013, p=0.0202), tatoo-assotiated ( $\chi$ 2 = 30.000, p <0,001). In the control group, skin lesions were more diverse and presented as papular (10/21, 47.6%), plaque-like (7/21, 33.3%), subcutaneous (2/21, 9.5%) forms of the disease, and macules (2/21, 9.5%). The CSAMI score in the primary group was 6 (Q1=6, Q3=8) versus 15 (Q1=8, Q3=20) in the control group (P = 0,05). Isolated skin involvement predominated in both comparison groups,  $\chi$ 2 = 7.273, p=0.064; however, internal organ involvement was diagnosed in 2 (22.2%) and 6 (28.6%) patients, respectively.

Dermatoscopic features in patients in the primary group included a more intense orange color in the lesion area, the presence of pigment in the form of dots or granules, as well as structureless areas. Follicular horny plugs were noted when localized to the eyebrow area. Analysis of the morphological picture in patients in the primary group revealed a large number of pigment agglomerates, around which a granulomatous reaction to a foreign body (7/9, 77.8%) or a sarcoidal reaction with the formation of "naked" epithelioid cell granulomas (2/9, 22.2%)

developed.

## **Conclusion:**

Cutaneous sarcoidosis in tattoos more often occurs in younger female patients (Me=39,5), following eyebrow or lip tattooing. Skin involvement limited to tattoos does not rule out involvement of the lungs and lymph nodes. The morphological picture of cutaneous sarcoidosis can vary from granulomatous, resembling a foreign body reaction, to sarcoidal; therefore, clinicomorphological correlation is required for diagnosis.

# Development of a protein-clock for estimating biological age in the epidermis using machine learning: insights from the INSPIRE-T cohort

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## **Introduction & Objectives:**

Aging involves the progressive accumulation of deleterious changes over time, including molecular and cellular damage, leading to functional decline, chronic diseases, and ultimately, mortality. Biological age, distinct from chronological age, reflects the interplay between cellular and biochemical processes, a crucial distinction for organs like the skin, where aging is influenced by various biological and environmental factors. While dermal aging has been extensively studied, the epidermis's critical role in maintaining skin health and protecting against environmental stressors deserves greater attention. Effective anti-aging treatment requires understanding molecular-level changes in the skin before phenotypic effects manifest.

In skin aging, a 'clock' is a set of biological markers that estimates the skin's biological age by quantifying molecular and cellular alterations, revealing its true biological state. While gold standard aging clocks like Hannum or Horvath's DNA methylation-based clocks exist, the recent integration of artificial intelligence in proteomic data analysis has led to the creation of protein clocks. These protein clocks identify specific biomarkers associated with skin aging, offering new perspectives for targeted treatments and a deeper understanding of both intrinsic and extrinsic aging processes.

The translational INSPIRE-T cohort, consisting of 1,200 subjects aged 20 to 102, aims to investigate healthy aging trajectories through integrated clinical and biological markers, elucidate biological mechanisms sustaining key functions, and validate measures of biological age.

Our study aimed to employ machine learning to analyze a specific signature of proteins in the epidermis within the INSPIRE-T cohort, enabling us to train our model using the subjects' chronological skin age and estimate their biological ages.

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

Within the INSPIRE-T cohort, fresh skin biopsies were collected from non-sun-exposed areas of 77 patients aged 20 to 87. Mechanical separation of the epidermis from the dermis was performed for each sample. Shotgun nanoscale proteomic profiling of the epidermis was conducted using LC-MS/MS, followed by bioinformatic data mining for protein identification. For the development of the protein-clock using machine learning, missing data were imputed using the missForest algorithm, and the data were normalized using the total protein amount. An XGBoost machine learning model was trained on a training dataset obtained from the sample of 62 subjects. The

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model's hyperparameters were optimized by cross validation on this dataset. The model was then applied to an independent test set consisting of the remaining 15 samples.

#### **Results:**

From 4000 proteins, the Recursive Feature Elimination method was employed to reduce the number of proteins in the model, retaining 28 proteins. A Mean Absolute Error of 8 years was obtained on the independent test set. Ingenuity Pathways Analysis showed that these proteins belong to five canonical pathways: biotin-carboxyl carrier protein assembly, carnitine metabolism, fatty acid activation, phenylalanine degradation IV and unfolded protein response.

#### **Conclusion:**

The development of our protein-clock approach holds significant promise for applications in the pharmaco-cosmetic industry, offering novel pathways for elucidating skin aging mechanisms and enabling targeted interventions and personalized anti-aging treatments.

