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An Intriguing Case of Erythroderma Possibly Related to Psoriasis Vulgaris

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Abstract

Erythroderma or generalized exfoliating dermatitis is an inflammatory disease characterized by erythema and thickened scales. A woman, 34 years old, was consulted with complaints of red spots accompanied by blisters and peeling skin almost all over her body for 4 days. Complaints are accompanied by itching and burning sensations. The patient had experienced complaints like this 5 months ago and had been treated at three different hospitals. Physical examination found in the facial region, thorax, superior and inferior right and left extremities, erythematous patches with diffuse borders, thick scales, erosions, and a generalized distribution. The patient's fingernails were found to have a change in shape (pitting nails). Examination of the ANA profile was negative, IgE atopy did not show an allergic reaction to a specific allergen, and histopathological examination was within normal limits. The patient was diagnosed with erythroderma based on psoriasis vulgaris. Treatment includes injection of methylprednisolone, cetirizine 10 mg tablets, and wound care with wet gauze and topical cream. After giving therapy, the patient's clinical improvement. Erythroderma occurs because of an underlying condition and cannot be prevented by itself. Erythroderma because of an underlying inflammatory skin condition usually resolves with treatment but can recur at any time. Overall, the prognosis for erythroderma depends on the underlying cause and is generally good if the underlying disease can be treated effectively.

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1. Introduction

Erythroderma is an emergency in the field of dermatology which can occur in almost all age groups [1]. Erythroderma or generalized exfoliating dermatitis is an inflammatory disease characterized by erythema and thickened scales that occur on nearly 90% of the body surface area [2]. The incidence of erythroderma is estimated at 1-2/100,000 cases [3]. Common causes of erythroderma are drug eruptions or exacerbations of co-morbidities such as psoriasis, atopic dermatitis, seborrheic dermatitis, photosensitive dermatitis, or cutaneous T-cell lymphoma. Other but rare causes include pityriasis rubra pilaris, erythrodermic bullous dermatosis, scabies infestation (Norwegian scabies),

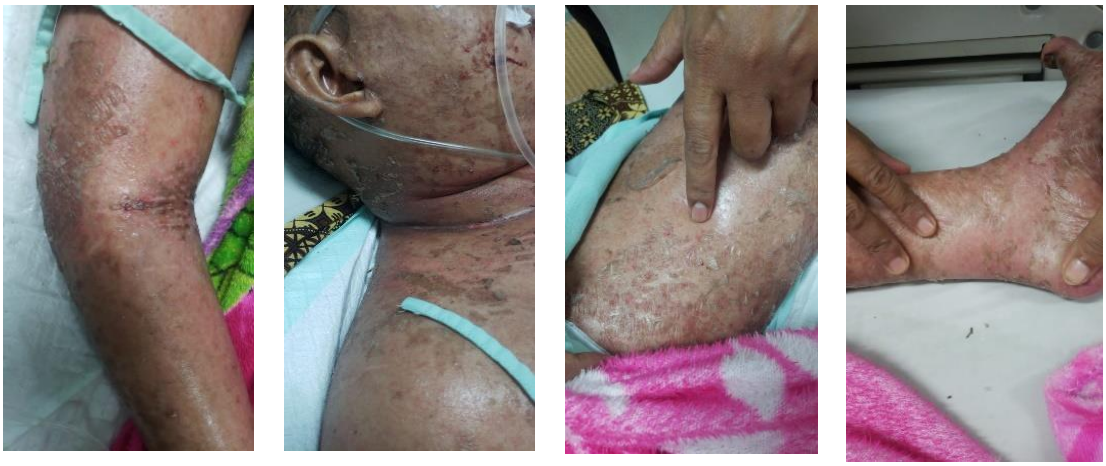

Figure 1. Clinical photo of the patient when initially consulted.

hyper-eosinophilic syndrome, graft-versus-host-disease (GVHD), dermatophytosis, mastocytosis, lichen planus, pemphigoid, and autoimmune connective tissue disease (dermatomyositis). or acute/subacute lupus erythematosus) [1, 4]. In making the diagnosis of erythroderma, a physical examination, and specific supporting examinations are needed to determine the etiology. Histopathology can assist in identifying the cause of erythroderma in 50% of cases [3].

