Case Report

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Refractory psoriasis following long-term corticosteroid withdrawal and inadequate response to cyclosporine: a case report

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Abstract

Psoriasis is a chronic immune-mediated skin disorder characterized by erythematous, scaly plaques. We report a case of a 53-year-old male with a 12-year history of psoriasis and diabetes mellitus who presented with severe exacerbation following long-term corticosteroid use and subsequent cyclosporine therapy. The patient developed high-grade fever, widespread erythematous rashes with peeling, and severe itching, along with abnormal hematological findings. Initial management with cyclosporine and topical corticosteroids provided limited benefit, and abrupt withdrawal of prednisolone triggered a rebound flare due to a surge in pro-inflammatory cytokines. Cyclosporine therapy further led to paradoxical worsening of psoriasis, likely due to suboptimal response. The patient was subsequently initiated on ixekizumab, an IL-17A inhibitor, which demonstrated significant clinical improvement and near-resolution of psoriatic lesions. This case emphasizes the challenges in managing severe psoriasis in patients with prolonged corticosteroid exposure and highlights the role of biologic therapy as an effective treatment option in refractory cases.

Keywords: Psoriasis, Corticosteroid withdrawal, Cyclosporine, Ixekizumab, IL-17A inhibitor, Biologic therapy

Introduction:

Psoriasis is a chronic disease in which skin cells build up quickly, typically causing red or discolored, scaly, and itchy patches on the skin. It is an immune-mediated disease that is long-lasting and non-contagious.

Types of Psoriasis: There are 5 types of psoriasis

1. Plaque psoriasis
2. Guttae psoriasis
3. Inverse psoriasis
4. Pustular psoriasis
5. Erythrodermic psoriasis

Psoriasis is believed to be caused by genetics, the immune system, and several external environmental factors, including infections, especially streptococcal and HIV infections. Certain medications used to treat malaria, mental health problems, and cardiovascular diseases can trigger psoriasis. Smoking and obesity can also contribute to its worsening. Symptoms include patches of thick, raised skin.

Epidemiology:

Psoriasis is likely the most common immune-modulated inflammatory disease in North America and Europe, as it is thought to affect 17 million people or about 2% of the population. Worldwide prevalences vary between 0.1% and 3%, with reasons for variation ranging from racial to geographic and environmental. A higher prevalence than 3% has been reported occasionally in Canada and the United States. Low frequencies of between 0.4% and 0.7% are seen for people of African and Asian descent. Of interest is the fact that psoriasis is seldom seen in North and South American aboriginal Indians. It affects males and females equally. The majority of patients have onset before the age of 40, but psoriasis has been observed at birth and as late as the ninth decade of life. Many studies report two peak ages of onset at 20 to 30 and 50 to 60 years of age.

Diagnosis: The diagnosis of psoriasis is based on recognition of the characteristic psoriatic lesion. Diagnostic testing is rarely performed as a biopsy, but it is not diagnostic of psoriasis. Classification of psoriasis as mild, moderate, or severe disease is generally based on BSA (body surface area) or PSAI (psoriasis area and severity index). Practically, to give a rough estimate of

BSA involvement, palm size is approximately 1%BSA, head and neck involvement is approximately 10% BSA, both upper limbs approximately 20% BSA, trunk involvement (front and back) approximately 30%BSA, and both lower limbs approximately 40%BSA.

Case Presentation:

Patient Background:

AGE AND GENDER: 53-year-old male

MEDICAL HISTORY: Persistent psoriasis for 12 years, and diabetic.

SYMPTOMS: high-grade fever with exacerbated psoriasis.

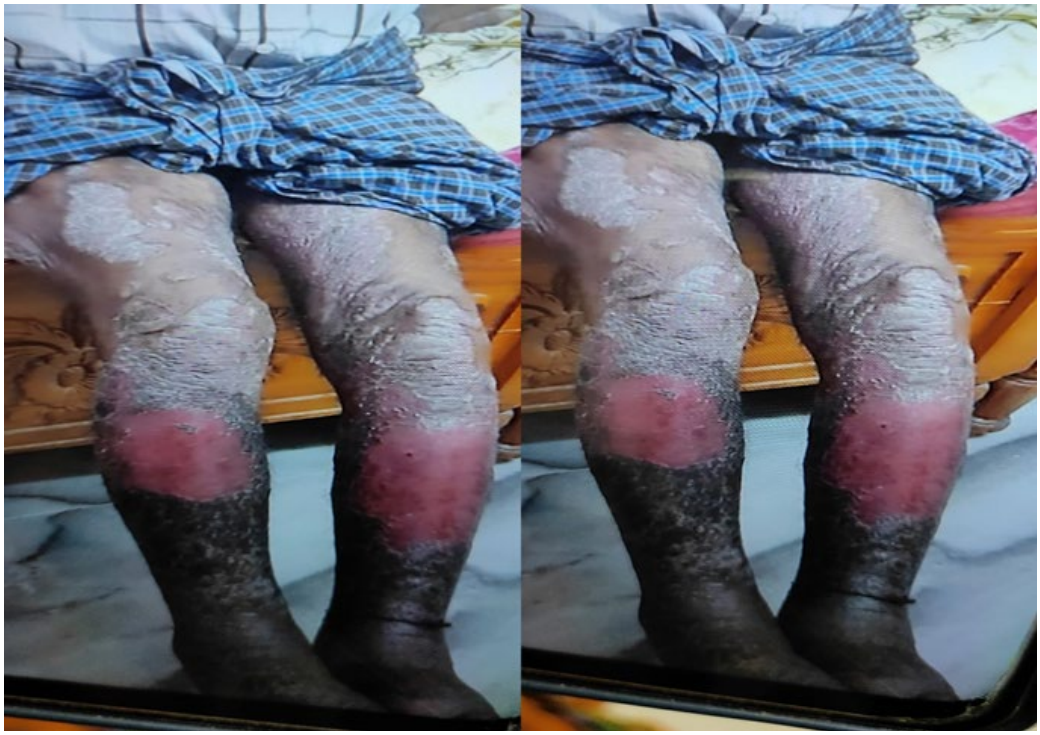

Figure 1: Before Treatment

Clinical Examination:

