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CASE REPORT

Generalized Pustular Psoriasis During Early Pregnancy Successfully Treated with Spesolimab: A Case Report

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Abstract: Generalized pustular psoriasis (Gpp) of pregnancy usually occurs in the third trimester of pregnancy. We present a patient with Gpp at 8 weeks of gestation. The patient was finally treated with spesolimab, and her condition improved significantly after 3 days.

Keywords: spesolimab, generalized pustular psoriasis

Introduction

Generalized Pustular Psoriasis (GPP) is a rare, severe, and potentially life-threatening form of psoriasis characterized by widespread sterile (non-infectious) pustules, systemic inflammation, and abrupt onset. It is distinct from plaque psoriasis and requires urgent medical intervention due to its systemic complications. GPP triggered or worsened by pregnancy, predominantly occurs in the third trimester.[1] This condition poses significant risks for adverse neonatal outcomes, such as placental insufficiency, congenital anomalies, stillbirth, and neonatal mortality.[2–4] GPP is driven by dysregulation of the interleukin-36 (IL-36) pathway, where excessive IL-36 signaling bridges innate and adaptive immune responses, leading to neutrophil-dominated inflammation. While the exact etiology remains unclear, genetic predispositions (eg, IL36RN mutations) contribute to disease susceptibility.[5] Effective management requires prompt therapeutic intervention and rigorous maternal-fetal monitoring to minimize fetal risks. Treatment options for GPP during pregnancy remain understudied. Current approaches include cyclosporine, corticosteroids, TNF-α inhibitors, IL-17/IL-12/23 inhibitors, and granulocyte/monocyte adsorption apheresis.[6,7] As a humanized anti-IL-36 receptor monoclonal antibody, spesolimab directly inhibits the proinflammatory IL-36 cascade. This mechanism is particularly relevant in GPP, where IL-36 overexpression drives pathological neutrophil activation and epidermal hyperkeratosis. To date, there have been no reported cases of biologic agents, particularly IL-36 inhibitors, being used to treat GPP during early pregnancy. We present a novel case of early pregnancy-associated generalized pustular psoriasis demonstrating remarkable therapeutic response to spesolimab.

Case Presentation

A 38-year-old woman at 8 weeks of pregnancy with more than 10 years of history of plaque psoriasis was well controlled with topical corticosteroids. Family history of similar symptoms was denied. Her temperature on admission was 37.5°C. Physical examination revealed generalized edematous erythema, with edema of the lower limbs marked by numerous pustules that partially fused into pus lakes (Figure 1). The PGA (Physician Global Assessment) score and PASI (Psoriasis area and severity index) score were 3.2 and 45, respectively. Laboratory tests showed increased white blood cells ($11.85x10^9$/L), C-reactive protein (CRP) (67.93mg/L). After multi-department consultation, Gpp was diagnosed and the patient was asked to be hospitalized in the dermatology department after induced abortion. The patient underwent induced abortion on

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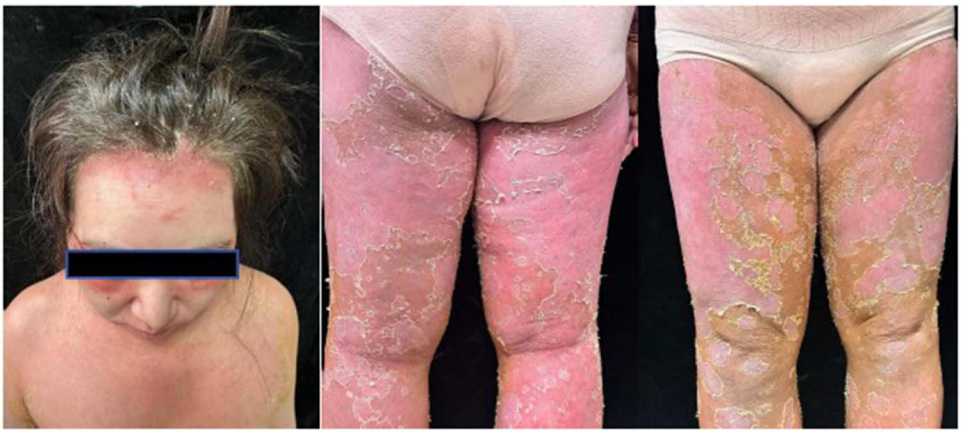

Figure 1 Clinical presentation of skin lesions before treatment.