2. Cases

The woman, 34 years old, was referred from the regional hospital, consulted by the Department of Internal Medicine to the Department of Dermatology and Venereology with complaints of reddish spots with blistered and peeling skin almost all over the body for the past 4 months and have gotten worse in the last 4 days. Complaints are accompanied by occasional itching and feeling sore and accompanied by fine scales. The patient also complained of a wound on the buttocks. The patient denied any food and drug allergies. There were no systemic diseases such as hypertension, diabetes mellitus, and asthma. The patient had experienced complaints like this time 5 months ago and had been treated at three different hospitals. At the first hospital, the patient's diagnosis was unclear. Then, due to limited supporting facilities, the patient was referred to the second hospital. At the second hospital, the patient was diagnosed with erythroderma but the underlying disease was unknown. Therefore, the patient was referred again to the third hospital for further examination. At the third hospital, the patient was also diagnosed with erythroderma but the exact cause was unknown. Finally, the patient was discharged after clinical improvement at that time.

From physical examination (dated 10-10-2022) found in the facial, thorax, superior, and inferior extremities right and left regions, erythematous patches with diffuse borders, thick scales, erosions, and a generalized distribution were seen (Figure 1).

The patient is diagnosed with erythroderma. Advice from the Department of Dermatology and Venereology to carry out skin biopsy examination and management in the form of injection of methylprednisolone 62.5 mg every 12 hours for 3 days, cetirizine 10 mg tablets 2 times a day if the patient is still itchy, treat the wound with a gauze compress that has been moistened with a normal saline solution followed by mupirocin calcium 2% cream.

Patients were also given a mixed cream in the form of a mixture of 2% thiamphenicol with 0.25% desoximetasone ointment and 60 grams of Vaseline album smeared on the lesion in the morning, a 2% thiamphenicol mixture with 0.05% clobetasol propionate and 60 grams of Vaseline album smeared on the lesion in the afternoon, and a mixture of 2% salicylic acid with 5% liquor carbonyl detergent (LCD) and 60 grams of Vaseline album smeared on the lesion at night.

The ANA profile examination (dated 3-10-2022) showed a negative result. Laboratory tests in the form of IgE atopy (dated 10-10-2022) showed no specific reactions to allergens. Histopathological examination (dated 17-10-2022) showed that the structure of stratified epithelial chips appeared within normal limits, the structure of fibro myxoid tissue was visible, and no signs of malignancy were found, it can be concluded that it is within normal limits.

After 2 weeks of treatment, the lesion was getting better (dated 17-10-2022), in the facial, thorax, right and left superior extremities, left and right inferior extremities regions, hypopigmented patches with diffuse borders, fine scales, and generalized distribution is seen (Figure 2 and 3), therapy was continued, and the Department of Internal Medicine planned to discharge the patient from the hospital.

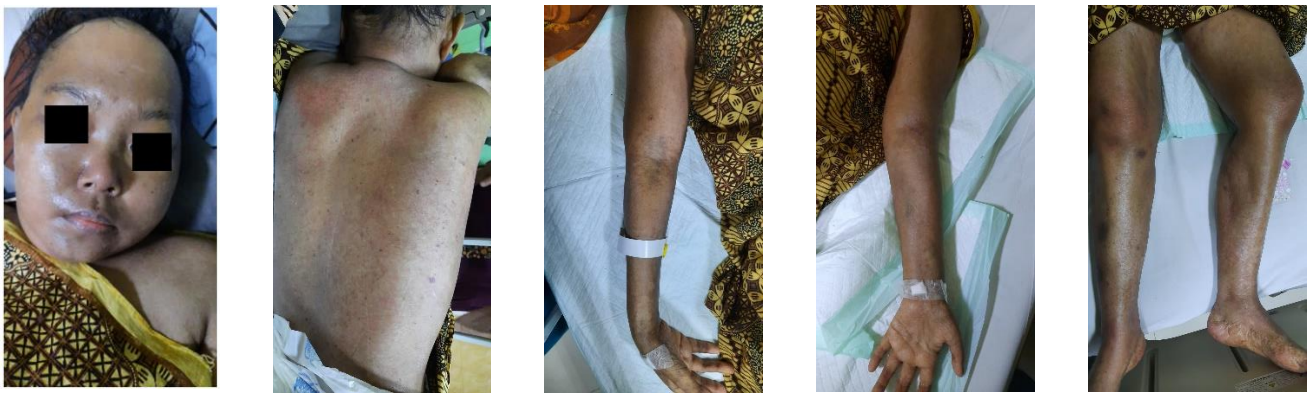

Figure 2. Clinical photograph of the patient (improvement).