Innovative industrial 3D-Scanning and 3D-Printing Technologies allow for a Reintroducing of threedimensional Wax Replicas "Moulages" in Dermatology

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## **Introduction & Objectives:**

Moulages, three dimensional high-fidelity replicas of skin conditions, are a treasure in university collections across Europe. These skilfully crafted models were, beginning in the 18th century, the predominant method of documenting dermatological pathologies, leading to enormous collections of thousands of specimens at the dermatological departments of Paris, Zurich, Bologna and elsewhere. Made out of wax, fabric and wood, the remaining models that have not been destroyed or lost over time are now prone to further decay due to the delicate nature of their fabrication and the lack of knowledge in conservation. Currently, dermatological hospitals look for possibilities to preserve these models and make them accessible again for dermatologic teaching as they offer a high-quality three-dimensional insight in skin conditions, exceeding commonly used two-dimensional photography in realism.

We evaluated 3D-technologies used in industrial applications for their possible use in digitizing and reproducing wax moulages. The aim was to find a workflow combining different techniques to allow for a non-destructive, qualitative and reproducible approach allowing for digitalization and physical reproduction.

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

For 3D-scanning of the models, we were looking into methods that allow for digitizing the three-dimensional properties as well as the colour of the models at the same time. Laser based scanning and 'blue light scanning' technologies didn't prove to be suitable. Photogrammetric scanning yielded highly textured 3D-models with sufficient spatial resolution. This involves rendering a 3D-model out of two-dimensional pictures. The raw data was subsequently postprocessed in a 3D-modeling suite and prepared for printing. Among the existing industrial printing techniques, 'Fused Deposition Modeling', 'Stereolithography' as well as 'Selective Laser Sintering' were considered not suitable as they only provide single-coloured prints. A very recent development, 'Polyjet'-Printing, finally allowed for full-coloured printing of 3D-models, offering prints in more than 600.000 colours.

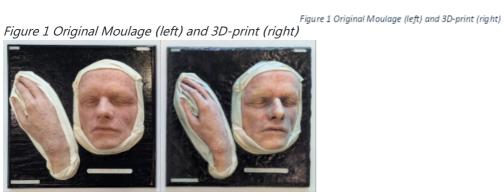
#### **Results:**

A 3D-Model 'Neurodermitis Atopica' of the Zurich Moulage Museum measuring 335 mm by 341 mm with a volume of 3.360 cm3 was 3D-scanned by rendering approximately 150 images to a 3D-model that was subsequently printed using the Polyjet-technology taking about 20 hours. The result was a full-sized and highly realistic replica (Fig. 1), almost indistinguishable from the original besides unique features of the wax moulage such as manually added real hair or glass eyes, and to our knowledge the first reproduction of a moulage using modern 3D-technologies.

## **Conclusion:**

Thanks to recent technological advancements, we were able to establish a functioning workflow allowing for non-destructive high-qualitative 3D-scanning and 3D-reproduction of historic wax moulages. This permits the

preservation and reintroduction of historic dermatological models into modern dermatology and could be also used for documenting and reproducing modern patients, reintroducing 3D-technologies in dermatology.



## Inclusivity in Dermaceutical Advertising: A Moroccan Perspective on Phototypes, Cultural Identity, and Dermatological Conditions

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## **Introduction & Objectives:**

Despite recent efforts to showcase phototype diversity, cosmeceutical advertising still falls short of true inclusivity. A genuinely representative approach must also account for cultural identities, religious practices, and dermatological realities, portraying individuals with visible skin conditions and diverse body types. This study aims to assess the extent to which Moroccan dermatological patients are reflected in dermaceutical campaigns, focusing on phototypes, ethnicities, cultural and religious backgrounds, and skin conditions.

#### Materials & Methods:

We analyzed 13 commonly prescribed dermatology brands, categorizing products into hydration, photoprotection, anti-acne, rosacea, anti-pigmentation, anti-aging, and haircare. The first 12 images from Google, Instagram, and Facebook for each category were selected, provided they prominently featured visible skin. Duplicate images were excluded, and data from Moroccan websites were included, yielding 442 images. Phototype, ethnicity, and age range were validated using the AI Cloud Vision API. Data were analyzed with Jamovi 2.6.26.

## **Results:**

The sample comprised predominantly female models (83.1%), with most aged 15–25 years (60.3%). Children were the second most represented group in hydration (23.2%) and photoprotection (11.5%), while 50+ models appeared in only 8 images. Phototypes II (36.4%) and III (28.7%) were most common, despite Morocco's phototype diversity, where PT3 and PT4 predominate. Lighter phototypes were broadly represented; darker ones appeared mainly in anti-pigmentation (24.4%) and photoprotection (23%), reflecting common marketing tropes.

No male models were featured in anti-aging or anti-pigmentation ranges. Visible dermatological conditions were rare: acne (7.2%) and melasma (5.1%) were the most represented. Psoriasis, eczema, and vitiligo appeared in only two images each. In haircare, reduced hair density and androgenic alopecia were shown once each, with other scalp disorders absent. One brand featured seven models undergoing chemotherapy, underlining the underrepresentation of treatment-related dermatological concerns. No models portrayed pregnancy or visible disabilities, and body diversity was minimal, with only one plus-size model included.

