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A case of hypersensitivity to progesterone presenting as an eczematous eruption

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Summary
Hypersensitivity to progesterone is a rare condition, and it represents a hypersensitivity reaction to endogenous progesterone. Here we report a case of a woman who presented to our attention for evaluation of a rash for a few years on her posterior elbows, forearms, and right lateral lower extremity. We report this case because it describes a rare clinical entity, with an atypical clinical presentation pemphigoid-like, that is rarely described in literature.

Dear Editor,
Hypersensitivity to progesterone is a rare condition that presents as a cyclical cutaneous eruption during the luteal phase of menstruation, and it represents a hypersensitivity reaction to endogenous progesterone (1-8).
Here we report a case of a caucasian woman, 35 year-old, who presented to our attention for evaluation of a rash for a few years on her posterior elbows, forearms, and right lateral lower extremity. The rash also used to appear on her posterior legs. She noted some lesions were fluid filled. The rash was pruritic. Clinically we assumed a bullous pemphigoid-like aspect.
She tried halobetasol, which helped her itching. She also had patch testing performed with a positive reaction to fragrance, so she cut out fragrances without improvement. She noted the rash was worse with sweating and around her menstrual cycle. Her past medical history was positive for GERD, a hiatal hernia, hypothyroidism, seasonal allergies.

In the hypothesis of a hypersensitivity to progesterone because of the relationship between menstruation and the relapsing eruption, we performed a intradermal testing with diluted progesterone in sesame oil 50 mg/ml. Twenty-four hours later, the progesterone arm exhibited persistent erythema and induration; on the contrary, the control arm was clear. A biopsy was taken in the site of positive reaction. The section showed an unremarkable epidermis. There was also a mild upper dermal perivascular lymphohistiocytic infiltrate and oedema. Giemsa stain and CD 117 stain showed increased numbers of mast cells. No eosinophils or plasma cells were seen.
The relationship between the cutaneous eruption and the menstrual cycle and the positivity to intradermal injection of progesterone led us to make a final diagnosis of hypersensitivity to progesterone.
Progesterone sensitivity is a rare clinical entity described in 1964 by Shelley et al: its exact pathogenesis is still unknown.

Figure 1 *- Positive delayed reaction to progesterone injection.*

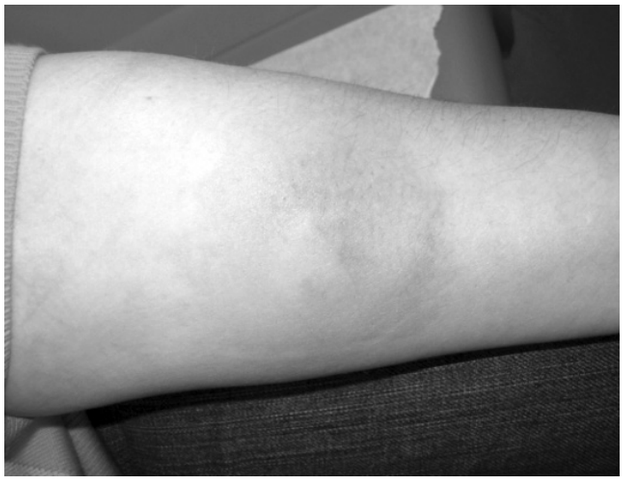
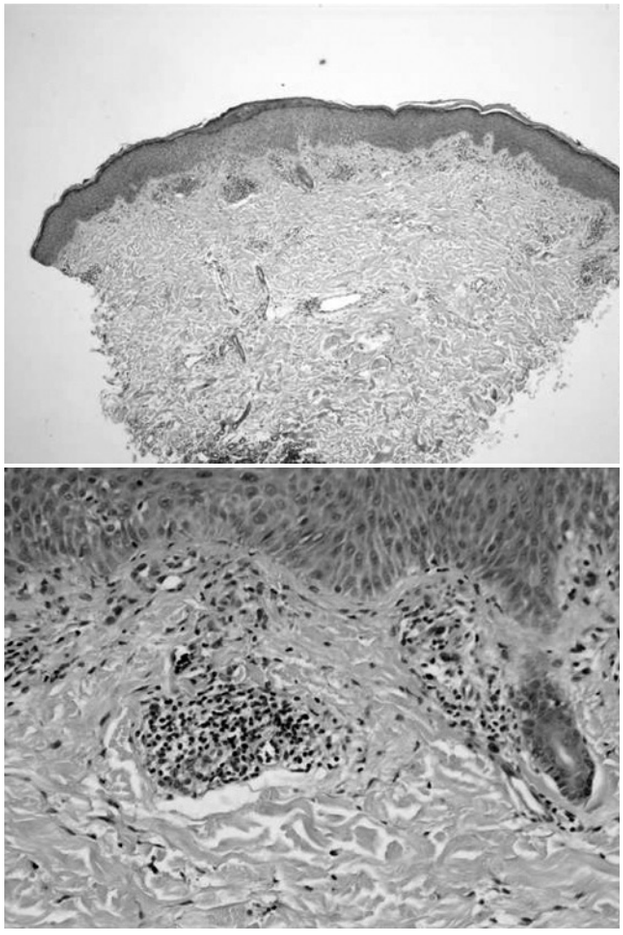


Figure 2 *- Microscopic examination.*



Probably several immuno-mediated mechanisms are involved. It is characterized by a variety of clinical presentations, such as erythema annulare centrifugum, eczematous, fixed-drug-like eruption, and papulo-vesicular eruption. Recurrent erythema multiforme and urticaria are two common reported manifestations of progesterone hypersensitivity. Diagnosis is confirmed by the correlation of clinical eruptions with fluctuations in serum progesterone levels. It is confirmed by an immediate or delayed reaction to progesterone injection. Differential diagnoses include eczematous allergic reaction to other medication and allergic contact dermatitis (1,3).

We report this case because it describes a rare clinical entity, with an atypical clinical presentation pemphigoid-like, that is rarely described in literature.

It is also important that clinicians are well informed about the existence of this clinical entity.

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