



# PRURITIC URTICARIAL PAPULES AND PLAQUES OF PREGNANCY

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Pruritic Urticarial Papules and Plaques of Pregnancy, often referred to as PUPPP, is the most common dermatologic condition occurring in pregnant patients. It has been called many names throughout the years, including Nurse's late onset prurigo, Bourne's toxemic rash of pregnancy, toxic erythema of pregnancy and polymorphic eruption of pregnancy; however all of these terms refer to the same entity.

The condition typically develops in the 3rd trimester of pregnancy or immediately in the postpartum period. Clinically, it appears as an intensely pruritic (itchy) rash consisting of raised, edematous areas of small papules coalescing into larger plaques. The lesions may be surrounded by a lighter halo in fair-skinned patients and usually begin on the abdomen spreading out to the extremities over the course of a few days. Usually the periumbilical region, palms, soles and face are spared. It has the basic appearance of hives, hence the term urticarial. Sometimes they may appear targetoid or with microvesicles but not overt blisters. If blisters are present, one should have a higher degree of suspicion for a different etiology such as **pemphigoid gestationis**.

There is a tendency for the papules and plaques to develop initially within the striae or stretch marks that often occur during pregnancy. This is thought to hint at the possible pathogenesis of the condition, though no specific etiology has been proven. One of the risk factors for the development of PUPPP is rapid, excessive weight gain or multiple gestation pregnancy such as twins. It is thought the rapid stretching of the skin causes an inflammatory reaction due to damaged connective tissue, resulting in the urticarial or hive-like lesions. Another risk factor for developing the condition is simply a woman's first pregnancy, as most of the women who develop PUPPP have never been pregnant before and generally do not have a recurrence of the condition in subsequent pregnancies.

The differential diagnosis includes any skin lesions which also occur in non-pregnant patients, such as drug reactions, viral exanthems, **contact dermatitis** or **scabies** infestation. The most dangerous entity to exclude is pemphigoid gestationis, which resembles PUPPP in its early stages but is associated with a higher risk of fetal prematurity.

PUPPP is often a diagnosis of exclusion, and physicians may obtain laboratory testing in order to rule out other dermatoses. Lab tests may include complete blood count, comprehensive metabolic panel, liver function tests, serum human chorionic gonadotropin and serum cortisol. Additional specialized tests may include serum for indirect immunofluorescence or biopsy of the lesions for direct immunofluorescence to rule out pemphigoid gestationis.

Results of skin **biopsy**, if performed, reveal nonspecific changes with some inflammation and infiltrates around the vasculature, spongiosis and the presence of eosinophils. Direct immunofluorescence testing, when special stains are used to look for the presence of antibodies directed at specific structures in the skin, is usually negative in PUPPP.

Though the rash and pruritus typically disappear within 15 days after delivery even without therapy, women often seek treatment for symptomatic relief due to the intense itching. **Topical corticosteroids** are considered the first line of treatment for PUPPP in cases when the itching is localized, sometimes in conjunction with oral **antihistamines**. For patients with a widespread, intensely pruritic rash or those with inadequate response to topical therapy, a short course of **systemic glucocorticoids** may be prescribed. Other treatments which may provide symptomatic relief include the use of cool, wet compresses and oatmeal baths.

Women who suffer from PUPPP should be reassured that even though the condition is a nuisance, it is not a serious ailment and should resolve soon after delivery. It is important for pregnant patients to know there is no increased risk to the child and there should be no sequelae suffered by the mother or child due to this condition. As always, patients should voice any concerns or

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questions they may have concerning PUPPP to their physician in order to receive care best suited to the individual needs of each patient.

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