Cultural practices were also rarely reflected: only five models (1.2%) wore a hijab, despite estimates suggesting that 55–65% of Moroccan women do.

## **Conclusion:**

This study highlights the pressing need for a more inclusive vision in cosmeceutical advertising. While advances have been made in phototype and ethnic representation, substantial gaps remain in the portrayal of dermatological conditions, age groups, body types, and cultural practices. To resonate with Moroccan consumers, brands must move beyond skin tone and embrace real-world diversity—including health conditions and cultural

identities. Such efforts would not only reflect societal expectations but also enrich the global dermaceutical narrative.

#### The Fox Brothers

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## **Introduction & Objectives:**

William Tilbury Fox and Thomas Colcott Fox were instrumental in the emergence and professionalisation of dermatology as a distinct medical specialty in the United Kingdom. Research reviewing the impact of the brothers work and collective impact on the field is limited.

#### Materials & Methods:

This narrative review offers an overview of their lives, careers, and lasting influence. Drawing on primary sources, historical texts, and biographical accounts, it highlights their contributions within the context of 19th-century medical development.

#### **Results:**

William Tilbury Fox (1836–1879) was a pioneering figure in British dermatology whose clinical work and publications laid critical foundations for the discipline. Born in Hampshire to Dr Luther Owen Fox, he was educated at University College London (UCL), graduating with a gold medal in 1857. He trained under Sir William Jenner and Sir Richard Quain and began as a general practitioner. A pivotal journey to India in 1864 sparked a lifelong interest in tropical and parasitic skin diseases.

Fox's contributions emerged when germ theory was not widely accepted. He challenged prevailing views by arguing that fungal infections like tinea were caused by microorganisms, not constitutional weaknesses. His works "Skin Disease of Parasitic Origin" (1863) and "Treatise on Skin Disease" (1864), were among the first in England to promote a microbial aetiology for skin disease, shaping the future of medical mycology. Although some early theories, like attributing all fungal skin diseases to a single species ("torula"), were later revised, his emphasis on scientific inquiry advanced dermatological understanding and lab-based medicine. He is also credited with first describing bullous impetigo, dyshidrotic eczema, and dermatitis herpetiformis.

Appointed the first full-time dermatologist in the UK at Charing Cross Hospital in 1867, Fox also served as an editor for The Lancet. His academic work at UCL and ongoing publications helped legitimise dermatology. Despite dying at 43, his influence was profound and enduring.

Thomas Colcott Fox (1849–1916), the eighth son of Dr Luther Owen Fox, followed in his brother's footsteps. After studying natural sciences at Cambridge and completing his medical training at UCL, he began his career at Fulham Smallpox Hospital. Inspired by William, he specialised in dermatology, holding posts at several London hospitals, including Westminster Hospital and the Ringworm School under the Metropolitan Asylums Board. He coauthored "Epitome of Skin Disease" (1876) with William and was first to describe granuloma annulare. While less publicly prominent, Thomas was a respected clinician and author, known for his expertise in paediatric dermatology.

#### **Conclusion:**

Together, the Fox brothers represent a pivotal chapter in British dermatology. Their scientific rigor, clinical innovation, and institutional leadership elevated dermatology from a peripheral interest to a recognised medical specialty.

A rare sweet gland tumor: Eccrine acrospiroma of the face

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

Eccrine acrospiroma, or hidradenoma, is a neoplastic tumor of sweat glands arising from the distal excretory duct. It usually presents as a small, solitary, and solid cystic lesion measuring 1-2 cm in size. It can involve any area of the body but is more commonly found in the trunk, scalp, axilla, and extremities. They can affect all age ranges but are more commonly seen in middle-aged and older women by a ratio of approximately 2:1. Although most of them are of benign origin, a malignant form does exist and can arise de novo or from pre-existing benign acrospiromas; accounting for approximately 6% of malignant eccrine tumors. In this report, we present a case of a patient with a nodular lesion in the face resulting to be an eccrine acrospiroma.

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

77-year-old African American women with a past medical history of hypertension present to the dermatology clinic for evaluation of a skin lesion located in the left mid temple. At presentation, the patient reported a slow-growing nodule that started three months before evaluation. The patient reported associated itchiness but denied pain and discharge from the nodule. At physical examination, there was a firm, dark bluish nodule measuring 1 cm in size. Initially, the skin lesion was thought to be a cyst and the patient was instructed to monitor it. One month later the patient came back with an increasing size of lesion, drainage of serous fluid, and pain in the area. A skin biopsy was performed, and a pathology examination reported an eccrine acrospiroma. Patient informed about diagnosis and excision of lesion recommended. The patient had an excision of the eccrine acrospiroma confirming clear margins of the excised area. There were not any post-surgery complications, and no recurrence of the lesion was reported.

