Abstract N°: ID-245

Topic: Diagnostic procedures

The Rise of AI-Powered Teledermatology: Transforming Skin Disease Diagnosis, Monitoring, and Personalised Treatment Plans in Remote Settings

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Introduction
Teledermatology can reduce access barriers by enabling remote assessment of inflammatory and neoplastic skin disease. The rapid integration of artificial intelligence (AI) into teledermatology raises questions about diagnostic performance, workflow impact, equity, and safety. This review synthesises evidence on AI-supported teledermatology across diagnosis, prioritisation, and follow-up.

Materials and Methods
A targeted literature review was performed using major biomedical databases. Search concepts included teledermatology, artificial intelligence, deep learning, computer vision, triage, monitoring, and remote follow-up. English-language studies describing AI performance, clinical workflow integration, and implementation challenges were prioritised.

Results
Across evaluated systems, AI demonstrated **high sensitivity for melanoma/skin cancer detection**, while **specificity for benign/inflammatory conditions was more variable**, contributing to false positives and avoidable downstream review. In studies of common dermatoses, reported diagnostic performance included **~80% sensitivity with ~50% specificity** in some settings. For lesion classification, computer-vision approaches achieved **~85% sensitivity and ~90% specificity** in selected datasets, with stronger performance in larger, more typical lesions. Beyond diagnosis, AI-assisted history-taking and decision support improved data capture and may enhance asynchronous teledermatology; in comparative studies, an LLM-enabled workflow achieved **~84% top-diagnosis concordance** with clinician teleassessment in a case series. AI also supported monitoring and personalised management, including image-based severity scoring (e.g., psoriasis) with **material improvement versus average clinician scoring** in one evaluation. Key implementation barriers included image-quality artefacts, demographic/disease under-representation in training datasets, privacy/cybersecurity risk, and lack of harmonised governance for clinician accountability and follow-up.

Conclusions
AI-enabled teledermatology is most promising as **clinician-supervised decision support** for triage and monitoring rather than autonomous diagnosis. Acceptance and safety will depend on representative datasets, standardised image capture, transparent performance reporting, and robust data governance integrated into real clinical pathways.

Abstract N°: ID-772

Topic: Diagnostic procedures

Scleromyxedema Associated with MGUS: Diagnostic Uncertainty and Long-Term Therapeutic Dependency

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Introduction
Scleromyxedema is a rare, chronic cutaneous mucinosis almost exclusively associated with monoclonal gammopathy of uncertain significance (MGUS). Diagnosis is challenging due to clinicopathological discordance, and long-term management is complex, often requiring sustained immunomodulatory therapy.
Reporting longitudinal cases is essential to improve diagnostic awareness and inform therapeutic decision-making in this potentially disabling condition.

Materials and Methods
A 59-year-old man with known MGUS presented with a rapidly progressive, pruritic, generalised, erythematous, and sclerotic eruption associated with marked skin tightening. Initial punch biopsy demonstrated features suggestive of granuloma annulare, inconsistent with the clinical presentation. Following multidisciplinary discussion, incisional biopsy with mucin staining revealed extensive dermal mucin deposition, fibroblast proliferation, and collagen hyalinisation, confirming the diagnosis of scleromyxedema.

Results
The disease was refractory to potent topical corticosteroids, antihistamines, and photochemotherapy. Referral to Haematology for commencement of intravenous immunoglobulin (IVIG) combined with a weaning course of systemic steroids induced a rapid and dramatic clinical remission. The subsequent disease course was characterised by multiple relapses requiring long-term maintenance IVIG, further complicated by infusion-related adverse effects and later by national IVIG shortages, resulting in significant cutaneous and systemic disease flares.

Conclusions
This case demonstrates how limited punch biopsy sampling may misclassify early scleromyxedema, potentially delaying diagnosis and treatment in a condition with systemic risk. It reinforces the necessity of clinicopathological correlation, appropriate biopsy technique, and considering routine mucin staining in sclerodermoid presentations when clinical suspicion persists despite non-diagnostic initial histology. It illustrates the relapsing nature of MGUS-associated scleromyxedema and underscores the need for multidisciplinary collaboration and sustainable long-term treatment strategies for rare dermatological diseases.

Abstract N°: ID-1119

Topic: Diagnostic procedures

Pellagra: A Forgotten diagnosis ?

