MICRO LABS LIMITED

DERMA TODAY

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Dear Doctor,

Greetings from Micro Labs. We are happy to bring you "Derma Today" which contains latest and interesting news in the field of Dermatology.

This issue contains:

Should you require any article or, medical information, please feel free to contact us medicalservices@microlabs.in

Looking forward to your valuable feedback.

Best Regards,

Medical Team, Micro Labs Limited.

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Chemotherapeutic Agents Induced Nail Changes

Introduction

Nail toxicity is a relatively uncommon chemotherapeutic adverse effect. A large variety of nail modifications have been recorded ranging from superficial disfigurement to chemotherapy-requiring alterations. Continuous division of the nail matrix cells makes the nail apparatus an easy target of chemotherapeutic agents' antimitotic activity.

The changes in the nail may involve multiple or all 20 nails that appear in temporal relation with the intake of the drug. In most cases, the changes in the nail are only cosmetically disturbing; however, sometimes pain and associated discomfort may result in the inability to perform daily activities and may require chemotherapy alterations. Much of the results are transitory in nature and subside with the release of chemotherapeutic drugs, although these can continue sometimes. Popular literature improvements in nails include leukonychia, Beau's curves, thin brittle nails, and hyperpigmentation of the nails which can be diffuse or horizontal. Many of these Nail toxicities are currently recorded in the form of case reports, especially from our region. In the present analysis we have collected with chemotherapeutic agents the whole spectrum of nail modifications reported.

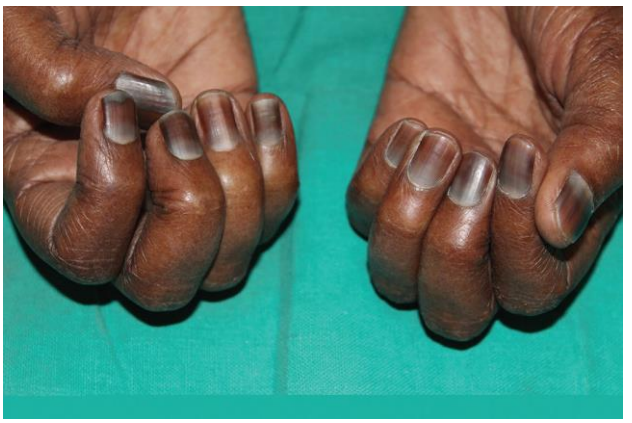
Methods

A total of 205 patients with various malignancies and under chemotherapy in oncology ward of the hospital over a period of 3 months were screened for nail involvement postchemotherapy. Relevant details, protocol of chemotherapeutic agents were assessed. Nail examination was carried out in daylight and the changes were analyzed.

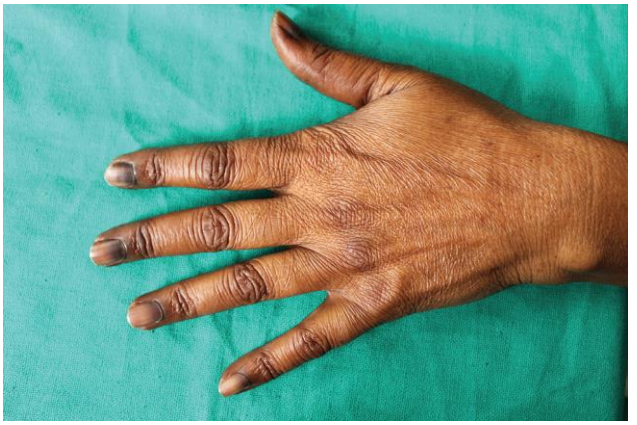
Results

A total of 124 (60.4%) patients had nail changes due to chemotherapeutic agents. The most common change was diffuse hyperpigmentation in 101 (81.4%) patients commonly due to a combination of cyclophosphamide and adriamycin in 43 (42.5%) patients. Longitudinal melanonychia was seen in 36 (29%), Beau’s lines in 31 (25%), onychomadesis in 17 (13.7%), Mees’ lines in 15 (12%), paronychia in 12 (9.6%), subungual hyperkeratosis in 10 (8%), and Muehrcke’s lines in 4 (3.2%) patients. All the patients who developed Muehrcke’s lines were on a combination of cyclophosphamide/doxorubicin/5 FU. Exudative onycholysis was observed in 2 (1.6%) patients; both these patients were on paclitaxel therapy. A total 2

(1.6%) patients who developed exudative onycholysis were advised discontinuation and another substitute chemotherapy was advised. Therapy for 2 (1.6%) patients who developed acute paronychia due to gefitinib was temporarily suspended. Unfortunately, most of the patients were on multiple chemotherapeutic agents hence, we could not pinpoint one drug as a cause. Therefore, a combination of agents was implicated in most cases.