#### **Results:**

Eccrine acrospiroma is a benign cutaneous tumor arising from the epithelial cells of eccrine sweat ducts. Due to eccrine acrospiroma originating from the sweat duct, they usually present as small solid or cystic lesions that are often confused clinically with other solid or cystic lesions. The characteristic features of this tumor include a variation of colors distinctive of surrounding skin as red, reddish, or blue; and a texture that can be smooth, thickened, papillary, or verrucous. The tumors are occasionally associated with tenderness, pruritus, and spontaneous drainage of a serous or hemorrhagic fluid. Histologically, the eccrine acrospiroma is readily differentiated from other sweat gland tumors, but frequently it is confused with lesions of a metastatic renal cell carcinoma and sometimes with squamous cell carcinoma. The mainstay treatment for eccrine acrospiromas is surgical excision with a very high cure rate.

#### Conclusion:

Eccrine acrospiromas are solitary benign cutaneous lesions of sweat duct origin. As in this case, they are often confused with other benign solid or cystic lesions leading to a misdiagnosis. Clinically, the eccrine acrospiromas lacks diagnostic specificity, but they should be included in the differential diagnosis of nodular and cystic lesions. Careful examination of the lesion, dermoscopy findings, and clinical progression can be important tools to lead to an accurate diagnosis and appropriate treatment. Also, close surveillance after surgery is essential due to the

potential for malignant transformation and recurrence.

# Disseminated Superficial Actinic Porokeratosis Following Chemotherapy and Radiotherapy: A Case Report and Response to Topical Therapy

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Disseminated Superficial Actinic Porokeratosis Following Chemotherapy and Radiotherapy: A Case Report and Response to Topical Therapy

**Introduction & Objectives:** Porokeratosis is a rare keratinization disorder characterized by keratotic papules or annular plaques with an elevated border. This condition is considered a precancerous lesion due to its potential for malignant transformation. The most common subtype is disseminated superficial actinic porokeratosis (DSAP). This study aims to present a clinical case of DSAP that developed after the initiation of chemotherapy and radiotherapy, highlighting the effective clinical response to topical treatment.

Materials & Methods: A 76-year-old female patient with a diagnosis of stage IIIC cervical squamous cell carcinoma, along with comorbidities including diabetes mellitus, hypertension, and dyslipidemia, was selected for an interlace protocol (weekly Carboplatin and Paclitaxel for 6 weeks), followed by Cisplatin combined with radiotherapy. Brachytherapy was also indicated. During the third chemotherapy session, the patient developed asymptomatic hyperpigmented macules on her lower limbs. She denied pruritus, pain, burning, or other symptoms, although she reported that heat worsened the lesions. Dermatologic evaluation revealed multiple small, erythematous macules symmetrically distributed on both legs, predominantly in distal regions, with elevated borders. Dermoscopy showed a collarette delimiting the lesions, with associated irregular central pigmentation. Based on clinical and dermoscopic findings, the presumptive diagnosis was disseminated superficial actinic porokeratosis.

**Results:** A skin biopsy demonstrated a flattened epidermis with a cornoid lamella, confirming the diagnosis of DSAP. Topical tretinoin 0.025% was prescribed, alongside skin hydration and photoprotection measures. After approximately one month, the patient showed significant improvement of the lesions, with no need to interrupt ongoing chemotherapy or radiotherapy. She remains under follow-up with the oncology team for treatment completion.

**Conclusion:** Although the exact trigger remains unclear, radiotherapy may have contributed to the onset of DSAP in this case. We highlight the significant clinical improvement in a short period with topical retinoid therapy and rigorous photoprotection, emphasizing the importance of early dermatologic intervention in oncologic patients.

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# Disseminated Superficial Actinic Porokeratosis Following Chemotherapy and Radiotherapy: A Case Report and Response to Topical Therapy

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**Conclusion:** Although the exact trigger remains unclear, radiotherapy may have contributed to the onset of DSAP in this case. We highlight the significant clinical improvement in a short period with topical retinoid therapy and rigorous photoprotection, emphasizing the importance of early dermatologic intervention in oncologic patients.



New onset or flare-up Bullous Pemphigoid associated with COVID-19 vaccines: A systematic review of case report and case series studies

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## **Introduction & Objectives:**

Numerous cutaneous manifestations have been associated with the COVID-19 outbreak and vaccination, but newonset bullous Pemphigoid (BP) or flaring up the pre-existing BP is a rare side effect of COVID-19 vaccines that mentioned in a lesser extent in the literature. Therefore, we aimed to conduct a systematic review focused on the association of new onset or flare-up

BP and COVID-19 vaccination.

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

A comprehensive literature search was conducted using PubMed (MEDLINE), Scopus, and Web of Science databases up to 11 March 2023. The search aimed to identify English-language studies reporting new-onset or flare-ups of BP as a potential side effect of COVID-19 vaccination. The search terms included bullous Pemphigoid and COVID-19 vaccination related mesh terms.