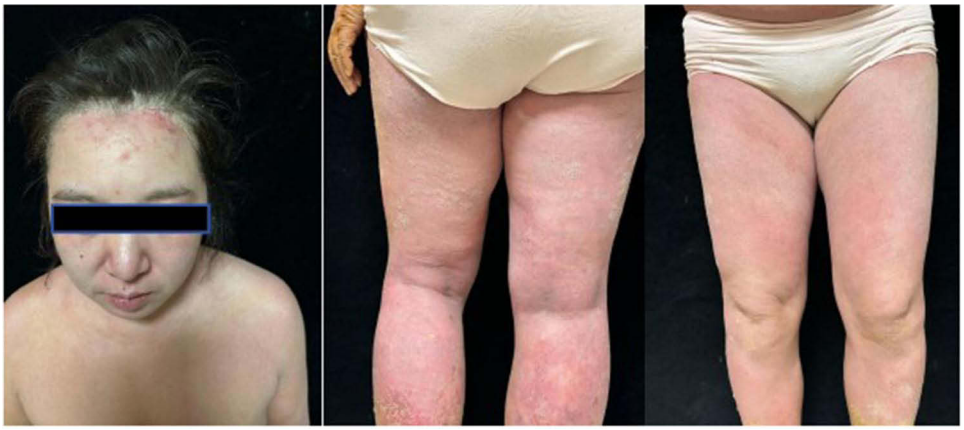

Figure 2 Clinical improvement of skin lesions following treatment.

December 2 and was hospitalized in the Department of dermatology after surgery. After completing the relevant examinations, the patient received an intravenous infusion of spesolizumab injection 900mg, and his condition improved 3 days later (Figure 2). Eighteen days later, the patient was administered Methotrexate tablets to control plaque psoriasis. Unfortunately, the patient had a strong desire to continue the pregnancy, but she was required to undergo an abortion.

Discussion

The management of GPP in pregnancy demands special consideration. Nevertheless, therapeutic evidence remains limited for this population. Notably, retinoids and methotrexate are strictly contraindicated during pregnancy due to their teratogenic risks. Narrowband UVB, topical steroids, prednisone, cyclosporine, certolizumab, secukinumab, Infliximab, Ustekinumab and spesolimab have been reported in the treatment of pustular psoriasis with good safety.[7–11] However, these reports were not sufficient to fully evaluate the safety of the aforementioned treatment options in pregnant women with GPP, and further investigation is warranted. Most of the current treatment options are derived from case reports, lacking large-scale clinical studies or robust real-world data. This study provides preliminary evidence supporting the short-term efficacy and safety of spesolimab in early pregnant patients with GPP, several limitations should be acknowledged: Firstly, the observational period was restricted to the active phase of GPP flare and immediate postpartum outcomes. Long-term data on maternal health, fetal development, and potential late-onset adverse effects (eg, immune impacts on the infant) are lacking. Further studies with extended follow-up are warranted. Secondly, the study primarily included women with severe GPP flares requiring urgent intervention. Thus, the findings may not generalize to pregnant patients with mild/moderate GPP, or women at high risk of miscarriage, in whom the risk-benefit profile of biologics remains uncertain.

Conclusion

In summary, this case highlights the potential of spesolimab as a safe and effective therapy for refractory GPP during early pregnancy, achieving rapid disease control.

Data Sharing Statement

Data supporting the findings of this study are available from the corresponding author upon reasonable request.

Ethics Approval

Institutional approval was obtained for the study and for the publication of the case details by Hospital of Chengdu University of Traditional Chinese Medicine.

Consent for Publication

The patient had signed informed consent and provided written informed consent for publication of anonymized clinical details and images. No identifiable information is included in this report. This article adheres to the applicable CAse REport (CARE) guidelines.

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Disclosure

The authors report no conflicts of interest in this work.

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