Pruritic Urticarial Papules and Plaques of Pregnancy Developing in a Gravida having Overt Diabetes with Hypothyroidism, Pre-eclampsia and Anemia

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ABSTRACT

Specific dermatoses of pregnancy refer to a group of skin diseases that are encountered predominantly during or immediately following pregnancy. This is a case report of pruritic urticarial papules and plaques of pregnancy developing in a 29-year-old lady primigravida lady is associated with overt diabetes with hypothyroidism, pre-eclampsia and anemia. The diagnosis of PUPPP is a clinical one, as the histopathology is often nonspecific and the direct immunofluorescence is negative. She responded to treatment with antipruritic topical medication, topical steroid and oral antihistamine. Prompt and effective management is very important in decreasing maternal and fetal mortality and morbidity when we come across a pregnant mother with multiple problems.

Keywords: Pruritic urticarial papules and plaques of pregnancy (PUPPP), Herpes gestationis (HG), Prurigo of pregnancy (PP), Pruritic folliculitis of pregnancy (PFP), Corticosteroids.

INTRODUCTION

Specific dermatoses of pregnancy refer to a group of skin diseases that are encountered predominantly during or immediately following pregnancy and include only those skin diseases that result directly from the state of gestation or the products of conception. These include pruritic urticarial papules and plaques of pregnancy (PUPPP), herpes gestationis (HG), prurigo of pregnancy (PP) and pruritic folliculitis of pregnancy (PFP).

CASE REPORT

A 29-year-old primigravida woman with 32 weeks' gestation admitted with complaints of headache since 15 days and swelling of lower limbs since 5 days. She is a known case of hypothyroidism since 2 years of treatment with thyroxin 200 μg per day and also she diagnosed diabetic since one year on insulin. On examination there was pallor, blood pressure was 150/90 mm Hg and BMI was 35 kg/m^2. Obstetric examination showed 32 weeks uterus and normal fetal heart sounds. Her investigation revealed hemoglobin level was 6 gm/dl, hypochromic and microcytic blood picture and platelets count, renal and liver function tests were normal. Diagnosis of primigravida on 32 weeks' gestation with overt diabetes with hypothyroidism, pre-eclampsia and anemia was made.

Patient was hospitalized and treatment started. Methyl dopa given as antihypertensive and 3 units of packed cells blood transfused for correction of anemia. Insulin and thyroxin treatment was continued. Maternal investigations for progress of pre-eclampsia, blood glucose monitoring and fetal well-being tests were done regularly. Blood pressure and blood sugars were under control. Patient developed itchy erythematous, urticarial papules and plaques skin lesions at 35+0 weeks of gestation on the abdomen and upper and lower limbs (Figs 1 and 2). Dermatology consultation was taken and diagnosis of PUPPP was made. She was given calamine lotion and steroid for local application and oral antihistaminic Cetirizine 10 mg once daily. The patient is relieved of itchy skin lesions within a week with

