Erythodermic Psoriasis in a 67-Year-Old Nigerian Woman – An Unusual Presentation

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Abstract

Erythrodermic psoriasis is a rare, severe variant of psoriasis occurring in 1-2% of psoriasis patients. It is often recalcitrant to conventional treatment and carries a high risk of morbidity and mortality.

We present the case of a 67-year-old Nigerian indigent female who presented with progressive generalized pruritus, dyspigmentation, extensive desquamation and hyperkeratosis involving 90% of the skin surface area with nail involvement and joint pains. One morning, the patient noticed the simultaneous loss of skin on both hands, from the wrist to the fingernails. Overnight, the skin from both her wrists had stripped and hung on her fingernails in a degloved pattern. Histopathology of skin biopsy supported the diagnosis of erythrodermic psoriasis. She responded well to systemic corticosteroids, oral methotrexate and locally sourced topical emollients and keratolytics, which included palm oil and shea butter.

This case describes the clinical presentation of erythrodermic psoriasis and navigates the management of this dermatosis in a resource-constrained setting, highlighting the efficacy of red palm oil as a topical keratolytic. Further studies are needed to evaluate its efficacy.

Keywords: Erythroderma, Psoriasis, skin peeling.

Résumé

Psoriasis érythrodermique chez une Nigériane de 67 ans: une présentation inhabituelle

Le psoriasis érythrodermique est une forme rare et sévère du psoriasis, qui touche 1 à 2 % des patients atteints de psoriasis. Il est souvent réfractaire aux traitements conventionnels et présente un risque élevé de morbidité et de mortalité.

Nous présentons le cas d'une Nigériane indigente de 67 ans qui présentait un prurit généralisé progressif, une dyspigmentation, une desquamation étendue et une hyperkératose touchant 90 % de la surface cutanée, avec atteinte unguéale et douleurs articulaires. Un matin, la patiente a constaté une perte cutanée simultanée sur ses deux mains, du poignet aux ongles. Pendant la nuit, la peau de ses deux poignets s'est décollée et a adhéré à ses ongles, formant un motif déganté. L'histopathologie de la biopsie cutanée a confirmé le diagnostic de psoriasis érythrodermique. Elle a bien répondu aux corticostéroïdes systémiques, au méthotrexate oral et aux émollients et kératolytiques topiques d'origine locale, dont l'huile de palme et le beurre de karité.

Ce cas décrit la présentation clinique du psoriasis érythrodermique et aborde la prise en charge de cette dermatose dans un contexte de ressources limitées, soulignant l'efficacité de l'huile de palme rouge comme kératolytique topique. Des études complémentaires sont nécessaires pour évaluer son efficacité.

Mots-clés: Érythrodermie, Psoriasis, Desquamation cutanée.

Introduction

Erythroderma, also known as exfoliative dermatitis, is a severe and potentially life-threatening dermatologic condition characterized by widespread erythema and scaling that affects 90% or more of the body surface area.[1,2] It is frequently associated with systemic symptoms such as fever, malaise, electrolyte imbalance and skin failure,

which can lead to sepsis, dehydration and high-output cardiac failure.[1,2] Erythroderma may be idiopathic, but it is often secondary to pre-existing dermatologic conditions, malignancies, medications, or infections. Among these, psoriasis accounts for approximately 8% of erythroderma cases.[3,4]

Psoriasis is a complex, chronic, immune-mediated inflammatory disease that affects 2-3% of the global population, characterized by epidermal hyperproliferation and an accelerated rate of keratinocyte turnover.[5] Erythrodermic psoriasis is a rare but severe form of psoriasis, affecting approximately 1-2% of individuals with psoriasis.[6,7] It may arise from progressively worsening chronic plaque psoriasis or be precipitated by infections, medications, corticosteroid withdrawal or psychological stress. In rare instances, erythrodermic psoriasis can be the initial presentation of psoriasis.