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Introduction

Pellagra is a rare systemic disease secondary to niacin (vitamin B3 or PP) deficiency. It combines a photosensitive cutaneous eruption, gastrointestinal disorders, and neurological signs. The most frequent etiology is dietary deficiency. We report a case of phenobarbital-induced pellagra.

Results

Case

A 24-year-old patient, with a history of congenital and epileptic encephalopathy treated with phenobarbital since the age of 16, was referred for a pruritic skin eruption. Patient history revealed a worsening of his psychomotor deficit and the recent onset of watery diarrhea associated with abdominal pain for two months. Examination found a thin patient (BMI = 15 kg/m ^{2}), dehydrated and disoriented. Dermatological examination revealed well-demarcated erythematous and pigmented plaques covered with brown scales, located on the face, nape of the neck, forearms, and the dorsum of the hands and feet. The diagnosis of phenobarbital-induced pellagra was retained. The antiepileptic treatment was substituted, and the patient received vitamin PP supplementation. The clinical course was marked by the regression of skin lesions and digestive disorders, as well as an improvement in neurological status.

Conclusions

Pellagra is a rare deficiency disease. Niacin deficiency may be related to a malabsorption syndrome linked to gastrectomy or crohn's disease. Dietary deficiency, chronic alcoholism, and certain medications such as phenobarbital are also incriminated. The diagnosis of pellagra is clinical. Cutaneous signs are generally the first to appear. Digestive signs appear secondarily and represent a sign of disease severity. Neurological manifestations appear late and progress gradually toward encephalopathy. In our observation, neurological signs were aggravated by niacin deficiency. Niacin assay is not essential for diagnosis and should not delay management. Treatment relies on vitamin supplementation. Supplementation leads to rapid regression of cutaneous signs, followed by neurological and digestive signs. Etiological treatment must also be undertaken: discontinuation of the offending drug, cessation of alcohol consumption, or correction of dietary deficiency.

Abstract N°: ID-1155

Topic: Diagnostic procedures

Liquid Biopsy in Dermatology: the use of cfDNA in skin diseases

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Introduction

Liquid biopsy (LB) is a blood, non-invasive test that is used for cell-free DNA (cfDNA) and cancer-related genetic material detection such as circulating tumor cells (CTCs) and circulating tumor DNA (ctDNA). The samples of liquid biopsy can be applicable as novel predictive biomarkers to guide to therapeutic decisions whether the patient does not respond to current treatment or is a candidate for targeted therapy, or when the solid tumor biopsy cannot be provided.

Materials and Methods

A comprehensive literature search was conducted at PubMed to identify studies evaluating the use of liquid biopsy in dermatology to determine the prognosis and treatment of skin tumours and other skin diseases such as atopic dermatitis and psoriasis.

Performed search was as broad as possible from the inception of the database until January 2026, employing MeSH and EMTREE approaches, and relevant keywords. The review was conducted in accordance with PRISMA guidelines.

Results

Across the available literature, liquid biopsy emerged as a non-invasive method for early cancer detection, monitoring and targeted therapy in patients with melanoma, Merkel cell carcinoma, squamous cell carcinoma and some skin diseases such as atopic dermatitis and psoriasis, however most studies focus on melanoma and more data in other dermatology fields are required. Nevertheless, ctDNA can be used as a biomarker for patient follow-up and early sign of relapse by monitoring the serum level of cell tumour DNA. Moreover, response to treatment in patients with metastatic melanoma can be monitored by the level of ctDNA and increasing levels of these parts during immunotherapy may reflect resistance to that targeted therapy.

Conclusions

Available data indicate the potential of liquid biopsy in detecting tumour presence and mutations as the cfDNA shows the similar features as the primary tumor they originated from and as an alternative to invasive tissue biopsy with similar results. Nevertheless, current data are limited by small sample sizes and the absence of standardized guidelines. Further trials in larger patient populations are required to clarify the efficacy and optimal clinical use of liquid biopsy in mutation-based targeted therapy or monitoring the response to the treatment. The challenges of using LB consists of strict criteria for the phenotypic nature of circulating tumour cells and instability of ctDNA in the bloodstream.

Abstract N°: ID-1184

Topic: Diagnostic procedures

Nailfold capillaroscopy as a valuable diagnostic tool in clinically amyopathic dermatomyositis (sine myositis): a case report with anti-Jo-1 positivity

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Introduction
Clinically amyopathic dermatomyositis, also known as dermatomyositis sine myositis, is a rare subtype of dermatomyositis characterized by typical cutaneous manifestations without clinically significant muscle involvement. The absence of overt myopathy may delay diagnosis and complicate clinical assessment. Nailfold capillaroscopy is a non-invasive technique that can reveal characteristic microvascular abnormalities and support the diagnosis of connective tissue diseases.

