Erythroderma associated with secondary syphilis: A case report of unusual presentation and resurgence of the great imitator

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Abstract

Syphilis is a chronic infection caused by the spirochete Treponema pallidum. The wide range of clinical presentations of secondary syphilis has earned it the nickname of “the great imitator”. Erythroderma is a generalized inflammatory reaction of the skin secondary to a wide variety of causes; however, it is not considered a common cutaneous manifestation of syphilis. Here, we presented the case of a 74-year-old Hispanic man who presented to our clinic with a history of chronic recurrent erythroderma. His medical history was not relevant except for previous unprotected sexual intercourses. Extensive work up to determine the cause of erythroderma was performed, resulting in positive for syphilis infection. Subsequent treatment of syphilis infection resulted in erythroderma remission.

Keywords: Erythroderma, syphilis, simulator

Öz

Frengi, spirochete Treponema Pallidum’ un neden olduğu kronik bir enfeksiyondur. İkincil sifilizin geniş klinik sunumları ona “büyük taklitçinin” lakabı kazandırdı. Eritroderma, derinin çok çeşitli nedenlere bağlı olarak ortaya çıkan genelleşmiş bir enfalmatuar reaksiyonudur; ancak, sifilizin ortak bir kütanöz tezahürü olarak kabul edilmemektedir. Burada, kliniğimize kronik tekrarlayan eritroderma öyküsü ile başvuran 74 yaşında bir İspanyol erkeğin olgusunu sunuyoruz. Önceden korunmazsın cinsel ilişki dışında tıbbi geçmişin önemli olmadığı, eritrodermanın nedenini belirlemek için kapsamlı çalışma sifilis enfeksiyonu için pozitif sonuçlandı. Daha sonra sifilis enfeksiyonunun tedavisi eritroderma remisyonuya sonuçlandı.

Anahtar Kelimeler: Eritroderma, sifilis, simulatör

Introduction

Syphilis is a chronic infection caused by the spirochete Treponema Pallidum. The wide range of clinical presentations of secondary syphilis has earned her the nickname of “the great imitator” or “the great simulator". In 2017, a total of 30,644 cases of syphilis were reported in the United States (US), yielding a rate of 9.5 cases per 100,000 population. This rate represents a 10.5% increase compared with 2016, and a 72.7% increase compared with 2013.1 Erythroderma is a generalized inflammatory reaction of the skin secondary to a wide variety of causes. Its incidence has been estimated at 1 per 100,000 inhabitants per year.2 Erythroderma is not considered a common cutaneous manifestation of syphilis. The most common causes of erythroderma include exacerbation of preexisting dermatoses, hypersensitivity to drugs, malignant hematological processes, infections and idiopathic causes.3

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We did not find reports of erythrodermas caused or associated by syphilis in adults in the literature, we only found this association in two cases of congenital syphilis that manifested with erythema and generalized desquamation.

Case Report
A 74-year-old Hispanic man presented to our clinic with a four-month history of erythroderma. His past medical history was non-relevant except for previous unprotected sexual intercourses and penicillin allergy. The patient denied history of previous medications or skin diseases.

At examination, generalized, symmetric, polymorphic, pruritic erythema with lamellar, grayish scales were noted concordant with erythroderma. There was no involvement of mucous membranes (Figure 1).

Further interrogation, the patient referred associated myalgias, arthralgias and chills. The patient had received non-specific doses of corticosteroid orally in another institution with partial improvement.

Work up to determine the cause of erythroderma was performed and prednisone 1 mg/kg/day was indicated. Work up included a punch biopsy, laboratory tests and computed tomography (CT) scan in order to rule out the possibility of underlaying malignancy. In a 5-day follow-up consultation, the patient presented with a new dermatosis, at examination, countless, small, erythematous papules with red-violaceous base and well-defined borders were noted on face, anterior thorax, proximal regions of upper and lower limbs, with involvement of palms and soles (Figure 2,3).

A punch biopsy reported dermoepidermal necrosis and presence of perivascular plasma cells and lymphocytes. Laboratory tests reported acute phase reactant elevation, mild acute kidney injury with filtration rate of 38 mL/min and borderline leukocytosis with deviation to the left. Serology for hepatitis C virus (HCV), HBV, human immunodeficiency virus (HIV), antineutrophil cytoplasmic antibodies, (p-ANCA, c-ANCA) and antinuclear antibodies were negative. The immunological panel presented normal complement (C4, C3). Thoraco-abdominal CT, bone marrow biopsy and prostate specific antigen were negative for malignancy. Qualitative venereal disease research laboratory treponemal test and Fta-Abs were positive.

Prednisone was discontinued. Treatment was started with ceftriaxone due to penicillin allergy, 2 gr every 24 hours for 14 days showing remarkable clinical improvement with complete resolution of skin lesions, renal improvement and cease of symptoms in subsequent 48 hrs of treatment (Figure 4). Informed consent was obtained.

Erythroderma has multiple etiologies and it is a challenge for the dermatologist to identify them. Reports of erythroderma in adults related to secondary syphilis are limited and some associated with HIV. Co-infection of syphilis and HIV seems to alter the course of both diseases. The cause of the massive recruitment of inflammatory cells in the skin of erythrodermic patients is of unknown origin and...
The use of prednisone probably was a trigger that led to transient immunosuppression, that revealed more typical manifestations of syphils infection, such as its presentation with papules, and palmar and plantar involvement.

The infection by *T. pallidum* is concluded as a trigger for erythroderma due to exhaustive discarding of other etiologies, and by confirmatory treponemal and non-treponemal tests, as well as a remarkable satisfactory clinical evolution once initiated the antibiotic treatment and complete resolution after completing the treatment.

It is important to remember the great clinical polymorphism that syphils presents. The clinician should always suspect syphils infection in patients with risk factors like our patient, by discarding other etiologies, or by characteristic dermatoses such as the involvement of palms and soles. The importance of early diagnosis lies in early treatment, patients who do not receive timely treatment are at risk of suffering major complications (e.g. tertiary syphils) involving the central nervous system, cardiovascular structures, skin or bones.

**Ethics**

**Informed Consent:** Informed consent was obtained.

**Peer-review:** Externally and internally peer-reviewed.

**Authorship Contributions**

M.S.O., M.R.P., Data Collection or Processing: R.G.M., A.G.R.T., M.S.O.,
A.G.R.T., M.S.O., M.R.P.

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