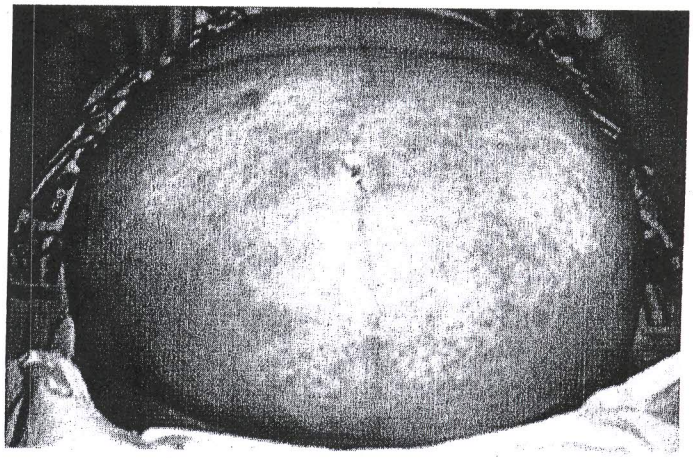

Fig 1: Erythematous, urticarial papules and plaques skin lesions on the abdomen

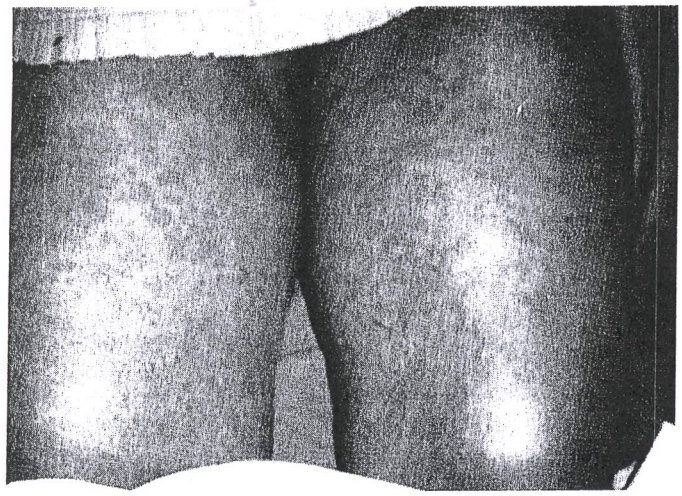

Fig. 2: Erythematous, urticarial papules and plaques skin lesions on the thighs

this treatment. At 36+0 weeks of gestation, the patient developed labor pains and delivered by cesarean section in view of contracted pelvis with good fetal outcome. Postoperative period was uneventful and she was discharged on 8th postoperative day.

DISCUSSION

Pruritic urticarial papules and plaques of pregnancy is the most common specific dermatosis of pregnancy; its incidence ranges between one in 130 pregnancies and one in 300 pregnancies.[1] The condition occurs predominantly in primigravidas in the third trimester (mean onset, 35 weeks of gestation) and exceptionally postpartum. Recurrence in subsequent pregnancies is uncommon. The eruption is commonly pruritic erythematous, urticarial papules and plaques, and at times polymorphous, showing urticarial and at times, vesicular, purpuric, polycyclic or target lesions.[2] Microvesiculation may appear but frank bullae are very rare. The lesions usually begin over the abdomen, commonly developing within the striae gravidarum and characteristically show periumbilical sparing. The lesions can spread to the breasts, upper thighs, and arms sparing the face, palms, soles, and mucosal membranes. The rash typically resolves before or one to two weeks after delivery. PUPPP is not associated with adverse maternal or fetal outcomes.

The diagnosis of PUPPP is a clinical one, as the histopathology is often nonspecific and the direct immunofluorescence is negative. Skin histopathology reveals a nonspecific perivascular lymphohistiocytic infiltrate with some edema and eosinophils in the dermis. PUPPP can manifest with urticarial and vesicular lesions that are almost indistinguishable from those of HG, although PUPPP classically begins in the abdominal striae and spares the umbilicus. A skin biopsy for direct immunofluorescence should be done when necessary to differentiate PUPPP from the urticarial form of HG and which is negative in PUPPP, a finding considered helpful to differentiate this entity from herpes gestationis.[2] Direct immunofluorescence of perilesional skin shows C3 with or without IgG in a linear band along the basement membrane zone in herpes gestationis. BP180 NC16a ELISA has also been suggested as a rapid routine diagnostic tool in differentiating between PG and PEP, as it is fast to perform and highly specific and sensitive. Urticarial lesions suggest PUPPP or HG, whereas vesicular lesions can be seen in herpes gestationis, herpes simplex/zoster, eczema, and occasionally in PUPPP. PUPPP is distinguished from pruritic folliculitis of pregnancy on the basis of the follicular nature of the lesions (follicular papules and pustules) and histopathologic features of folliculitis in the latter. Prurigo of pregnancy clinically presents with groups of red excoriated or crusted pruritic papules over the extensor surfaces of extremities and occasionally, on the abdomen and begins earlier in pregnancy, lacks urticarial lesions, persists throughout pregnancy, and may recur with subsequent pregnancies. Differentiation between PUPPP and intrahepatic cholestasis of pregnancy is feasible through a detailed clinical history, absence of primary skin lesions in intrahepatic cholestasis of pregnancy, serology, and recurrence in subsequent pregnancies in intrahepatic cholestasis of pregnancy. Drug rashes need to be excluded. Generalized PUPPP may resemble a toxic erythema or atopic dermatitis. Viral exanthemas are usually seen within the context of associated symptoms.

The pathogenesis of PUPPP has not been established but the immunohistologic profile (T-helper lymphocytes, dermal dendritic cells, and epidermal Langerhans cells) suggest a delayed hypersensitivity reaction to an unknown antigen. Other authors have proposed that rapid abdominal wall distention in primigravidas may trigger an inflammatory process; this theory has been supported by the association between PUPPP and multiple-gestation pregnancy, excess maternal weight gain and fetal macrosomia.[3]

Mild PUPPP can be treated with antipruritic topical medications, topical steroids, and oral antihistamines. In cases of extreme pruritus, a short course of systemic corticosteroids may be necessary.[4] Ultraviolet (UVB) therapy is occasionally helpful. Early delivery in cases of intractable pruritus has been debated.

This case is reported because of an interesting, unusual and high-risk gravida with multiple medical problems with PUPPP with good maternal and fetal outcome. Prompt and effective management is very important in decreasing maternal and fetal mortality and morbidity when we come across a pregnant mother with multiple problems.

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