ERYTHRODERMIC PSORIASIS IN MEDICO-LEGAL PRACTICE: AN OVERVIEW OF A CASE

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ABSTRACT

Psoriasis represents a chronic autoimmune disease of great interest as its incidence has increased over the last decades. It encompasses a multitude of subtypes with various manifestations and complications. Erythrodermic psoriasis represents one of the most severe forms of the disease and is characterized by the appearance of a generalized erythematous rash on top of pre-existing lesions.

We present the case of a 71-year-old patient with history of arthropathic psoriasis who is admitted to the dermatovenerology clinic for deterioration of his general condition, exacerbated pre-existing cardiovascular conditions, a diffuse generalized erythematous skin rash, pronounced leg edema and nail changes. After following topical and systemic treatment, the patient was discharged in an improved condition. Two weeks later the woman is found dead in their home. An autopsy was performed and the necropsy examination describes the skin lesions presented before but in an aggravated form and the histopathological examination establishes the cause of death which is represented by acute heart failure, the consequence of lymphocytic interstitial myocarditis.

The particularity of the case is represented by the simultaneous exacerbation of cardiac and skin pathology, both having autoimmune components and an inflammatory substrate.

Keywords: psoriasis, myocarditis, cytokines, erythroderma

Introduction

Psoriasis represents a chronic autoimmune disease with a polygenic etiology. It affects approximately 1.5-2% of the population of western countries and it can be triggered by many environmental factors, drugs, trauma that involves skin lesions and infections. The symptoms of psoriasis may vary in time and can be described as a continuous cycle with periods of exacerbation but also remission. Most of the described forms are mild to moderate and can be successfully treated with topical treatment. Erythrodermic psoriasis represents one of the most severe forms of the disease and is characterized by the appearance of a generalized erythematous rash on top of pre-existing lesions (1). We present the case of a patient with a known history of psoriasis who presented simultaneous relapse of her cutaneous and cardiovascular conditions, leading to her death, underlining the possibility of a correlation between the thanatogenesis and the dermatological component (2).

Clinical Case

A 71-year-old patient suffering from arthropathic psoriasis, is admitted to the dermatovenerology emergency clinic for clinical and biological evaluation and specialized
treatment. The patient’s medical history reveals essential hypertension, chronic ischemic heart disease, moderate mitral regurgitation and congestive heart failure NYHA class II. At the time of the examination the patient presented a diffuse, intensely pruritic, generalized erythematous rash, with lesions covered by fine adherent white-yellow scales and lamellar peeling of the skin (Figure 1, Figure 3). There are multiple superficial ulcers located on the calves (Figure 4), abdomen and the thoraco-lumbar level, relatively well defined, with irregular edges, surrounded by periulcerous erythematous halo. On the posterior thorax and flanks, there are multiple achromic macules (Figure 2), relatively well defined, with a polycyclic outline. On the lower limbs bilateral onychomycosis of the fingers, tinea pedis and dry hyperkeratosis of the feet were noticed. The clinical examination on admission reveals arrhythmic, weak and abnormal heart sounds, bilateral muffled vesicular murmur and permanent dyspnea. The patient presented a favorable evolution and was discharged with an improved general condition after 7 days of hospitalization. Two weeks after discharge, the patient was found dead at home and the necropsy examination revealed the skin lesions present during hospitalization in a much more aggravated form, the cause of death being acute heart failure, the consequence of lymphocytic interstitial myocarditis, this type being found in viral infections but also in autoimmune diseases (3).

**Figure 1.** Generalized erythematous rash with desquamation of the skin layers observed on the lower limbs and hyperkeratosis of the feet

**Figure 2** Multiple achromic macules located on thorax and flanks, superficial ulcers

**Figure 3** Adherent white-yellow scales and lamellar peeling of the skin

**Figure 4** Superficial ulcers and onicomicosis

**Discussions**

Psoriasis is a chronic incurable disease that affects the entire body and the autoimmune nature of the condition leads to the association of multiple systemic complications. Cardiovascular
complications represent one of the main causes of mortality in patients with severe forms of psoriasis, and joint damage contributes as a cumulative factor to the poor prognosis. The key factor in the pathogenesis is represented by systemic inflammation which, at vascular level, favors the appearance of atherosclerosis and also hypertension, a comorbidity objectified in the present case (4). The physiopathological mechanism of inflammation is dictated by the exaggerated activation of T lymphocytes and myeloid cells, the activation of platelets and the amplification of the sensitivity of tumoral necrosis factor’s receptors and also of interferons and interleukins (IL-23, IL-17 and IL-16) which are all involved in multiple autoimmune inflammatory diseases. Collectively, these cytokines have an important synergistic action, amplifying the inflammation that will lead to the proliferation of keratinocytes in the skin (5). Both in the last presentation at the dermatovenerology clinic and in the medico-legal necropsy report, there are described generalized psoriatic lesions, diffuse erythematosus rash covered by adherent scales on the entire body and pronounced leg edema, all being suggestive for an generalized exfoliative dermatitis, a severe and potentially fatal skin reaction. Nail changes are very common in erythroderma and can vary from mild forms to onychodystrophy (6). Patients may present systemic symptoms such as fever, tachycardia, dehydration, lymphadenopathy, arthralgias, myalgias and heart failure. The metabolic response can be significant as the formation of scales can lead to massive protein loss and the exaggerated dilation of skin capillaries can cause considerable heat loss and ultimately lead to high output heart failure (7).

Conclusions

In the presented case, the post-mortem histopathological examination describes lymphocytic interstitial myocarditis, this type being found in viral infections but also in autoimmune diseases. The overlapping of the worsening of cardiac symptoms with the worsening of skin lesions supports the autoimmune hypothesis and incriminates the possibility of the existence of a minor or major external factor that triggered a flare-up of the autoimmune system with the appearance of uncontrolled inflammation, in this case at the level of the myocardium, skin and joints. One of the complications of myocarditis is acute heart failure, which in the current case is the cause of death, this being aggravated by the skin component, severe erythrodermic psoriasis.

References

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