Figure 3. Clinical photo of the patient at the time of discharge.

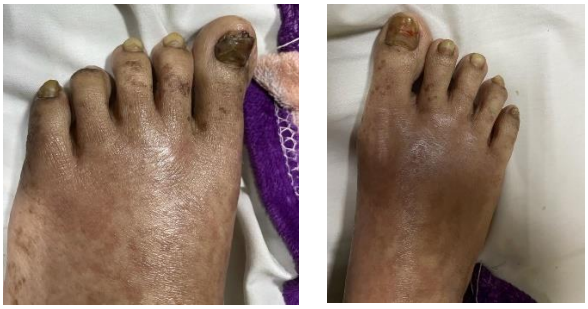

Figure 4. Nail changes in the patient's toes (pitting nail).

3. Discussions

In this case, the patient experienced complaints of reddish spots accompanied by blistering and peeling skin and these complaints often recurred (Figure 1). The early stages of erythroderma are characterized by reddish plaques that confluent over time. Then this redness will spread throughout the body within two to six days followed by desquamation. Desquamation is a chronic form of erythroderma, whereas reddish plaques are an acute form. In addition, the chronic form is also characterized by alopecia, longitudinal nail plate rigging, and onycholysis [1].

Psoriasis is the most common erythroderma, representing in some studies 25-50% of cases. Most patients have a local history of disease before the onset of erythroderma, which develops more frequently with long-standing (more than 10 years after diagnosis) psoriasis. Psoriatic erythroderma has been associated with specific triggers, including sudden discontinuation of topical or systemic corticosteroids and methotrexate, phototoxicity, or systemic infection [5].

In the patient in this case report, thick scales were found. The type of scaling in erythroderma may indicate an underlying etiology; Smooth scales are usually found in eczematous conditions, crusted scales in immunobullous disease, exfoliating scales in drug reactions, and bran-like scales in seborrheic dermatitis [5].

In the patient in this case report, nail pitting was found (Figure 4). This nail change is one of the nail markers commonly found in psoriasis patients with nail involvement. Nail changes commonly seen in psoriasis include pitting, trachyonychia, onycholysis, subungual hyperkeratosis, nail plate discoloration, “oil drip” marks, splinter hemorrhages, acute and chronic paronychia, onychorrhexises, and leukonychia [6].

The supporting examination we performed on this patient is useful to find out what disease is underlying the

erythroderma condition. The clinical appearance and histopathology of erythroderma are often difficult to diagnose definitively. In erythroderma patients, clinical and histopathological correlation is difficult to achieve, but a highly trained pathologist can provide a correct diagnosis. Previous studies reported that skin biopsies are useful in 53-66% of cases of erythroderma. Histopathological findings that are common in erythroderma include hyperkeratosis, acanthosis, spongiosis, and perivascular inflammatory infiltration [5]. The laboratory findings of patients with erythroderma are often nonspecific. In some studies, various other examinations can be useful in diagnosing erythroderma such as antinuclear antibodies, extractable nuclear antigens, rheumatoid factor, anti-DNA antibodies, and complement levels [5].

The therapy we provided to the patient in this case resulted in a better outcome in the patient characterized by an improvement in the clinical and general condition of the patient over time (Figure 2 and 3).

The prognosis in this patient is good after adequate therapy. In the future, the patient is expected to regularly re-control in the hospital related to his psoriasis. This is useful to prevent the occurrence of erythroderma again and to improve the quality of life in these patients.

4. Conclusions

Erythroderma results from an underlying condition and cannot be prevented on its own. Erythroderma as a result of an underlying inflammatory skin condition usually subsides with treatment but can recur at any time. Overall, the prognosis for erythroderma depends on the underlying cause and is generally good if the underlying disease can be treated effectively.

In this patient, erythroderma underlying psoriasis was established based on clinical appearance, and given adequate therapy would provide better clinical outcomes for the patient. It is hoped that in the future, there will be more recent studies related to clinical appearance, follow-up examinations, and other therapies for erythroderma.

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Conflicts of Interest: All the authors declare that there are no conflicts of interest.

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