Physical findings: exacerbated psoriasis is seen all over the legs, upper back, and arms

Blood pressure was 110/70mmHg, and GRBS was 304mg/dl (increased). A red rash accompanied by peeling skin and severe itching is seen all over the body. CBP revealed abnormalities in haemoglobin (7.20g/dL), neutrophils (88 %), lymphocytes (10%), platelet count (1.26 *10^9/L), serum albumin (2.1g/dl), spot urine protein (50.81 mg/dl), and vitamin B12 (>2000pg/ml).

Treatment Strategy:

INITIAL ASSESSMENT: The patient was immediately treated with pheniramine, cyclosporine, clobetasol propionate topical cream, fusidic acid cream, and tramadol.

OUTCOMES: The patient's symptoms include itching) got better; however, plaque severity remained the same. After 7 days, the patient has been shifted to injection Ixekizumab for 6 alternative days after stopping cyclosporin. The patient showed a good clinical response to this medication; the red rashes almost disappeared.

Discussion:

Here, in this case, the patient has been on medication prednisolone for almost 11 years (since he was first diagnosed). He developed arthritis gradually over the period due to prolonged use of prednisolone. He visited the hospital with severe knee pain, and the physician replaced prednisolone with cyclosporin (an immunosuppressant). The patient visited the hospital after 45 days with exacerbated psoriasis all over his body. After monitoring their past medical history and their current therapy, the reason for the worsening of psoriasis is found to be Steroidal withdrawal – prednisolone (corticosteroid)is an immunosuppressant agent that reduces inflammation through suppressing the immune system and cytokine production. When stopped, there is a sudden surge in pro-inflammatory cytokines such as IL17 and IL23, which leads to a rebound effect or exacerbation of psoriasis.

Cyclosporine-induced psoriasis flare – cyclosporine is a calcineurin inhibitor that reduces inflammation through suppression of T cell activation and decreases pro-inflammatory cytokines like IL2 and IL17, which are involved in the pathogenesis of psoriasis. It is generally used to treat moderate to severe psoriasis; however, in some cases, a paradoxical worsening of psoriasis has been reported due to inadequate dosage or treatment duration.

The patient is brought to the hospital in a severe psoriatic condition, and he is then administered ixekizumab 80mg/ml for alternative days of the week. The patient has shown betterment than in the condition.

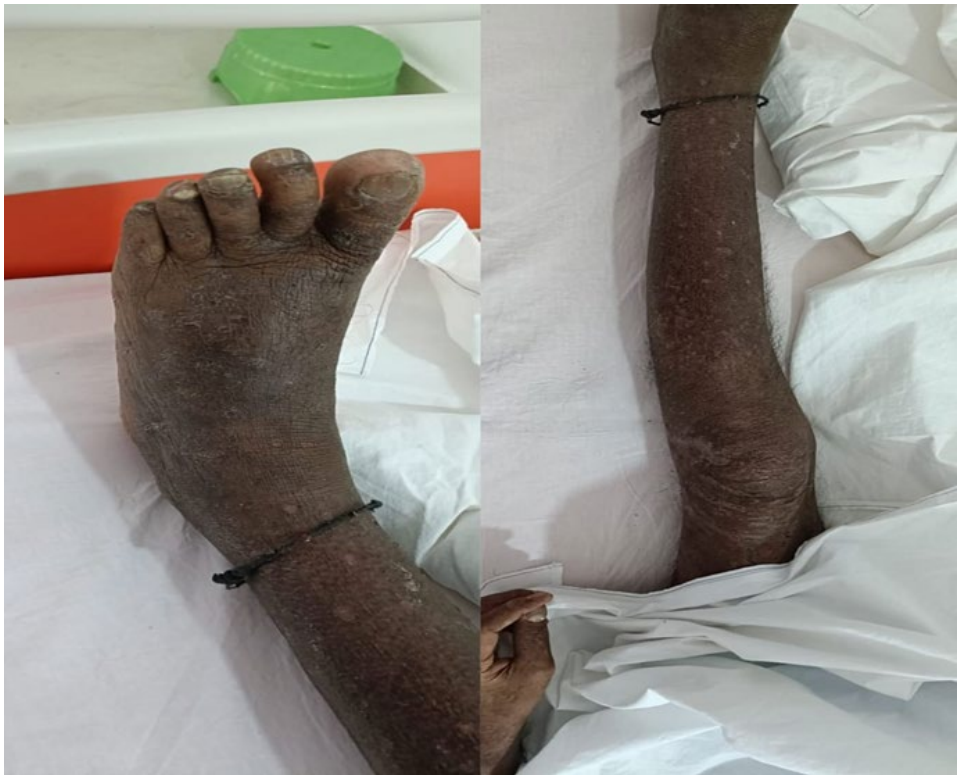

Figure 2: After Treatment

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