#### **Results:**

The systematic review of 40 included articles investigating the incidence of BP in individuals who received various COVID-19 vaccines revealed pertinent findings. Among the 54 patients with new-onset BP, the median age was 72.42 years, and most were male (64%). Conversely, the median age of the 17 patients experiencing a flare-up of BP was 73.35 years, with a higher proportion of females (53%). Regarding vaccination types, a significant number of patients (56%) developed new-onset BP after receiving the BNT162b2 vaccine (Pfizer-BioNTech).

#### **Conclusion:**

This study indicates a potential association between COVID-19 vaccinations, particularly mRNA vaccines, and the occurrence of BP. It suggests that this rare autoimmune disorder may be triggered as an adverse event following COVID-19 vaccination. However, it is important to note that the majority of BP patients in our study were unaffected by the COVID-19 vaccine, and even those who experienced worsening of their conditions were managed without significant consequences. These findings provide additional evidence supporting the safety of COVID-19 vaccines. Physicians should be mindful of this uncommon adverse event and encourage patients to complete their planned vaccination schedules.

#### Localized subcutaneous emphysema of a limb: a case of self-induced lesion

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## **Introduction & Objectives:**

Subcutaneous emphysema refers to the abnormal presence of air or gas within the subcutaneous tissue, clinically characterized by a snow-like crepitus on palpation. It typically occurs in the anterior cervical and thoracic regions. Its occurrence in a limb is rare and often raises concern for gas gangrene. We report a case of factitious subcutaneous emphysema localized to the left forearm.

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

A 19-year-old woman with no notable medical history presented with swelling of the left upper limb and palpable crepitus evolving over the course of one month, reportedly following an insect bite. Initially hospitalized in an infectious diseases unit with suspected necrotizing fasciitis, she received 10 days of antibiotic therapy, resulting in resolution of the swelling. However, the symptoms recurred two days after discharge, prompting referral to our department.

On admission, the patient was afebrile, in good general condition, and showed no signs of cardiopulmonary distress. Cutaneous examination revealed painless swelling of the entire left upper limb, with snow-like crepitus on palpation, especially prominent on the anterior forearm. Multiple erythematous and partially pigmented macules were observed, some topped with erosions and crusts. Neurological examination of the limb revealed hypoesthesia and partial paresis of the fingers. Blood tests (CBC, ESR, CRP, serum protein electrophoresis) were within normal limits. Angio-CT of the limb revealed subcutaneous emphysema extending to the root of the limb, with no involvement of pleuropulmonary, cervical, or bony structures. A diagnosis of factitious disorder was made after exclusion of other causes. Psychological support was initiated, and large occlusive dressings were applied to prevent manipulation of the affected area, leading to complete resolution of the lesions.

## **Results:**

Isolated subcutaneous emphysema of a limb is uncommon. In most cases, it is secondary to local trauma or infection. *Clostridium perfringens* is the leading causative organism (60–80%) in trauma-related gas gangrene, whereas non-traumatic spontaneous myonecrosis is often attributed to *Clostridium septicum*, typically occurring in immunocompromised or diabetic patients. Unusual causes reported in the literature include liquid nitrogen cryotherapy for hypertrophic actinic keratosis, pulsed irrigation for osteomyelitis, high-pressure air injuries, insect bites, hydrogen peroxide irrigation of wounds, and deliberate subcutaneous injection of gas or air. In the absence of trauma, systemic symptoms, local signs of infection, or laboratory abnormalities, one must consider self-induced subcutaneous air injection. In our case, although the patient claimed insect bites as the inciting factor, the recurrence of lesions in the same area and complete resolution with occlusive dressings alone support a diagnosis of factitious disorder.

## **Conclusion:**

Subcutaneous emphysema confined to a limb is rare and warrants thorough clinical, biological, and radiological

evaluation to rule out life-threatening conditions such as necrotizing fasciitis. However, in cases with injection marks, recurrence, and absence of systemic symptoms, a self-induced origin should be suspected.

#### Disseminated juvenile xanthogranuloma mimicking molluscum contagiosum in an infant

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Introduction: Juvenile xanthogranuloma (JXG) is a benign disorder of the skin and soft tissues, characterized by the proliferation of non-Langerhans histiocytic cells. Its incidence is highest in children under two years of age. The lesions may be solitary or multiple, presenting as yellowish, reddish, or brownish nodules or papules. Case report: A 9-month-old female infant was referred to the dermatology clinic for curettage of suspected molluscum contagiosum. According to the mother's report, the lesions first appeared shortly after the second month of life. Dermatological examination revealed firm, xanthomatous papular lesions of varying sizes, distributed across the trunk, abdomen, and upper and lower extremities, with no signs of inflammation or ulceration. Upon closer evaluation, the lesions were deemed inconsistent with molluscum contagiosum, prompting a biopsy of one of the dorsal lesions. Histopathological analysis demonstrated dermal histiocytes without epidermotropism. Immunohistochemical staining was positive for CD68 and negative for CD1a, S100, HMB45, and LCA. The diagnosis of JXG was suggested based on several key findings: the patient's age, the clinical presentation of lesions in typical locations for this condition; histopathology revealed a classic pattern of foamy histiocytes without epidermotropism, effectively excluding Langerhans cell histiocytosis and mycosis fungoides; and immunohistochemistry confirmed a non-Langerhans, non-melanocytic histiocytic proliferative process, further supporting the diagnosis. Conclusion: This report describes a classic case of juvenile xanthogranuloma in an infant, initially misdiagnosed as molluscum contagiosum. The diagnosis was confirmed through clinical findings, histopathological examination, and immunohistochemical analysis. As expected for this benign condition, expectant management was adopted, demonstrating that accurate identification of JXG prevents unnecessary interventions in pediatric patients. This case highlights the critical importance of clinicopathological correlation in dermatological diagnosis.