Materials and Methods
We report the case of a 64-year-old female with a history of hypothyroidism, hypertension, and chronic obstructive pulmonary disease, presenting with persistent erythematous lesions involving the face, trunk, upper extremities, and scalp. Physical examination revealed facial erythema with periorbital edema and diffuse erythematous lesions of the trunk and upper extremities. Laboratory tests showed mildly elevated creatine kinase levels and the presence of anti-Jo-1 antibodies. Electromyography revealed no evidence of muscle involvement. Nailfold capillaroscopy demonstrated numerous megacapillaries, avascular areas, and architectural disorganization of capillary loops, consistent with a dermatomyositis pattern. The diagnosis was established based on clinical, immunological, and capillaroscopic findings.

Results
Clinically amyopathic dermatomyositis was diagnosed. Treatment with systemic glucocorticosteroids, hydroxychloroquine, and methotrexate resulted in significant clinical improvement of cutaneous lesions. The clinical and capillaroscopic findings are presented in the figures.

Conclusions
This case highlights the important role of nailfold capillaroscopy in supporting the diagnosis of clinically amyopathic dermatomyositis, particularly in patients without clinical or electrophysiological evidence of muscle involvement. Capillaroscopy represents a valuable, non-invasive diagnostic modality that may facilitate early diagnosis and timely initiation of appropriate therapy, improving patient outcomes.

Abstract N°: ID-1192

Topic: Diagnostic procedures

Computer-assisted facial skin diagnostics in the assessment of involutional skin changes

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Introduction
Age-related skin changes are the result of a complex interaction between internal (chronological aging) and external (photoaging) factors that lead to a disruption in the skin's morphofunctional structure. The main pathogenetic manifestations of skin tissue involution include: decreased collagen and elastin synthesis, fragmentation of the dermal matrix, dehydration, microcirculation disorders, increased transepidermal water loss, hyperpigmentation, and morphological deformation of the epidermis and dermis. Against the backdrop of these processes, there is a loss of elasticity and turgor, the development of wrinkles, vascular and pigmentary disorders, as well as changes in skin texture. One of the key areas in clinical dermatocosmetology today is the use of innovative instrumental diagnostic methods that allow obtaining objective quantitative data on the condition of the skin. One such technology is computerized skin diagnostics — an innovative visual analytics system that combines digital macro- and microphotography with elements of artificial intelligence. Research objective. To study the possibilities of computerized skin diagnostics for objective quantitative assessment of involutional skin changes in chrono- and photoaging.

Materials and Methods
Female patients aged 30 to 70 with signs of skin aging. Skin condition was diagnosed using multi-level imaging with visible light, cross-polarized light, and ultraviolet radiation, combined with 3D modeling technology, image analysis, and artificial intelligence.

Results
According to computer diagnostics of facial skin in the examined patients (n=75), the following quantitative changes corresponding to signs of chrono- and photoaging were recorded: decreased skin hydration — detected in 86.7% of patients (n=65), mainly in the cheek and periorbital areas, increased vascular pattern (telangiectasia, rosacea-like changes) — in 60% of patients (n=45), presence of wrinkles of varying depth and extent — in 100% of patients (n=75); 73.3% (n=55) had deep static wrinkles in the forehead, eye, and nasolabial fold areas, decreased skin density and elasticity — in 90% (n=68), with pronounced dermal relaxation in the lower third of the face, pronounced pigmentation disorders (hyperpigmentation, uneven tone) in 66.7% of patients (n=50), mainly in areas exposed to ultraviolet radiation, moderately and severely enlarged pores in 70% (n=53), mainly in the T-zone, and increased sebum secretion in 53.3% (n=40), which may be associated with both age-related changes and individual skin characteristics; a discrepancy between the biological age of the skin and the passport age of more than 3 years was found in 76.7% (n=58).

Conclusions
Computerized skin diagnostics is a highly accurate, non-invasive method for objectively assessing involutional skin changes. The inclusion of this technology in the clinical practice of dermatocosmetologists not only improves diagnostic accuracy but also allows for the personalized selection of anti-aging programs with the ability to assess treatment dynamics in quantitative terms.

