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Case Report

Treatment of generalized pustular psoriasis in pregnancy with systemic corticosteroid: A rare case report

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ABSTRACT

Introduction: and importance: Generalized pustular psoriasis of pregnancy (GPPP) is a rare dermatosis that causes maternal and fetal morbidity and mortality. Pustular psoriasis of pregnancy (PPP) is a challenging dermatological Condition, which can have impact on the life pregnant woman’s and her unborn child’s life.

Case presentation: Here we report a 26-year-old woman with a history of persistent plaque psoriasis presented with generalized pustular lesions. Ultrasonography revealed normal fetal development despite high serum ESR and CRP levels. Pustular psoriasis was confirmed by histopathology. The patients were given systemic prednisolone 32 mg once daily, which was raised to 60 mg once daily on the tenth day of treatment to manage fresh outbreaks, and the patient’s rash continued to gradually improve. When the lesions faded after 4 weeks of treatment, the dose was reduced to 16 mg/day. At 31 weeks’ gestation, the patient was discharged and she was kept on prednisolone at a low dose of 4 mg once daily for the duration of the pregnancy.

Clinical discussion: Generalized pustular psoriasis of pregnancy (GPPP), herpetiformis, is a less common form dermatosis that can be fatal for both mother and the fetus. Response to treatment is good when initiated early in the course of the disease. This present case shows young pregnant mother with GPPP successfully treated with systemic corticosteroid.

Conclusion: Contrary to the majority of other common pregnant dermatosis, pustular psoriasis is an uncommon condition that can have harmful effects on the fetus. Our patient’s PPP symptoms included systemic ones as well as body and palm involvement. Close monitoring and administration of systemic corticosteroids ensured secure outcomes.

1. Introduction

Generalized pustular psoriasis of pregnancy (GPPP), formerly known as Impetigo herpetiformis, is a rare dermatosis that causes maternal and fetal morbidity and mortality. Widespread, round, erythematous plaques with pustules at the periphery indicate this condition [1].

The first case of GPPP was recorded in 1966, and it is a very rare illness. In the European and American literature since 2000, only 350 cases of GPPP have been recorded [2].

It is difficult to treat successfully due to its low incidence and inadequate understanding of its pathophysiology. The condition has grown less lethal as new medications have become available [3]. We report a case of GPPP of 26-year old female treated with systemic corticosteroid.

2. Case presentation

A 26-year-old woman arrived in our dermatology clinic with a two-week history of widespread pustular lesions in the 27th week of her fifth pregnancy. She had psoriasis vulgaris, with which she had been diagnosed two years earlier and treated with topical steroids. Prior to the advent of the skin lesions, she had no other illnesses or drugs in her medical background. There is no family history of the disease. The patient presented with a high temperature, tiredness, tachycardia (110 beats per minute), and normotensive when admitted. Her body weight was 95 kg, and she had lesions all over her body.

On dermatological examination, numerous pustules on erythematous plaques consolidate to create clusters on the back (Fig. 1). The arms (Fig. 2) and legs (Fig. 3) were also involved. The mucosa of the mouth...
was normal. There was no arthralgia or arthritis coexistence. According to a punch biopsy (Fig. 4), the pustular lesions had neutrophilic subcorneal pustules, which was consistent with spongiform pustules. The patient was diagnosed with generalized PPP based on these clinical and histological findings. Serological tests for hepatitis and human immunodeficiency viruses, as well as gram staining and bacterial cultures of pustules, blood, and urine cultures, were negative. There was no evidence of an infectious source.

An obstetric evaluation found no fetal abnormalities and a normal volume of amniotic fluid on ultrasonography. There was anemia and a slightly elevated leukocyte count were discovered during a routine laboratory check. Her erythrocyte sedimentation rate (55 mm/h [reference range, 20 mm/h]) and C-reactive protein level (20.8 mg/L [reference range, 6 mg/L]) were both high. Because her condition was so severe, she was prescribed systemic prednisolone 32 mg once daily, which was raised to 60 mg once daily on the tenth day of treatment to manage fresh outbreaks, and the patient’s rash continued to gradually improve. When the lesions faded after 4 weeks of treatment, the dose was discharged and she was kept on prednisolone at a low dose of 4 mg once daily for the duration of the pregnancy. The woman sought gynecological care on her own at 38 weeks of pregnancy, concerned about decreasing fetal movements. There was no fetal heartbeat, according to clinical examination and ultrasound. Labor was induced vaginally once the stillbirth was discovered. At this time, however, the patient recovered from the erythematous patches. This case has been reported in line with the SCARE 2020 criteria [11].