Diffuse nail hyperpigmentation in a patient



Diffuse hyperpigmentation of nails of all the fingers in a patient on a combination of adriamycin and cyclophosphamide

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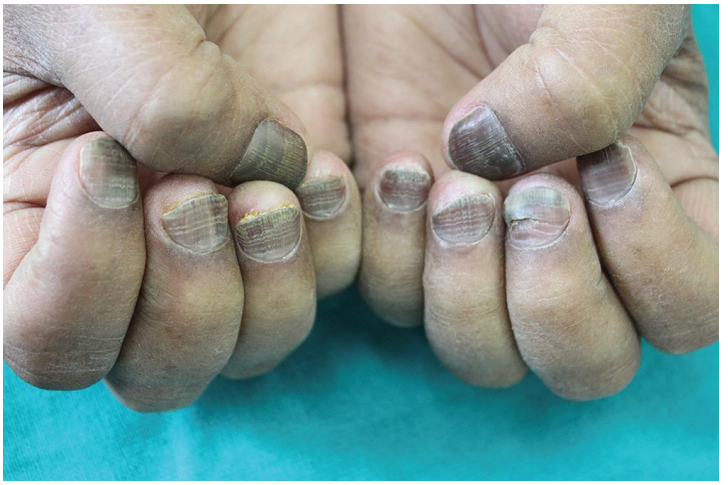
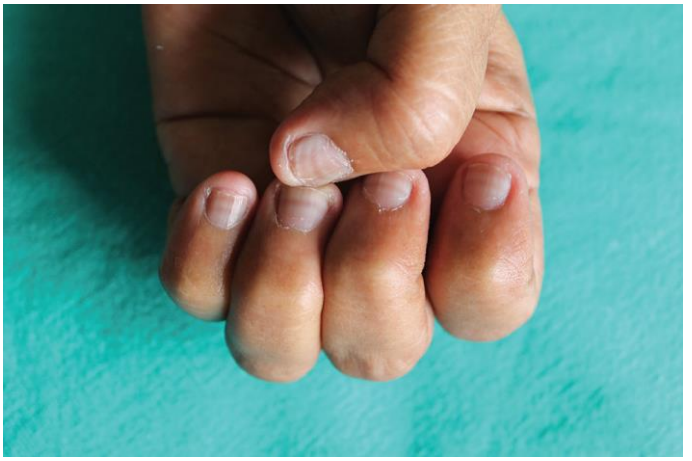
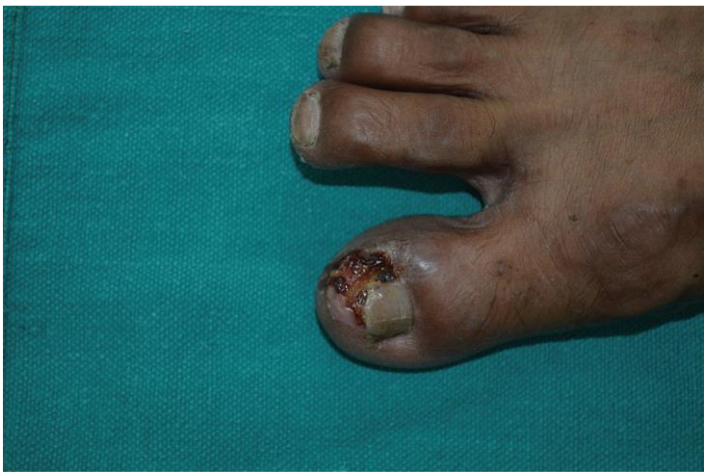


Onychomadesis of the nail of left middle finger in a patient on Imatinib



Mees' lines in nails of all fingers in a patient on a combination of cytarabine and daunorubicin