Clinically, erythrodermic psoriasis presents with generalized erythema, pruritus, scaling and desquamation, often accompanied by pain, fissuring, erosions, and dependent oedema.[6,7] It is associated with a high risk of systemic complications and requires urgent medical intervention.

Here, we present a case of a 67-year-old indigent Nigerian female with erythrodermic psoriasis as her first manifestation of psoriasis and her management in a resource-constrained scenario.

Case Report

A 67-year-old retired female textile factory worker presented with a 10-month history of generalized skin dryness and an 8-month history of progressive desquamation. Symptoms initially appeared on the legs and gradually spread to the upper limbs, trunk, and face, accompanied by watery eye discharge.

Two months later, she developed skin peeling on the plantar and dorsal surfaces of her feet, which progressed to involve the legs, upper limbs, back, chest, face, scalp, and forehead. The evolution of the skin peeling and dryness followed the same pattern.

One morning, the patient noticed the simultaneous loss of skin on both her hands, from the wrist to the fingernails. Overnight, the skin from both her wrists had stripped and hung on her fingernails in a degloved pattern. She then pulled them off. There is associated repeated ulceration of her hands, legs, and lips with redness of her eyes. The repeated ulceration of the hands subsequently caused the hands to become so dry with contracture. Associated hearing loss was noted upon admission.

Several months after symptom onset, she developed copious serous discharge from her thighs and legs, requiring a two-week hospitalization. However, her symptoms recurred with persistent pruritus and scratching, which led to progressive hypopigmentation and erythema of the scalp, extremities, trunk, and face. There were no blisters or bullae formation. She also experienced weight loss, intermittent moderate-grade fever with chills and cold intolerance. There was no history of corticosteroid, drug use or emotional stress before symptom onset.

She had worked for 21 years in a textile factory before becoming a petty trader, selling unused newspapers. She had a history of episodic pruritus and anhidrosis during her factory work, which she managed with herbal remedies and antihistamines. She was widowed for 18 years, had one child, and faced severe financial hardship due to her illness, with little to no social support. She was brought to the hospital by a Good Samaritan who covered the cost of her treatment.

On examination, she was febrile, hypotensive (BP: 91/45 mmHg), and in distress, with bilateral ankle oedema. There was no lymphadenopathy, neck swelling, or asterixis. Skin examination revealed generalized erythematous hypopigmentation and xerosis, affecting more than 90% of the body surface area, with desquamation and hyperkeratotic plaques present on the extremities and trunk. All fingernails and toenails were dystrophic and hyperkeratotic, and there was non-scarring alopecia of the scalp and eyebrows. Flexural contractures of the fingers were noted, but pulse rate, respiratory rate, and oxygen saturation were normal. Other systemic examinations were unremarkable.

She underwent a skin biopsy, which revealed hyperkeratosis, a hypo- to absent granular layer, acanthosis, and mild spongiosis, accompanied by a collection of Langerhans cells in the epidermis. There is superficial dermal telangiectasia, dense peri-vascular and interstitial lymphocytic infiltrates, and superficial dermal oedema. Sections were in keeping with erythroderma, and the primary cause is suggestive of psoriasis. Blood investigations noted anaemia with lymphocytosis and normal platelet count. Her renal function was normal except for mild hyperkalemia. She had hypoalbuminemia, but her liver enzymes were normal. Serum Vitamin D levels were markedly low (9.5ng/ml). An abdominal CT scan showed minimal ascites and multilevel intervertebral osteochondrosis, with a normal liver, gallbladder, pancreas, and spleen and no para-aortic lymphadenopathy.

She was hospitalized and received parenteral hydrocortisone followed by oral prednisolone (0.5 mg/kg/day) and methotrexate (10 mg weekly) for 4 weeks. She also received Vitamin B-complex, C, and D supplementation, oral antihistamines and a high-protein diet. Topical therapy consisted of a pH-balanced cleanser and local emollients, including coconut oil and shea butter, applied 2–3 times daily. Red palm oil, also a local oil, was applied as a keratolytic agent once daily for two weeks, along with petroleum jelly-impregnated gauze, for hyperkeratotic areas. Supportive care also included nursing in a temperature-controlled environment and adequate oral and intravenous hydration.