#### Inflammatory Linear Verrucous Epidermal Nevus in a Male Child: Early Onset, Delayed Diagnosis

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**Introduction**: Inflammatory linear verrucous epidermal nevus (ILVEN) is a rare form of benign nevus. It typically manifests within the first year of life, mostly in female patients. Diagnosis may be challenging due to its rarity and clinical overlap with other dermatoses.

Case report: A 12-years-old male patient was referred to the dermatology outpatient clinic complaining of "warts" on his right arm. According to his mother, the lesions first appeared at 3 months of age as hypopigmented macules distributed linearly along Blaschko's lines. Over time, they evolved into rough, pruritic plaques. On multiple occasions, they were treated as superficial fungal infections, with no clinical improvement. Dermatological examination revealed grouped papules and plaques with overlying scales and crusts, arranged in a linear pattern following Blaschko's lines on the right upper extremity. Histopathological analysis showed irregular acanthosis, hyperparakeratosis, basal layer hyperpigmentation, and a mild perivascular lymphocytic infiltrate in the papillary dermis. No intraepidermal vesicles or dermal melanosis were observed. Diagnosis of ILVEN was established.

**Conclusion**: The pathophysiological mechanisms underlying the gender disparity in ILVEN remain uncertain. Recognizing atypical cases, particularly in male patients, is essential to avoid diagnostic delays and improve clinical outcomes.

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Unilateral, reticulated, hyperpigmented skin lesions on the chest of a patient with Crohn's disease - a case report

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**Introduction & Objectives:** Erythema ab igne is a rare skin condition characterized by reticulated erythematous and hyperpigmented lesions caused by prolonged exposure to infrared radiation, typically at levels below those that induce thermal burns. Although the condition usually follows a benign course, chronic heat exposure may lead to the appearance of dysplastic epidermal cells and, in rare cases, the development of squamous cell carcinoma. The pathogenesis of the disorder remains not fully understood; however, the lesions appear to be primarily associated with cumulative heat exposure rather than the duration of exposure alone.

Materials & Methods: Presentation of the clinical and dermoscopic features of a case of erythema ab igne.

**Results:** A 17-year-old male patient with a medical history of Crohn's disease presented to the Department of Dermatology, Venereology and Allergology with unilateral, reticulated hyperpigmented lesions on the chest and abdomen that had been present for several months. Dermoscopic examination revealed brown structureless areas and dotted vessels. Based on clinical presentation erythema ab igne was suspected and the patient admitted to using a hot water bottle to relieve abdominal pain in the area where the skin lesions were present.

**Conclusion:** Erythema ab igne is a rare dermatological condition that should be considered in the differential diagnosis of dermatoses such as livedo reticularis, livedoid vasculitis, poikiloderma atrophicans vasculare, cutaneous T-cell lymphoma, dermatomyositis or vasculitis. A detailed patient history is essential in such cases. Early diagnosis and elimination of the heat source are crucial in preventing permanent pigmentation changes and potential malignant transformation over time.

## Perforating Dermatoses: Presentation of a Case of Reactive Perforating Collagenosis Associated with Diabetes

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#### **Introduction:**

Perforating dermatoses comprise four distinct entities: elastosis perforans serpiginosa, reactive perforating collagenosis (RPC), perforating folliculitis, and Kyrle's disease. RPC is characterized by transepidermal elimination of collagen fibers and is often associated with superficial skin trauma. Two types of RPC are distinguished: a rare hereditary form that manifests early in childhood, and a more common acquired form that occurs in adulthood and is often associated with other conditions such as diabetes, renal insufficiency, solid tumors, lymphomas, and AIDS. Here, we present a case of RPC associated with diabetes.

#### **Case report:**

A 60-year-old patient, hypertensive and type II diabetic under treatment, presents with pruritic lesions persisting for three months. The lesions initially appeared on the abdomen and extended to the upper and lower limbs. Dermatological examination reveals keratotic papulo-nodular lesions, approximately 1 cm in diameter, umbilicated, and confluent in some areas. Crusted, adherent, and necrotic central depressions along with a circular erythematous border are also observed. The skin lesions are generalized, with a predilection for the extensor surfaces of the limbs. Histological examination confirms the diagnosis of reactive perforating collagenosis, showing epidermal depression with the expulsion of collagen fibers to the surface.