Acute paronychia of the nail of great toe in a patient on geftinib

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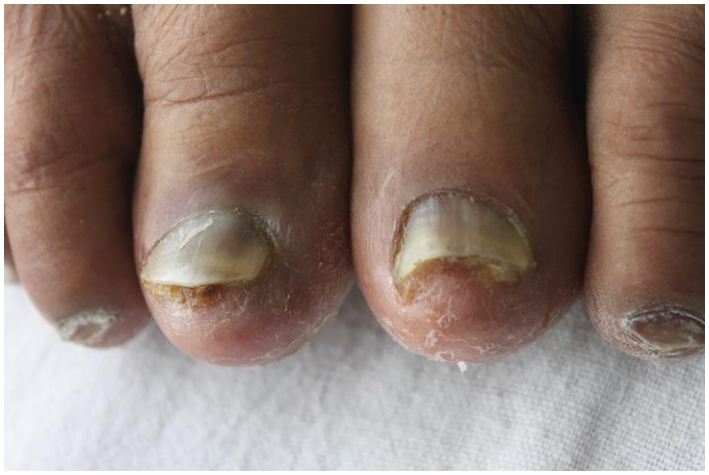

Paclitaxel induced exudative onycholysis of nails of the bilateral great toe in a patient

Conclusion

Nail toxicity is a fairly unusual chemical-therapeutic side consequence. Chemotherapeutic agents may include any nail apparatus site and have myriads of clinical appearance, varying from superficial disfigurement to severe toxicity in the case of paronychia and nail failure. Often such nail involvements can need immediate suspension or modification in the dose of the chemotherapy. It is also necessary for dermatologists to be fully informed of these toxicities and to instruct the oncologist in the procedure.

Source: Saraswat N, Sood A, Verma R, et al. Nail changes induced by chemotherapeutic agents. Indian J Dermatol 2020;65:193-8.

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Relationship of Nonpigmented Basal Cell Carcinoma and Multiple Aggregated Yellow-White Globules

