A rare case of a pregnant lady presenting with recurrent blisters and bullae: a case report of pemphigoid gestationis

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Received: 28 April 2020
Accepted: 21 June 2020

Pemphigoid gestationis is an unusual autoimmune dermatosis of pregnancy, and recurrences may occur in consequent pregnancies. This dermatosis begins with intense itching, which progresses to papules and annular plaques and, consequently, vesicles and tense bullae. These lesions typically arise from the umbilical region then spread centrifugally to the abdomen, thighs, palms, and soles. Diagnosis is based on clinical examination and immunohistopathologic studies. Here, we report the case of a 29-year-old women who developed recurrent pemphigoid gestationis in her second pregnancy and the postpartum period in 2020. The condition initially manifested during her first pregnancy in 2014. She was successfully treated with oral prednisolone and the local application of betamethasone cream. Pruritic skin lesions are a common complaint among pregnant women. Clinicians should be aware of autoimmune dermatosis of pregnancy, its fetomaternal and neonatal complications, and its possibility of recurrence in subsequent pregnancies.

Keywords: autoimmune, pemphigoid gestationis, prednisolone, pregnancy

Iran J Dermatol 2021; 24: 354-357

DOI: 10.22034/ijd.2021.144078

INTRODUCTION

Pemphigoid gestationis is a rare autoimmune dermatosis of pregnancy and the puerperium period [1]. However, recurrences may also occur in subsequent pregnancies [2]. Skin manifestations may arise during the first trimester up to the postpartum period, although typically seen in the second or third trimester [3]. This dermatosis begins with intense itching, which leads to eruptions of papules, annular plaques, vesicles, and tense bullae. These lesions normally arise from the umbilical region and spread centrifugally to the abdomen, thighs, palms, and soles [4]. Diagnosis is based on clinical examination and immunohistopathologic studies. Failure to identify this dermatosis in pregnancy may lead to inadequate treatment, maternal morbidity, a higher risk of fetal complications due to placental insufficiency, and development of neonatal pemphigoid gestationis [5].

In light of the mentioned factors, this case report intends to generate awareness among family physicians and other clinicians of this rare, possibly recurring autoimmune dermatosis occurring in pregnancy.

CASE PRESENTATION

A 29-year old Malay woman presented on day 16 postpartum after her second pregnancy with multiple fluid-filled blisters and bullae since day three, involving her abdomen, bilateral upper limbs, and thighs. She had a history of having similar lesions during the second trimester of her first pregnancy in 2014, which resolved after delivery. She had no other antenatal and postnatal complications and successfully delivered a healthy baby girl weighing 2.7 kilograms at term. She was

diagnosed as having pemphigoid gestationis in her first pregnancy, confirmed by a skin biopsy and direct immunofluorescence. Her histopathology revealed subepidermal bullae with lymphocytic and eosinophilic infiltrates in a perivascular distribution within the dermis (Figure 1), while direct immunofluorescence showed complement component 3 (C3) deposition in a linear band along the basement membrane.

During the second pregnancy, she started having similar lesions at 12 to 20 weeks of gestation. She sought medical treatment at the emergency department and was given oral prednisolone 30 milligrams daily for two weeks. Upon completion of the prednisolone treatment, her condition improved, and there were no new blister formations. Reminiscent of her previous pregnancy, she had no other antenatal and postnatal complications and delivered a healthy baby girl weighing 2.5 kilograms at term without any cutaneous manifestations. On day three postpartum, she started developing multiple pruritic papulovesicular lesions starting from her periumbilical region, which spread to the rest of her abdomen and bilateral upper and lower limbs. The lesions then evolved into blisters and bullae. She attempted to rupture a few blisters and bullae at home, which drained minimal serous fluid. On presentation, the lesions included erythematous papules, hyperpigmented patches, blisters, and tense bullae over her abdomen, bilateral thighs, arms, forearms, and hands (Figure 2A-C). There was no mucosal and face involvement.

