CASE REPORT

The Burning Mother: Pustular Psoriasis with Anemia in Pregnancy: A Case Report

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Abstract

Aim: To convey a detailed account of the successful management of a 36-week pregnant woman with pustular psoriasis, including the diagnostic process, treatment plan, and outcomes. To describe the challenges and considerations involved in managing psoriasis in pregnant women as well as the importance of a multidisciplinary approach to care.

Background: Psoriasis affects 1–3% of the pregnant population worldwide and 2–3% of the pregnant population in India. Pustular psoriasis, a rare form of psoriasis in pregnancy may have significant adverse fetomaternal outcomes and require close surveillance throughout pregnancy. The management of generalized pustular psoriasis during pregnancy can be challenging for the treating physician. The unpredictability of the pregnancy outcome coupled with the lack of data on the safety of drugs to treat the disease can be a danger to public health. Hence, improving the fetal outcome by alleviating the symptoms of the mother while considering the risks of drugs is of utmost importance.

Case description: Our case study highlights generalized pustular psoriasis in third-trimester pregnancy successfully treated with systemic steroids and cyclosporine. Systemic prednisolone 32 mg intravenous once a day and oral cyclosporine 2 mg/kg showed significant symptomatic improvement and controlled the flare-up. Timely intervention with decision to terminate pregnancy at 37 weeks by medical induction with strict fetal surveillance throughout the course of pregnancy has helped us achieve this outcome.

Conclusion: Combination of systemic steroids and cyclosporin along with topical calcipotriol maybe used in severe cases. Also, physicians should be aware of the different course of outcomes in subsequent pregnancies in a patient with a known case of psoriasis as seen in our case study.

Clinical significance: By sharing this case, it is hoped that healthcare professionals can gain insight into effective strategies for managing psoriasis in pregnant women, and ultimately improve patient outcomes.

Keywords: Case report, Challenges in psoriasis, Managing psoriasis, Pustular psoriasis in pregnancy.

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Background

Psoriasis is a chronic, inflammatory autoimmune disease that affects the skin, nails, and joints. It usually develops during the second to fourth decade of life and is T helper 1 (Th-1) mediated. While pregnancy can modify the response to skin diseases, its effect on psoriasis is guarded, as it worsens in 15% of cases. Pustular psoriasis is a rare form that is associated with a higher risk of adverse fetomaternal outcomes compared to other variants, and its manifestation is influenced by genetic and environmental factors.[1–3] Arthritis, cardiovascular diseases, metabolic disturbances, and depression increase maternal complications.[3]

Fetal complications commonly associated with psoriasis are fetal malformations, weight-related disturbance, stillbirth, preterm labor, and a higher need for operative delivery.[3] Fetal loss in psoriasis is uncommon. However, the stillbirth risk is slightly higher in pregnant women with psoriasis. Early detection, diagnosis, and strict fetal surveillance are essential for a favorable outcome.[4,5]

Case Description

A 23-year-old G2P1L1 at 35 weeks and 3 days of gestation presented with fever and skin lesions on the neck and axilla for 4 days. The patient developed multiple erythematous plaques with pustular eruptions which first appeared on the neck, progressed to involve the chest, trunk, bilateral upper and lower limbs, and the groin region over 2 weeks, and were associated with psoriasis and burning sensation over the face and body. The patient was a known case of chronic pustular psoriasis and had acute flare-ups, which subsided after brief medical treatment. She had moderate anemia with intermediate G6PD deficiency and was advised to take oral iron

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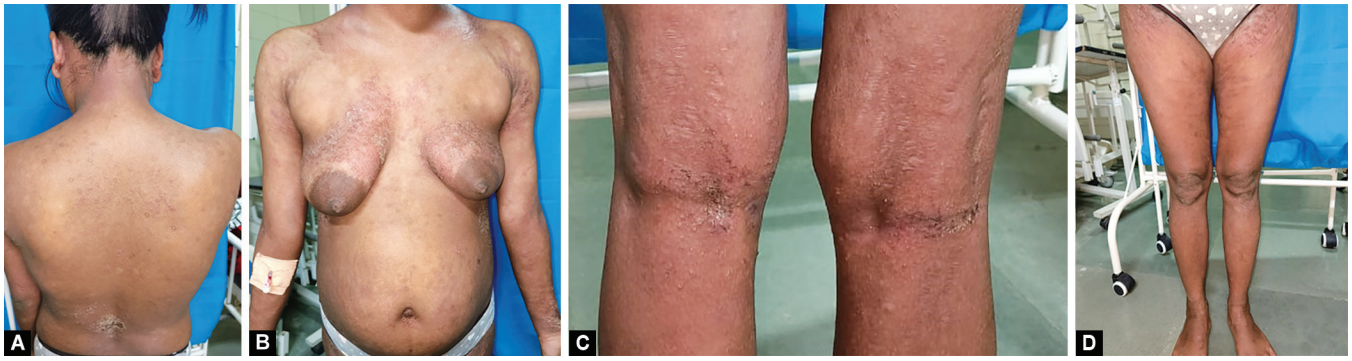
Conflict of interest: None