Introduction

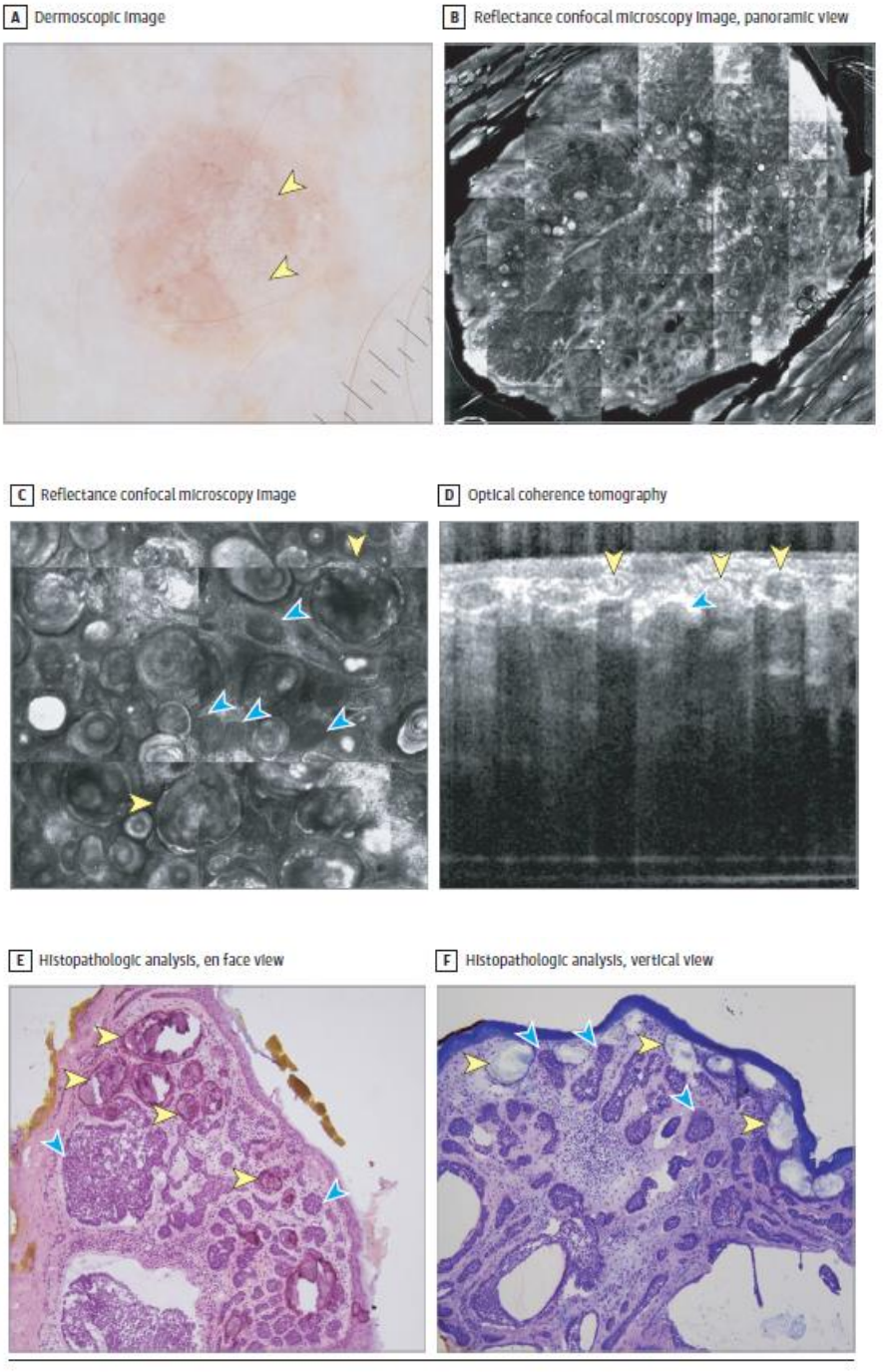
The most prevalent skin cancer worldwide is basal cell carcinoma (BCC). The incidence of BCC is increasing, with more than 2 million cases of BCC diagnosed in the United States annually. Dermoscopic features of BCC include large bluegray ovoid nests, multiple nonaggregated blue-gray globules, ulceration, arborizing telangiectasia, spoke-wheel structures, and leaflike areas. More recently, a new BCC dermoscopic criterion was added to shiny white structures, specifically blotches and strands. According to a new meta-analysis, all these parameters have been reported to have good diagnostic precision for BCC diagnosis, with an overall sensitivity of 91.2 percent and a specificity of 95.0 percent. However, the sensitivity and specificity of these dermoscopic features for nonpigmented BCC are lower (84.3% sensitivity and 73.2% specificity). As most of the BCC parameters have been identified for pigmented BCCs6 and non-pigmented BCCs can be difficult to differentiate from other non-pigmented tumors, it is important to examine new dermoscopic clues that may aid in the diagnosis of non-pigmented BCC and its differential diagnosis. Many BCCs show multiple globules aggregated in yellow-white (MAY). This dermoscopic characteristic varies from previously mentioned milia like kysts and from glossy white structures dependent on morphological characteristics and perception trends of polarized vs. nonpolarized light. Bellucci et al described the presence of yellow structures in 10 per cent of BCCs in 2014; however, they were considered primarily as cyst-like milia. Banuls et al also described yellow orange structures, but they were not characterized in terms of extent. To explore the occurrence and diagnostic efficacy of this recently identified BCC diagnostic system, we performed a retrospective examination of the clinical and dermoscopic photographs of lesions that may be used in the differential diagnosis of non-pigmented BCCs.

Methods

In this retrospective, single-center, case-control study, nonpigmented skin tumors, determined clinically, were identified from a database of lesions consecutively biopsied during a 7-year period. A subset of tumors was prospectively diagnosed, and reflectance confocal microscopy, optical coherence tomography, and histopathologic correlation were performed. Relevant aata analysis was conducted.

Results

A total of 656 nonpigmented lesions from 643 patients (mean [SD] age, 63.1 [14.9] years; 381 [58.1%] male) were included. In all, 194 lesions (29.6%) were located on the head and neck. A total of 291 (44.4%) were BCCs. MAY globules were seen in 61 of 291 BCC cases (21.0%) and in 3 of 365 other diagnoses (0.8%) (P < .001). The odds ratio for diagnosis of BCC was 32.0 (96%CI, 9.9-103.2). The presence of MAY globules was associated with a diagnosis of histologic high-risk BCC (odds ratio, 6.5; 95%CI, 3.1-14.3). The structure was never seen in cases of superficial BCCs.



A. Dermoscopic appearance of MAY globules (yellow arrowheads).

B. Reflectance confocal microscopy (RCM) panoramic view shows a well-defined tumor with hyperreflective amorphous areas (8 × 8 mm).

C. RCM shows tumor nodules (blue arrowheads) and hyperreflective amorphous areas (yellow arrowheads) (750 × 750 μ m).

D. Optical coherence tomography shows hyperreflective structures with acoustic shadow (yellow arrowheads) and hyporeflective nodules (blue arrowheads).