## **Discussion:**

Acquired perforating collagenosis is an extremely rare disease, and its exact incidence is unknown. It can affect both men and women, with a slight predominance in men. It typically occurs around the average age of 57. This condition is often associated with diabetes, chronic renal failure, and/or hyperuricemia. When pruritic, keratotic papular skin lesions are present in a patient with pre-existing associated conditions, the diagnosis of acquired perforating collagenosis may be considered. However, only a correlation between histological and clinical findings can confirm the diagnosis. The pathogenesis of hereditary RPC remains unknown, while that of acquired RPC in diabetics is better understood and is thought to be related to collagen glycation.

## **Conclusion:**

Pruritus is the primary symptom reported in RPC, and its management is essential to prevent further dissemination through the Koebner phenomenon.

#### Evaluating SkinVision's accuracy in assessing risk of malignancy in skin lesions

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Introduction & Objectives:

AI dermatology tools are an exciting new technology that have emerged as promising aids in the early detection of skin cancer, especially melanomas. Among these is SkinVision, a commercially available mobile app designed to assess the risk of malignancy of skin lesions using smartphone-acquired images. However, independent evaluation using open-access, histologically confirmed datasets remain few in numner. With growing use of AI health tools, rigorous evaluation of diagnostic performance is essential to determine their reliability, limitations, and safety in real-world contexts.

This study aims to assess the diagnostic accuracy of SkinVision in classifying skin lesions as benign or malignant using a curated dataset of open-access dermoscopic images from the International Skin Imaging Collaboration (ISIC) Archive.

#### Materials & Methods:

This is a prospective, observational study using 40 dermoscopic images with verified histopathological diagnoses obtained from the ISIC Archive. Images will be re-displayed on a high-resolution monitor and photographed using a smartphone camera through the SkinVision app to simulate real-world usage. SkinVision's output for each lesion will be recorded as low, medium or high risk.

#### Results:

Each SkinVision output will then be mapped to a binary diagnostic classification: malignant as medium or high risk and benign as low risk

Histopathological diagnosis will serve as the gold standard. Diagnostic performance will be evaluated using the following statistical analyses:

- 1. Sensitivity proportion of malignant lesions correctly identified as high/medium risk
- 2. Specificity proportion of benign lesions correctly identified as low risk
- 3. Positive Predictive Value (PPV) and Negative Predictive Value (NPV)
- 4. Overall accuracy proportion of correct classifications across the dataset
- 5. Cohen's kappa (κ) to measure agreement between the SkinVision classification and ground truth, adjusting for chance
- 6. Receiver Operating Characteristic (ROC) curve analysis where applicable, using numerical conversion of ordinal outputs (e.g., Low = 0, Medium = 1, High = 2)
- 7. Confusion matrix to display true positives, false positives, true negatives, and false negatives

## Conclusion:

This study will provide an independent evaluation of the diagnostic performance of the SkinVision AI tool using validated dermatological images. The results are expected to contribute to the growing evidence base on the

capabilities and limitations of direct-to-consumer AI in dermatology.

## The Skin as a Window to Visceral Malignancy: Cutaneous Metastasis as the First Sign of Gastric Adenocarcinoma

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## **Introduction & Objectives:**

Cutaneous metastases are rare manifestations of internal malignancies, representing approximately 0.7%–9% of all metastases. When present, they often indicate advanced disease and a poor prognosis. Gastric adenocarcinoma rarely metastasizes to the skin (around 0.8% of cases). This study aims to highlight the diagnostic relevance of cutaneous metastases through a case in which skin nodules led to the discovery of gastric cancer.

## **Materials & Methods:**

A 77-year-old female presented with multiple progressively enlarging, painful nodules on the thorax, abdomen, limbs, and vulvar region over a six-month period. Clinical examination revealed firm, fixed, subcutaneous nodules ranging from 2 to 12 cm, one of which ulcerated without signs of infection. An incisional biopsy was performed, and histopathology and immunohistochemistry confirmed metastatic adenocarcinoma (CK20+, CK7-), suggesting a gastrointestinal primary origin. Further investigation with abdominal CT and upper GI endoscopy revealed a gastric antral lesion, histologically confirmed as invasive, well-differentiated adenocarcinoma.

#### Results:

The diagnosis of gastric adenocarcinoma was established based on cutaneous lesion biopsy. The patient experienced significant weight loss, chronic constipation, and required opioid analgesia for pain management. Due to widespread disease, systemic palliative chemotherapy was considered, though the prognosis remained poor. Average survival after diagnosis of cutaneous metastasis in gastric cancer is approximately six months.

