

Neutrophilic Dermatositis in Pregnancy: An Uncommon Course

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Abstract

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Pyoderma gangrenosum (PG) is a neutrophilic-mediated inflammatory skin disease characterised by the rapid onset of painful, hemorrhagic pustules developing into necrotic ulcers occurring predominantly in women aged 20-50 years. According to the literature, all patients reported no change or worsening of the disease during pregnancy. We herein present the case of a 34-year-old woman that developed a neutrophilic dermatosis of the hand reporting complete resolution of the skin disease during pregnancy.

Dear Editor,

Pyoderma gangrenosum (PG) is a neutrophilic-mediated inflammatory skin disease characterised by the rapid onset of painful, hemorrhagic pustules developing into necrotic ulcers [1]. PG occurs predominantly in women aged 20-50 years. Its onset can be spontaneous or can be triggered by surgery and traumas (pathergy phenomenon) [2]. To date, only a few cases describing pyoderma gangrenosum during pregnancy have been published, and no therapeutic approaches for the treatment of PG in pregnant women have been validated. According to the literature, all patients reported no change or worsening of the disease during pregnancy, and the majority of them reported immediate postpartum disease flares. We report the case of a 34-year-old woman with a 4-year history of subcorneal pustular dermatosis that came to our attention in 2017 for the onset of an ulcerated lesion with violaceous borders and surrounding erythema on

the right hand. Similar lesions were also present on the lower extremities (Figure 1). According to clinical and histopathological findings were consistent with neutrophilic dermatosis of the hand [3]. The patient performed several traditional topical and systemic therapies: topical and oral corticosteroids (prednisone 50 mg/daily for a month); cyclosporine (150 mg/daily) in association with tacrolimus 0,1% ointment for five months with partial improvement of skin manifestations. On December 2017, the patient informed us that she was in the 7th week of her third pregnancy. So, we decided to interrupt cyclosporine treatment. Complete laboratory and instrumental tests were performed, and no abnormalities were documented. Despite the interruption of therapy, the patient showed a total resolution of the disease during the second trimester of pregnancy. She had a healthful delivery in June 2018 (Figure 2). To date, the patient is still without therapy, and no recurrence of the disease has been noticed [4]. Pyoderma gangrenosum is rarely associated with pregnancy. The underlying mechanism of the association between PG and pregnancy is still unknown, but an

alteration in the immune system during pregnancy might be a common factor. Pregnant women show a progressive neutrophilia during pregnancy, due to the increasing levels of proinflammatory factors, such as granulocyte colony-stimulating factor (G-CSF), granulocyte-macrophage-colony-stimulating factor (GM-CSF) and T helper (Th) - 17, which may explain neutrophil hyper-reactivity [5].



Figure 1: *Pyoderma gangrenosum*. An area of ulceration with violaceous borders and surrounding erythema

According to the literature, a wide range of treatment options for neutrophilic dermatoses is available with usually a positive response and almost complete remission of the disease. As reported in the literature, most cases occurred during the second and third trimester of pregnancy or after caesarean section.



Figure 2: *Outcome of pyoderma gangrenosum after pregnancy*

Our patient reported a complete remission of the disease also after the caesarean section and is, to the best of our knowledge the first reported case with remission of the neutrophilic dermatosis of the hand during and after gravidity. Although several cases regarding the onset of neutrophilic dermatosis during gestation period has already been described, there are no validated guidelines, and consensus in management is lacking.

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