E. Histopathologic analysis, en face view, shows tumor islands with palisading and clefting (blue arrowheads) and calcium deposits (yellow arrowheads) (hematoxylin-eosin, original magnification ×10).

F. Histopathologic analysis, vertical view, shows tumor islands with palisading and clefting (blue arrows) and subepidermal calcium deposits (yellow arrowheads) (hematoxylin-eosin, original magnification ×10).

Conclusion

The findings suggest that MAY globules can be useful as a new BCC dermoscopic criterion to help diagnose and help identify high-risk histologic subtypes of BCC. Calcifications may associate those structures. Our results need to be validated with data sets from other centers which include lesions that are not routinely biopsied, such as sebaceous hyperplasia and mollusc contagiosum.

The presence of multiple aggregated yellow-white Globules may aid the diagnosis of non-pigmented basal cell carcinoma, particularly high-risk subtypes on the head and neck.

Source: Navarrete-Dechent C, Liopyris K, Rishpon A, et al. Association of Multiple Aggregated Yellow-White Globules With Nonpigmented Basal Cell Carcinoma [published online ahead of print, 2020 May 27]. JAMA Dermatol. 2020;10.1001/jamadermatol.2020.1450.

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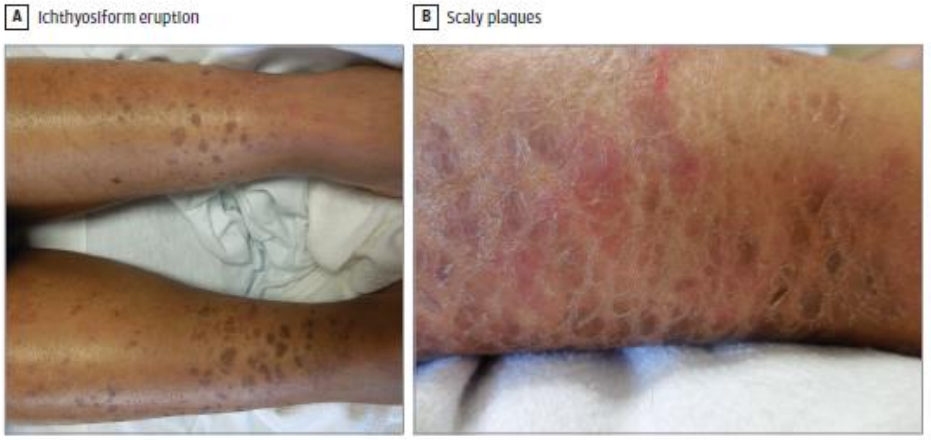
CASE STUDY

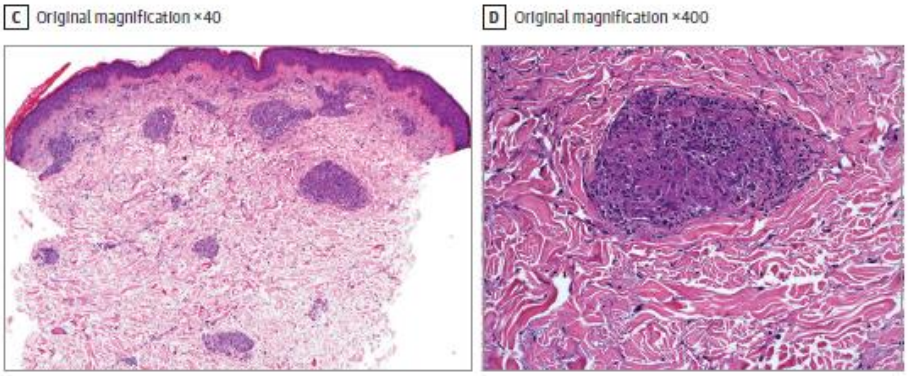
Acquired Ichthyosis in a Middle-Aged Woman

A woman aged 36 ended up on her lower legs with a 6-month background of 1-cm to 2-cm erythematous and scaly plaques consistent with 30-kg weight loss. The plaques started to extend proximally across her ankles and entered the upper thighs by the time of introduction. In the intervening weeks, she also noticed fresh lesions in her arms and abdomen. The eruption was asymptomatic, and lower extremity edema and fatigue accompanied the plaques, contributing to ambulatory problems and repeated spills. The patient also recorded allodynia in her lower legs, tingling and numbness. She did not undergo any drugs and her personal background was important with a miscarriage in the first trimester. She was a school teacher and in the past 10 years hadn't traveled outside the region. Physical inspection of her lower extremities showed erythematous and indurated plaques, some of which had a coarse overlying scale (Figure, A and B). Her cognitive test revealed 4/5 symmetric intensity and decreased reflexes in her lower extremities. The sensation of light touch and proprioception under the knee was diminished. For histological review, two punch biopsies (Figure, C, and D) were performed.