Abstract N°: ID-1215

Topic: Diagnostic procedures

Cutometry as a tool for objective diagnosis of facial skin aging and assessment of anti-aging therapy effectiveness

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Introduction

One of the main signs of age-related skin changes is a decrease in its elasticity and firmness. Both of these parameters reflect the skin's ability to return to its original state after deformation — stretching or pressure. When these parameters decrease, the skin becomes flaccid, i.e., it looks stretched and sagging. The reason for this condition lies in the dermal and subcutaneous layers. The collagen-elastin framework of the dermis is responsible for elasticity, while glycosaminoglycans, which bind water in the dermal layer, are responsible for firmness. With age, the synthetic activity of fibroblasts decreases, the activity of metalloproteinases increases, and the quality of the dermal matrix deteriorates. The supporting fat pads of the structure also suffer, and the skin sags. A cutometer sensor is used to assess elasticity; accordingly, the method is called cutometry. A vacuum cutometer allows you to obtain information about the elastic and mechanical properties of the skin and objectively quantify the severity of signs of skin aging. Research objective. To evaluate the potential of cutometry as an objective method for diagnosing involutional skin changes and monitoring the effectiveness of anti-aging interventions.

Materials and Methods

Twenty-five female patients aged 30 to 50 with signs of chronological and photoaging of the facial skin were observed on an outpatient basis. All patients underwent a microneedle radiofrequency lifting procedure in accordance with international protocols, with individual settings for the depth of microneedle penetration and energy levels selected according to the specific characteristics of the patients' skin structure and the severity of facial skin aging signs. A vacuum cutometer was used to objectively assess the elastic properties of the skin. Measurements were taken under standard conditions before the start of therapy and 30 days after the procedure.

Results

Before the procedure, the average vacuum test result for patients aged 30-39 was 48, which is the lower limit of the age norm for average elasticity (norm 47-66), and for patients aged 40-49, it was 41, which is below the average for this age group (normal range 44-63). Vacuum cutometry after one session of microneedle lifting showed a 17% improvement in skin elasticity and firmness in patients: in the 30-39 age group, the average score increased to 56, and in the 40-49 age group, to 48. Patients also noted a subjective improvement in skin quality: increased density and elasticity, and a reduction in the severity of wrinkles.

Conclusions

Cutometry is a highly informative and non-invasive method for the objective quantitative assessment of the biomechanical properties of the skin. The data obtained confirm the pathogenetic validity of anti-aging procedures aimed at stimulating neocollagenogenesis and remodeling the extracellular matrix. The use of cutometry is advisable and recommended for dynamic monitoring of the effectiveness of therapeutic programs for involutional skin changes.

Abstract N°: ID-1247

Topic: Diagnostic procedures

Diseases Associated with Pyoderma Gangrenosum: A series of 39 cases

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Introduction
Pyoderma Gangrenosum (PG) is a rare neutrophilic dermatosis. In 50 to 70% of cases, it is associated with an underlying disease, which it may reveal. A retrospective study conducted at the Dermatology Department of La Rabta Hospital over a 43-year period allowed us to analyze the profile of pathological associations with PG.

Results
We included 39 patients (22 women and 17 men) with a mean age of 40.7 years. The ulcerative form accounted for 33 cases. Pustular, bullous, and vegetative forms were noted in four, three, and one case(s), respectively. In three cases, neutrophilic lung disease was identified.
PG was associated with one or more pathologies in 54% of cases: 9 cases of Inflammatory Bowel Disease (IBD), two cases of hematological malignancy (non-Hodgkin lymphoma and chronic lymphocytic leukemia), one case of monoclonal gammopathy, two cases of hypogammaglobulinemia, one case of Sjögren's syndrome, one case of Takayasu arteritis, one case of Buerger's disease, one case of psoriatic arthritis, and one case of autoimmune hepatitis.

Conclusions
PG classically manifests as painful, aseptic, inflammatory cutaneous ulcerations. Its pathophysiology remains poorly understood. Our study data align with the literature regarding female predominance and the frequency of the ulcerative form. An association with an internal disease was found in approximately 54% of cases, consistent with the literature, showing a wide variability of associations; the most frequent being IBD and hematological malignancies, which is consistent with our series.
The standard treatment is systemic corticosteroids, often prescribed as first-line therapy. Recurrence of lesions after complete treatment withdrawal is a predictive factor for the association of PG with other morbidities.

In conclusion, this study encourages rigorous screening for associated pathologies as soon as a positive diagnosis of PG is made. If initial screening is negative, it should be repeated, particularly in case of PG recurrence.