Patient consent statement: The author(s) have obtained written informed consent from the patient for publication of the case report details and related images.



Figs 1A to D: Multiple lesions dry, scaly erythematous over the following areas after delivery. (A) Scalp and lumbosacral region; (B) Neck, axillae, flexure of upper limbs, and chest; (C) Knees and popliteal region; (D) Groin, thighs, lower limbs, and feet

therapy at 32 weeks. Her previous pregnancy was uneventful and she delivered a healthy baby by full-term normal vaginal delivery. Her family history was insignificant.

On presentation, she had a temperature of 101°F, pulse rate of 102 bpm, and blood pressure of 130/80 mm Hg. Her examination revealed multiple pustules over well-defined erythematous plaques over neck and became generalized over 2 weeks. Her systemic examination was normal. Her obstetric examination showed a 34-week-size uterus with fetal tachycardia. The patient had reduced fetal movements in the first week of presentation and was monitored throughout with a non-stress test (NST) and biophysical profile. Her obstetric scan with Doppler study done at 35 weeks showed a normal study.

A multidisciplinary team was involved in the management of this patient. She was started on a topical ointment containing calcipotriol 0.005% w/w which was applied locally twice daily and tab Betamethasone 10 mg twice weekly. On the third day, as the symptoms worsened, systemic steroids were considered. The patient complained of reduced fetal movements while the lesions rapidly progressed to involve the upper limbs, trunk, and groin on the fifth day. Injection dexamethasone initially started at 1.5 cc intravenous and was increased to 2 cc over 24 hours daily. On the twelfth day, fresh outbreaks appeared over the flexor surfaces of bilateral limbs, lumbosacral region, and postauricular region and she was started on injection methylprednisolone 32 mg (0.8 mL) once daily and tablet cyclosporin 2 mg/kg/day was added. The patient was kept under close fetal surveillance during this course of treatment. After taking informed consent, medical induction was planned at 37 weeks and she delivered a healthy baby of 2.8 kg.

The patient symptomatically improved after delivery. Methylprednisolone was changed to systemic dexamethasone 2 cc at the time of induction and was given daily over 24 hours. The lesions had dried up, and the systemic treatment was gradually tapered. Her lab investigations on admission showed hemoglobin (Hb) of 9.3 g% after oral iron therapy with leukocytosis. Her routine investigation was within normal range. Her special blood profile showed a deranged lipid profile with hypercholesterolemia and increased triglyceride levels (Figs 1 and 2).

Postpartum period was uneventful and patient was discharged to follow-up on outpatient department (OPD) basis.

Discussion

Psoriasis is estimated to affect 2–3% of pregnant women in India, while the estimated incidence of psoriasis worldwide is 1–3%.[1,2]

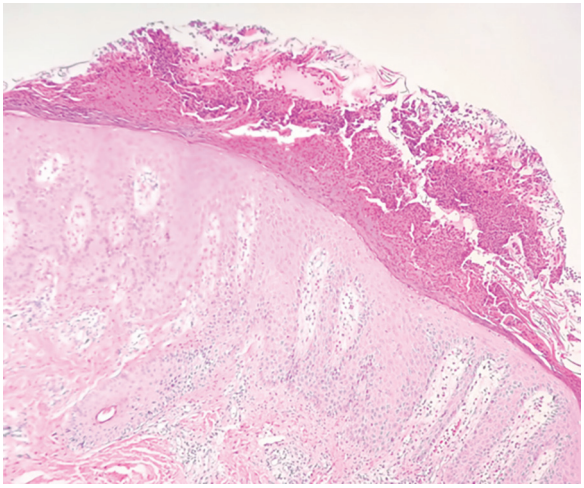


Fig. 2: Skin biopsy showing epidermal psoriasiform hyperplasia with parakeratosis of stratum corneum. Also seen are subcorneal pustules along with dilated and tortuous vessels in dermal papillae (H&E, 100×)