She improved significantly, with a marked reduction of hyperkeratotic lesions and pruritus, and was discharged after six weeks for outpatient follow-up. However, she remained in the hospital for an additional two months after discharge clearance due to the unavailability of a place to stay at her home. During this prolonged stay, she succumbed to a nosocomial infection.

Figures 1 and 2 show the patient's skin at presentation with extensive desquamation, erythema and hyperkeratotic plaques on the lower limbs. Nails were also hyperkeratotic and dystrophic. Note the semi-flexed (contracture) wrist in Figure 2.

Discussion

This case illustrates the clinical presentation of erythrodermic psoriasis, a dermatological condition that necessitates hospitalization and intensive care. Joint pains and extensive hyperkeratosis of the skin and nails, as seen in this case, have been reported in other cases of erythrodermic psoriasis.[5,8]

This presentation of Erythrodermic psoriasis is unusual in several ways. She had a preceding history of skin dryness lasting for ten months. However, no explanation could be found for this, not even malignancy, and she also had a history of anhidrosis 10 years prior to presentation.

Patients with erythrodermic psoriasis are known to shed skin in larger sheets rather than smaller flakes or scales. She had a peculiar pattern to her skin shedding in that the skin of her two hands peeled at the same time overnight from the wrist to the finger nails to give a degloving pattern of skin shedding such that her skin forms a glove at her finger tips which she just pulled off simultaneously.

This atraumatic simultaneous degloving of the hand skin in this erythrodermic psoriasis patient is very unusual and warrants further investigation by researchers studying psoriasis patients in the future. I hypothesize that atraumatic degloving of the skin is uncommon in erythrodermic psoriasis. Additional studies are needed to test this hypothesis or to formulate an alternative hypothesis. Clinicians must be vigilant.

The prolonged dryness of the skin for ten months may have contributed to this. The avascular epidermis would have suffered continuous and persistent nutrient depletion, resulting in this atraumatic degloving skin pattern.[9]

It is also worth noting that the flakes of her skin in her external auditory meatus gave her hearing loss during the illness. This reversible cause of hearing loss in erythrodermic patients should be considered by physicians with a higher index of suspicion, especially in regions where otorhinolaryngologists are not readily accessible to review such patients.

Given the patient's financial constraints, locally available emollients and exfoliants (red palm oil,

Figure 1

Figure 2

Figure 3: This shows the patient's lower limbs after 4 weeks of treatment with a marked reduction of desquamation and hyperkeratotic plaques.

coconut oil and shea butter) were used as cost-effective alternatives, showing notable improvement in hyperkeratosis and desquamation. Red palm oil (Elaeis guineensis) is known for its moisturizing and exfoliating properties, attributed to its rich content of vitamins A and E.[10] Coconut oil (Cocos nucifera) and shea butter (Butyrospermum parkii) are emollients that have been shown to possess skin barrier-enhancing, anti-inflammatory, and antibacterial properties.[10] The marked reduction in scaling observed suggests that these natural oils may be effective in managing erythrodermic psoriasis in resource-poor settings where standard exfoliants and emollients may be unaffordable or unavailable. Further research is needed to evaluate the efficacy of red palm oil as an exfoliant, comparing it to standard treatments such as topical retinoids, salicylic acid, and urea-based preparations.

Conclusion

Erythrodermic Psoriasis is a severe and life-threatening dermatologic emergency. This case suggests that local oils, such as coconut oil, shea butter, and red palm oil, may be effective exfoliants and emollients for reducing excessive scaling in erythrodermic conditions, particularly in low-resource settings. Further studies are warranted to establish the efficacy of this approach compared to standard therapies.

Funding: Nil

Conflict of Interest: None to declare.

Note: This article was featured at the Nigerian Association of Dermatologists 13th Annual Scientific Conference and Annual General Meeting. Lagos 2019 as a poster presentation.

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