3. Discussion

Pustular psoriasis of pregnancy is characterized by an abrupt eruption of erythematous plaques with pustules at the edges, typically in the third trimester, though it has also been seen in the first month [4]. Individuals have peripheral scaling, sterile pustules, and erythematous plaques. There may be systemic symptoms such as fevers, lethargy, diarrhea, and discomfort [5].

A well-documented history of psoriasis is present in a sizable number of cases. When there is no personal or familial history of psoriasis, it is debatable whether it reflects a pustular form of psoriasis or a different entity connected to pregnancy [6]. Sepsis, hypocalcaemia-related tetany, placental insufficiency, and higher fetal morbidity and mortality have all been linked to GPPP [7]. Lesions begin in skin folds and spread centrifugally, affecting the entire skin surface in certain cases, according to clinical examination. Fever, diarrhea, dehydration, tachycardia, and seizures are all possible symptoms. Leukocytosis, an elevated ESR, and a negative bacterial culture of pustules and peripheral blood stand out in the laboratory parameters. Calcium, phosphate, and albumin levels may be lowered [8]. Spongiform pustules with neutrophil...
infiltration into the epidermis are frequently found during biopsies [9]. The presence of erythematous, coalescent plaques with small pustules at the margins and central erosions in our patient, as well as histologic findings of subcorneal pustules with mild epidermis acanthosis with spongiosis and a sparse neutrophilic infiltrate into the dermis, all supported the diagnosis of GPPP. Leukocytosis and an increased ESR, which are frequently observed in GPPP, were also identified in laboratory tests.

Pustular psoriasis, dermatitis herpetiformis, erythema multiforme, pustular subcorneal dermatosis, and gestational pemphigoid are a few other differential diagnoses [8].

Mothers and fetuses are frequently threatened by IH. Unrecognized and unmonitored cases of maternal complications, which include delirium, tetany from hypocalcaemia, and convulsions, may occur. The effect on the fetus is more severe, primarily because of placental insufficiency. Stillbirth, neonatal death, and fetal abnormalities are the three main fetal risks [5].

Although their effectiveness in controlling the illness varies, systemic corticosteroids are regarded as the gold standard in the treatment of GPPP. Prednisolone is used in the most typical plan at a dosage of 15–30 mg per day, with refractory cases requiring an increase to 80 mg per day. Despite not being teratogenic, prednisolone has a small number of incidences of macrosomia, gestational hyperglycemia, and preterm membrane rupture [6].

We gave the patient systemic prednisolone 32 mg once daily, which was raised to 60mg once daily on the tenth day of treatment to manage fresh outbreaks and the patient’s rash continued to gradually improve. Current steroid and antibiotic therapy has significantly decreased the number of maternal fatalities. However, due to placental insufficiency, early membrane rupture, premature labor, and intrauterine growth restriction, the risk of stillbirth and neonatal mortality remains significant [10].

Provenance and peer review

Not commissioned, externally peer-reviewed.

Ethical approval

Ethical approval is not required for case reports in our institution. However, written informed consent was obtained from the patient for the publication of this case report and the accompanying images.

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Author contributions

AIA and MMA involved in patient care, collected data, and performed a literature review. MSH, HAM and AIA performed literature, wrote the manuscript and also contributed to the patient care. All authors reviewed and approved the final version for submission.

Registration of research studies

N/A.

Guarantor

Ahmed Isse Ali, Corresponding Author of the manuscript.

Consent

Written informed consent was obtained from the patient for the publication of this case reports and the accompanying images.

Declaration of competing interest

No conflict of interest was declared by the authors.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.amsu.2022.104568.

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