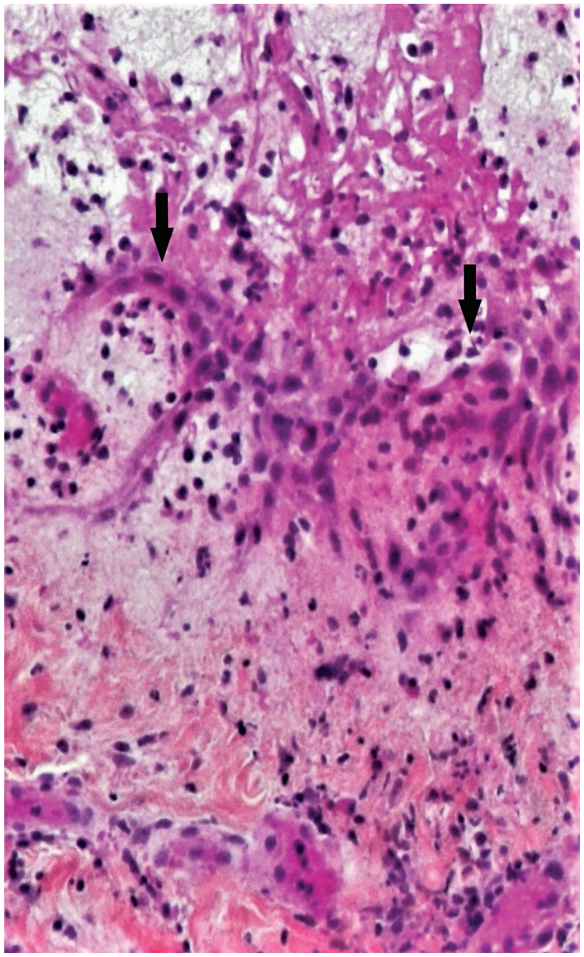

Figure 1. A skin biopsy showing subepidermal bullae with lymphocytic and eosinophilic infiltration (arrow) (hematoxylin-eosin stain, original magnification ×400).

The patient was started on oral prednisolone 60 milligrams daily, oral loratadine 10 milligrams daily, and topical application of fusidic acid and betamethasone valerate cream twice a day. On follow-up two weeks later, she had no new skin lesions, and the pruritus had significantly improved. Her prednisolone dose was then tapered down to 40 milligrams daily for one week, followed by 20 milligrams daily over the next week. At the time of this case presentation, she achieved remission and has not developed any flares.

DISCUSSION

Pemphigoid gestationis (PG), previously known as herpes gestationis, is a rare autoimmune dermatosis of pregnancy and the puerperium period. The estimated incidence of PG is 1 in 10,000 – 60,000 pregnancies [1]. The median age of involved women ranges from 17 to 41 years, with a median onset at 26 to 32 years [6].

As in this case, it is common for recurrences to occur in consequent pregnancies, which are usually at an earlier onset and more severe than the previous presentation. According to the literature, 35 to 50% of women were reported to have recurrences of PG [2]. However, there are also reports of no recurrence following an affected pregnancy [4].

The exact pathogenesis of PG remains unknown but is analogous to that of bullous pemphigoid. The formation of skin lesions and bullae is due to the deposition of autoreactive antibodies against two proteins, BP180 and BP230, located in the dermo-epidermal junction [2,7]. PG is also thought to be

