CASE REPORT: AUTOIMMUNE PROGESTERONE DERMATITIS

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Abstract
Autoimmune progesterone dermatitis (APD) is a rare cyclic premenstrual reaction to progesterone produced during the luteal phase of the menstrual cycle. The clinical symptoms of the APD overlap with other forms of dermatosis such as erythema multiforme, eczema, fixed drug eruption, urticaria, and angioedema. APD symptoms usually develop in 3 to 10 days before the menstruation and resolve in 1 to 2 days after the menstruation ceases. Eczema developed on body of a 22-year-old female 7 days prior to her menstrual period. She was diagnosed with allergic contact dermatitis and prescribed with topical steroids. Her skin conditions did not improve and were associated with her menstrual period. An intradermal test using progesterone was performed, which was positive. She was treated with oral danazol and the symptoms were resolved. This is a typical case of APD triggered by increased sensitivity to endogenous progesterone.

Introduction
Autoimmune progesterone dermatitis (APD) is a rare form of hypersensitivity (HS) to progesterone (PG). It is characterized by recurrent skin eruptions during the luteal phase of the menstrual period, coinciding with peak levels of endogenous PG.1 Many manifestations have been reported including cyclical urticaria, vesiculobullous eruptions, erythema multiform, eczema, maculopapular eruptions, purpura/petechiae, and stomatitis.2 The histopathologic findings are non-specific and often correlate with the lesion morphology.3 The pathogenetic mechanism of APD has not yet been known. The APD is diagnosed and confirmed with either an immediate or delayed skin and/or systemic reaction to an intradermal progesterone (IDP) injection. Treatment is generally focused in alleviating the symptoms during each episode and taking oral contraceptive (OCPs).

Case report
A 22 – year – old woman, PARA 0000, having regular menstrual period and no previous medical history. She presented with a 2-year history of pruritic erythema which is located only on her back and closely associated with the menstrual period. The red rash became worse 5 days before menstruation and better 3 days after menstruation. A lichenoid papule is on her back, with a size of 15cmx5cm, clearly demarcated, without scabs, and much itching (Figure 1). She didn’t have vaginal bleeding, no history of using cosmetics or chemicals. Blood test results (complete blood count, basic blood chemistry) were within normal limits. An endodermal test with progesterone 50mg/ml was performed for the patient. The results were positive after 20 min both with 1:10 and 1:100 concentrations (Figure 3). The patient was treated with antihistamines (levcertizin 5 mg/day) and methylprednisolone 16 mg/day. After 2 days of treatment, the itchy papule did not improve. The patient was supplemented with Danazol 200mg/day. After 2 days of Danazol treatment, symptoms and redness were significantly reduced (Figure 2). In the following month, with
Figure 1: Lichen papule on the back: red papule, a lot of itching, appearing 5 days before menstruation.

Figure 2: Lichen papules on the back after 7 days of treatment with Danazol: redness and itching significantly reduced.

Figure 3: Skin prick test with Progesterone (concentration 50mg/ml) was negative.

Figure 4: Intradermal test with progesterone (concentration 5mg/ml) was positive after 20 minutes, edema 12 mm
suppressing ovulation. This patient has full 3 criteria for improvement after inhibiting progesterone secretion by progesterone intradermal test or reproducibility of the criteria. The intradermal test can support the diagnosis of APD based on the symptoms; on the contrary, in asymptomatic women, a positive intradermal test can result in false negative; therefore, this test might not be the most efficient diagnostic criteria for diagnosis of APD.

Treatment of APD is achieved mainly through suppressing ovulation. The first line of therapy is combined with oral contraceptives. The use of GnRH agonists has been reported successful in treatment. Another therapeutic agent used to suppress ovulation and improve symptoms is tamoxifen. Alkylated steroids, such as stanozolol and danazol, have been used to suppress ovulation, occasionally in combination with low dose corticosteroids. In this case, we have prescribed danazol to the patient 7 days before each menstrual cycle to 3 days after their period. The patient had a complete response and no relapse.

Conclusion

Although the condition is rare, APD should be included in the differential diagnosis in females with a recurrent, cyclical, or recalcitrant cutaneous eruption.

References