Abstract N°: ID-1398

Topic: Diagnostic procedures

Warts that are not warts: perioral, lower facial and cervical papules mimicking verruca plana in Fitzpatrick skin type III

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Introduction

Flat papules affecting the peri-oral area, lower face and neck are frequently diagnosed as verruca plana. In treatment-resistant cases, continued destructive therapy may lead to prolonged disease burden and unnecessary adverse effects, particularly in patients with intermediate skin phototypes. We present a case highlighting diagnostic overlap between verrucous and benign papular dermatoses and the therapeutic consequences of diagnostic reconsideration.

Materials and Methods

An adult patient with Fitzpatrick skin type III presented with numerous small, flat papules involving the peri-oral region, lower face and anterior neck, with a history of several years' duration. Previous assessments had suggested verrucous lesions, and prior treatments had resulted in limited improvement. Histopathological assessment from earlier evaluation supported verrucous pathology with low-grade inflammation, while the clinical presentation was also compatible with dermatosis papulosa nigra–like lesions. A stepwise management strategy was adopted, combining topical retinoid therapy for lesion modulation and prevention, followed by selective laser-based removal of persistent lesions. Clinical response, tolerability and patient-reported satisfaction were assessed during follow-up.

Results

Topical retinoid treatment led to substantial reduction in lesion burden over several months, with approximately 60–80% clinical improvement. Residual papules were subsequently managed with laser treatment, resulting in near-complete clearance of cosmetically relevant lesions. No clinically significant pigmentary complications or scarring were observed. The patient reported high satisfaction with both functional and cosmetic outcomes, and maintenance therapy was well tolerated.

Conclusions

Peri-oral, lower facial and cervical papules may represent a diagnostic overlap between verruca plana and benign papular dermatoses such as dermatosis papulosa nigra–like lesions. In cases of incomplete response to wart-directed therapy, diagnostic reconsideration and a stepwise, conservative treatment approach may improve outcomes while minimising unnecessary tissue damage. Combined topical retinoid therapy and selective procedural intervention can be effective and well tolerated in appropriately selected patients.

Abstract N°: ID-1540

Topic: Diagnostic procedures

Eosinophilic facial granuloma presenting with an apple-jelly-like appearance on diascopy: a rare clinical finding

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Introduction

Eosinophilic facial granuloma is a rare, chronic inflammatory dermatosis that predominantly affects the facial region. Due to its non-specific clinical presentation, eosinophilic facial granuloma can clinically mimic other granulomatous and inflammatory dermatoses, often leading to diagnostic delay. Although histopathology analysis remains essential for definitive diagnosis, certain clinical features can provide valuable non-invasive diagnostic clues, such as the apple-jelly-like appearance observed on diascopy as illustrated in the present case.

Materials and Methods

We report a case of 51-years-old female patient presenting with slowly progressive, asimptomatic brownish plaques localised on the face. Previous topical treatment administered over several months with pimecrolimus and medium-to high-potency topical corticosteroids had been ineffective. Apart from clinical examination, diascopy and histopathological analysis, including immunohistochemistry, were performed.

Results

On clinical examination, well-demarcated brownish plaques were observed in the left preauricular and temporal regions, as well as on the contralateral preauricular area. The largest lesion localised on the left preuricular region was approximately 4x2cm in diameter. Diascopy revealed a characteristic apple-jelly-like appearance, sugestive of a granulomatous inflammation. Incisional skin biopsy was performed. Histopathological analysis demonstrated a preserved epidermis with a narrow grenz zone. A dense mixed inflammatory infiltrate, composed predominatly of eosinophils, lymphocytes and neutrophils was present in the superficial and deep dermis, intermingled with fibrotic collagen bundles forming a storiform pattern. Dermal blood vessels showed endothelial swelling without fibrinoid necrosis. Adnexal structures were reduced and surrounded by an inflammatory infiltrate. Immunohistochemical staining for ERG and CD31 showed no evidence of vascular proliferation. The histological features were consistent with eosinophilic facial granuloma.

Conclusions

The apple-jelly-like appearance on diascopy is usually described in granulomatous dermatoses such as lupus vulgaris and sarcoidosis, but rarely has been associated with eosinophilic facial granuloma. Skin biopsy and subsequent histopathological analysis were essential to establish the correct diagnosis and to guide appropriate therapeutic menagment. In present case, diascopy could have been misleading.