#### **Conclusion:**

This case emphasizes the importance of dermatological evaluation in systemic disease. Skin metastases, though rare, can be the first manifestation of an occult internal malignancy. Early recognition and biopsy of suspicious cutaneous lesions are essential for diagnosis and can significantly impact treatment decisions and patient outcomes.

#### Kaposi's Sarcoma with Lymphangioma-Like Features in an Immunocompetent Patient: A Case Report

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## **Introduction & Objectives:**

Kaposi's Sarcoma (KS) is a vascular neoplasm primarily associated with Human Herpesvirus 8 (HHV-8). It can present in various forms, including classical, endemic, immunosuppressive-associated, and epidemic, with the latter being most common in HIV/AIDS patients. This case report aims to describe a rare presentation of KS with lymphangioma-like morphology in an immunocompetent patient, expanding the understanding of KS manifestations beyond its typical association with immunosuppressed states.

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

A 71-year-old male with a history of chronic obstructive pulmonary disease (COPD) and previously treated bladder cancer presented in December 2023 with complaints of pain, swelling, and violaceous bullous lesions on both lower limbs. The lesions evolved over a four-month period, beginning as violaceous plaques and tense bullae. Diagnostic work-up included biopsy and histopathological examination, complemented by imaging studies, including computed tomography (CT) and endoscopy, as well as laboratory tests for HIV, hepatitis B/C, syphilis, and HTLV. A diagnosis of Kaposi's Sarcoma was confirmed through histopathology, and HHV-8 was detected by immunohistochemistry. The patient was treated with liposomal doxorubicin chemotherapy.

## **Results:**

The histopathological examination showed spindle cell proliferation and the formation of vascular lumens, which were positive for HHV-8. Imaging studies did not reveal significant systemic involvement, and laboratory tests for viral infections were negative. The patient received 7 sessions of liposomal doxorubicin chemotherapy, resulting in significant improvement in the cutaneous lesions and complete resolution of the lower limb edema. Follow-up imaging, including high-frequency ultrasound, revealed no signs of active disease.

#### **Conclusion:**

This case demonstrates a rare presentation of Kaposi's Sarcoma with lymphangioma-like features in an immunocompetent patient, highlighting the diverse clinical manifestations of KS. The patient's response to liposomal doxorubicin chemotherapy indicates the potential for effective treatment even in immunocompetent individuals. This case underscores the importance of considering a broad differential diagnosis and individualized treatment approach for KS, regardless of the patient's immune status.

## Suspected segmental neurofibromatosis in an adult male: a diagnostic dilemma in cutaneous nodular lesions

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### **Introduction & Objectives:**

Segmental cutaneous lesions, particularly when longstanding and asymptomatic, may go unnoticed in routine medical evaluations. Segmental neurofibromatosis (SNF), also referred to as mosaic neurofibromatosis type 1 (NF1), is a rare clinical variant caused by postzygotic mutations in the NF1 gene, characterized by unilateral, localized cutaneous neurofibromas without systemic involvement or family history. Its prevalence is low, and many cases remain undiagnosed for years. This report aims to underscore the clinical relevance of identifying SNF during a routine consultation and the importance of physical examination in guiding complementary investigation.

### **Materials & Methods:**

A 60-year-old male with a history of systemic hypertension and insulin-dependent type 2 diabetes mellitus for four years presented for routine prescription renewal, denying any complaints. On dermatological examination, multiple soft, normochromic to slightly hyperpigmented papulonodular lesions were identified. The lesions had smooth to lobulated surfaces, some pedunculated, with a positive buttonhole sign. They were distributed in a segmental and unilateral pattern involving the left hemiface, lateral cervical region, and upper hemithorax, respecting the midline. According to the patient, the lesions had been present for over 10 years, with no change in size or number. They were asymptomatic, producing only aesthetic discomfort. A presumptive diagnosis of SNF was made, and complementary investigations were initiated.

#### **Results:**

The clinical pattern fulfilled the diagnostic criteria for segmental NF1 as originally described by Riccardi (1982), and later supported by Morais and Vieira (2014), who defined SNF as a form of mosaicism rather than a distinct entity. The patient exhibited no family history or signs of systemic involvement. Differential diagnoses included tuberous sclerosis, molluscum fibrosum pendulum, keratoacanthoma, segmental schwannomatosis, and neurofibromatosis type 2 (NF2), which were considered due to phenotypic overlap. The patient was referred for genetic counseling and systemic screening to exclude associated pathologies such as optic gliomas, Lisch nodules, or malignant peripheral nerve sheath tumors.

#### **Conclusion:**

This case reinforces the role of dermatological evaluation in routine care and the need for awareness of rare, segmental presentations of genodermatoses. Recognizing SNF can prompt early investigation of potential

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systemic associations, allowing timely diagnosis and appropriate follow-up. Identifying asymptomatic dermatoses with segmental distribution should trigger further evaluation and consideration of mosaic forms of NF1.