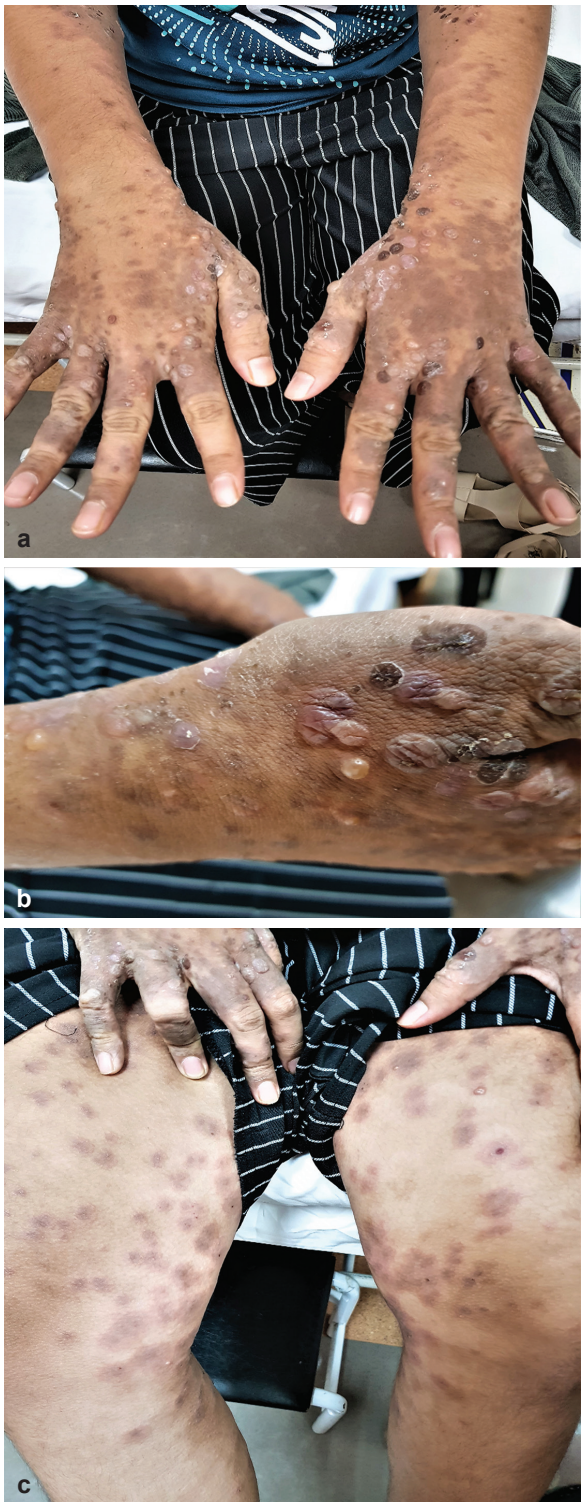

Figure 2. Appearance of the various stages of pemphigoid gestationis. Lesions include blisters, bullae, burst bullae, and hyperpigmentation on bilateral upper limbs (a), Bullae and ruptured bullae on the hand (b), Hyperpigmentation seen on both thighs (c).

associated with maternal major histocompatibility complex (MHC) class II human leukocyte antigens (HLA) B-8, DR3, and DR4 [1,2,5]. Besides, sex hormones are also believed to have a role in the pathogenesis of PG, evidenced by exacerbations during menstruation and administration of oral contraceptives [5].

The cutaneous manifestations of PG begin with severe pruritus, which then develops into papules and annular plaques trailed by vesicles and tense bullae formations on the umbilical region, abdomen, thighs, palms, and soles. The face and mucosa are often sparred [4,5].

The diagnosis of PG is often made from clinical examination and immunohistopathologic studies such as direct immunofluorescence, indirect immunofluorescence, and enzyme-linked immunosorbent assay (ELISA). Direct immunofluorescence, however, remains the gold standard [8]. The histopathological examination will demonstrate eosinophilic spongiosis, subepidermal blisters, and dermal infiltration of lymphocytes and eosinophils [1,6]. Direct immunofluorescence shows linear deposition of C3 and immunoglobulin G (IgG) along the basement membrane zone.

Among the differential diagnoses that must be considered are the other pregnancy-specific dermatoses such as polymorphic eruption of pregnancy, atopic eruption of pregnancy, and intrahepatic cholestasis of pregnancy. In addition, conditions such as urticaria, drug hypersensitivity reactions, eczemas, contact dermatitis, folliculitis, tinea, scabies, and pityriasis rosea should also be considered.

Pemphigoid gestationis occurring during pregnancy has a higher risk of fetal complications such as spontaneous abortions, premature birth, small gestational age, and low birth weight due to placental insufficiency [5]. Earlier onset of PG was found to correlate with greater adverse outcomes [9]. Neonatal PG, which manifests as urticaria or vesicular-like lesions, occurs in 2.8 to 10% of infants born to mothers with PG due to antibody transfer but remits spontaneously within days to weeks as antibody titers drop [5,10].

Pemphigoid gestationis is a self-limiting disease that remits prior to delivery or within weeks after delivery. The treatment goal in PG is to relieve pruritus and prevent the formation of new blisters. Depending on the severity of PG,

the treatment varies. Mild cases may respond to topical corticosteroids, while some may warrant oral corticosteroids [5,8]. Oral prednisone or prednisolone can be commenced at a low dose of 0.3 to 0.5 mg/kg body weight, gradually tapered down to 5 to 10 mg/day [5,8]. Oral antihistamines can be given to control pruritus. Pregnant women on corticosteroids have a higher risk of preeclampsia, eclampsia, and gestational diabetes mellitus, meaning that they should be closely monitored. Subsequently, their infants should be observed for adrenal insufficiency. More severe PG may benefit from other immunosuppressants and anti-inflammatory agents depending on gestation and lactation, such as azathioprine, cyclophosphamide, rituximab, methotrexate, dapsone, and intravenous immunoglobulin [3,8].

CONCLUSION

Pruritic skin lesions are a common presenting complaint among pregnant women. It is paramount to keep a wide differential ranging from the usual dermatologic conditions to the rare dermatoses. PG necessitates a detailed physical examination followed by a histopathological examination to ensure prompt treatment while monitoring maternal and fetal well-being. The postpartum period should also be followed up as flares may occur, such as in this case. Upon diagnosis, the affected women should always be counselled on exacerbating factors, possibility of recurrence in the next pregnancy, use of proper contraception, and support for potential psychological distress.

Acknowledgment

The authors would like to thank Dr. Low Dy-Win, Dr. Bint Al-Huda Kamarudin, and Dr. Khairul Fahmi Ahmad from the Dermatology Department, Hospital Sultanah Bahiyah, Alor Setar for their expertise and guidance throughout the case management.

Conflicts of Interest: None declared.

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