During pregnancy, physiological changes occur, and women with psoriasis may experience a flare-up of their symptoms. However, the impact of psoriasis on pregnancy outcomes is unpredictable.[1] Women with psoriasis had a non statistically significant increased risk of intrauterine fetal death.[2] The causal factors for this difference are unclear and require further investigation. Given the limited evidence regarding the safety of drugs used to treat psoriasis during pregnancy, strict fetomaternal surveillance is recommended throughout the pregnancy to ensure optimal outcomes.[2,3]

Preconception counseling is of paramount importance, and it is advisable to minimize flare-ups during pregnancy by encouraging to conceive during the remission period. With no established standard therapy for psoriasis in pregnancy, careful consideration of the individual cases is necessary when deciding to treat psoriasis and how to manage treatment options. The primary goal is to achieve optimal disease control with minimal adverse effects.

Topical treatments such as emollients and topical steroids are usually the first line of treatment. The US Food and Drug Administration (FDA) classifies these topical preparations as category C.[4] In some cases, phototherapy maybe considered as a safe alternative.[4] Calcipotriol 0.005%w/w is a topical medication that contains a synthetic form of vitamin D3. It slows down the growth of skin cells and reduces inflammation hence making it useful for

the treatment of plaque psoriasis. It is classified as a category-C drug. Few animal studies have raised the possibility of skeletal deformities and ossification defects in fetuses.[4] In our case report, the patient applied the medication twice daily to the affected area of skin from the time of lesion development until the postpartum period. The most common side effects of this ointment include skin redness and peeling, which are generally resolved on their own. The use of adequate moisturizers or emollients can help reduce these side effects. It is important to use this medication only as directed and to avoid using it on larger areas of skin than prescribed or for longer than recommended.

Systemic treatments are reserved for severe cases that do not respond to topical treatments or phototherapy.[4] However, they may pose risks to the developing fetus. Cyclosporine, an immunosuppressive drug has been shown to be safe during the second and third trimesters of pregnancy. It is classified as category C by the FDA, and while it has no teratogenic effects, animal studies have shown renal toxicity that could affect T-cell development. The recommended standard dose is 2–3 mg/kg/day.[4] In our case study, the patient was started on 2 mg/kg/day of cyclosporine, and the symptoms improved without any adverse pregnancy or fetal outcomes.

Systemic steroids have gained momentum as a treatment for severe psoriasis in pregnancy, particularly impetigo herpetiformis.[4] Concerns have been raised about the association of systemic steroids with obstetric complications such as preterm birth, low birth weight, preeclampsia, gestational diabetes mellitus, and facial defects.[4] In our case study, the patient was given systemic methylprednisolone 32 mg once daily starting on the 12th day to control generalized psoriasis in combination with cyclosporine, and the symptoms significantly improved. The patient was gradually tapered off the medication. Therefore, the use of systemic steroids helped to control this severe presentation.

In our study, a calculated decision was made to induce labor at 37 weeks in a patient with pustular psoriasis to avoid unwanted complications such as placental insufficiency and fetal demise. The patient was closely monitored throughout labor. The patient delivered a healthy baby weighing 2.8 kg by normal vaginal delivery with no postpartum complications.

Conclusion

The management of psoriasis during pregnancy requires a careful and individualized approach, taking into account the severity of the disease, gestational age, associated risk factors, and the availability of resources. Counselling alongside a multidisciplinary approach is important for successful outcome.

In our case study, our patient experienced flare-ups during her second pregnancy, raising questions about environmental triggers or immunological differences in subsequent pregnancies.

While some systemic treatments may be safe during pregnancy, they should be used with caution, and close monitoring is essential to ensure the best possible disease control with minimal adverse effects. Systemic steroids and cyclosporine can be used safely to alleviate severe symptoms during the third trimester, and prompt delivery after identification and treatment is recommended. Future studies are needed to determine the impact of different therapeutic options for psoriasis during pregnancy.

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