Diagnosis

Plaque and ichthyosiform sarcoidosis





A, Dark brown, coarse, ichthyosiform scale on the bilateral lower legs. B, Firm pink plaques with overlying coarse scale. C, Granulomatous inflammation throughout the dermis with mild hyperparakeratosis around a hair follicle (hematoxylin-eosin). D, Well-formed, epithelioid granulomas (hematoxylin-eosin).

Discussion

Histopathological examination of the 2 separate lesions revealed well-formed epithelioid granulomas scattered across neurovascular bundles without vasculitis indications (Figure, C and D). Test under polarized light did not show information from outside. The use of special stains, including acid-fast bacilli, fite, and periodic acid-ship stains, did not identify any microorganisms. The findings of Epstein-Barr virus in situ hybridisation is negative. Thorax and abdomen computed tomography showed voluminous hilarity, mediastinal, and retroperitoneal lymphadenopathy. The amount of angiotensin converting enzyme was found to be 145U / L (reference scale, 8-53U / L). Findings were common for electrocardiography, echocardiography, and urinalysis. The rates of thyroid-stimulating hormone and 25-hydroxy vitamin D were common but there was an elevated amount of 1,25 dihydroxyvitamin D.

Fine-needle aspiration of a lymph node was performed to exclude a lymphoproliferative process, which revealed reactive modifications. Findings of antinuclear antibody and anti-neutrophil cytoplasmic antibody tests were negative, and rheumatoid hormone, fast plasma reagine and complement rates were all within acceptable limits, as well as QuantiFERON TB Gold test values. Also negative were findings from sputum acid-fast bacilli stains and bronchial wash of the Histoplasma antigen from a bronchial wash were also negative. A diagnosis of sarcoidosis was made using the cutaneous, pulmonary, and neurological organ systems. The patient was treated with systemic corticosteroids and initially improved; however, eventually heart disease recurred and developed, requiring implantation of a left ventricular assist device.

Sarcoidosis usually affects people younger than 50 years of age with a slight female preponderance. Despite investigations aimed at finding a potential etiological trigger, including environmental agents and microorganisms, we still have to identify a causal agent and the underlying pathophysiology of sarcoidosis remains somewhat unclear to our

knowledge. Certain human leukocyte antigen subtypes and gene variations have also been implicated. In up to 35 percent of affected patients with a wide range of possible skin manifestations, sarcoidosis causes skin lesions. Red to rust-colored plaques are a relatively common sarcoidosis manifestation, but ichthyosiform lesions are rare and could lead to confusion in diagnosis. Ichthyosiform sarcoidosis develops most frequently in non-white patients that favour the lower extremities. In 1 sequence, systemic sarcoidosis ultimately formed in 95 per cent of patients with ichthyosiform sarcoidosis. The ichthyosiform sarcoidosis can present as erythroderma in extremely rare cases. Most forms of ichthyosiform sarcoidosis present with inflammation of the areas involved, including knees. In the affected regions several cases were associated with peripheral nerve involvement, such as cranial nerve palsies or numbness.

Histopathological results of ichthyosiform sarcoidosis often show characteristics of ichthyosis as well as sarcoidosis. There is often hyperkeratosis with decrease in the granular cell layer and non-caseating granulomas. In comparison to certain potential related disorders such as malignant tumors (e.g., Hodgkin lymphoma), connective tissue disorder, cancer (e.g., leprosy), dietary deficiencies and endocrine deranges, sarcoidosis may be included in the clinical treatment of acquired ichthyosis. This case presented a diagnostic dilemma due to the relative rarity of ichthyosiform sarcoidosis, the lack of pulmonary symptoms and the fact that in the patient's tattoos, lesions were not noted. Before making a diagnosis of sarcoidosis, other granulomatous diseases that can be associated with neuropathy such as granulomatous vasculitis or leprosy should be ruled out.

Source: Saardi KM, DeWitt CA, Cardis MA. Acquired Ichthyosis in a Middle-Aged Woman [published online ahead of print, 2020 May 13]. JAMA Dermatol. 2020;10.1001/jamadermatol.2020.1081.