Urticaria and Angioedema in Pregnancy and Lactation

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KEYWORDS

• Urticaria • Ordinary • Physical • Hereditary angioedema • Pregnancy • Labor • Delivery

KEY POINTS

- Urticaria is part of the management of pregnancy, labor, and delivery.
- Treatment is necessary because urticaria has an impact on quality of life.
- With certain caveats treatment is similar to that of nonpregnant patients.

URTICARIA IN PREGNANCY

Introduction

Urticaria occurs during pregnancy but urticaria is not a pregnancy dermatosis. Although there are specific pregnancy dermatoses and itching (pruritus) is a pregnancy-related problem, there is no specific pregnancy-related urticaria.[1] There are no data relating to the incidence and prevalence of urticaria in pregnancy. Only one type of hereditary angioedema (HAE), type 3, which is rare and considered hormonally influenced, has presented and exacerbated in pregnancy.[2] One eruption said to exacerbate during pregnancy, autoimmune progesterone dermatitis, is reported by some investigators to have a transient urticarial phase.[1,3] This condition might be considered as part of a differential diagnosis. Any discussion about urticaria and pregnancy is usually related to possible effects on fertility, to the behavior and management of specific urticarias coexisting with pregnancy, to information about treatment, and to treatment given to women planning pregnancy and during pregnancy. Any effects on labor, delivery and breastfeeding are also considerations.

It is vital to differentiate urticaria from itch. Urticaria is defined by whealing, which usually itches. When urticaria is present, however, the situation is dynamic and the whealing lesions may be transient, sometimes lasting only hours, so at any one time wheals may not be evident and there may be an erythema, either patchy, linear, or

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annular. Patients should be encouraged to photograph their skin rashes (preferably using dated photographs) to help with diagnosis.

Hormones in Pregnancy

Hormone levels change and increase during pregnancy. During the first few weeks, progesterone, 17- hydroxyprogesterone, estrone, and estradiol levels, produced by the corpus luteum, increase. Human chorionic gonadotropin (hCG) also rises at the beginning of pregnancy, reaching peak levels at 60 to 90 days' gestation, then declines to a plateau until delivery. hCG and the corpus luteum are responsible for several weeks for production of inhibin and relaxin, which stop follicular development and reduce contractility of the uterus. After several weeks, the hormone production is taken over by the placenta and the fetus. The placenta and fetus act as an endocrine system. The placenta is mature by 12 weeks. It connects the fetal and maternal circulation. The fetoplacental unit produces increased amounts of peptides (inhibin, relaxin, and human placental lactogen), neuropeptides (gonadotropin-releasing hormone, corticotropin-releasing hormone, and thyroid-releasing hormone), steroid hormones (progesterone, androgens, estradiol, estrone, and estriol), and peptide growth factors (insulinlike growth factors 1 and 2). All these levels return to normal after a few days of birth.[1]

Hormonal changes have not been studied extensively in urticaria patients and the increases (described previously) seem not to have a deleterious effect on urticaria in pregnancy, although there is a case report of pregnancy-provoked urticaria in two successive pregnancies, resolving after termination, in which the mother whealed 5 minutes after intradermal injection of estradiol benzoate.[4] Some investigators have looked at dehydroepiandrosterone (DHEAS) in nonpregnant urticaria patients and found DHEAS levels significantly lower than in normal controls.[5] It is considered that DHEAS may antagonize the production of T_H2 cytokines.[6] It is not known whether an increase in pregnancy might have a beneficial effect on urticaria in pregnancy but it seems possible.

Concurrent Urticaria and Pregnancy

Acute urticaria is self-limiting and can be one of the manifestations of allergy. It is conventionally defined as lasting up to 6 weeks and there are no data relating either to its incidence or prevalence in pregnancy. In up to approximately 50% of patients, it is related to an ingested food, insect bite, infection, or drug.[7] When it occurs as part of drug-induced anaphylaxis, initial treatment is with subcutaneous or intramuscular adrenaline, followed by supportive treatment, systemic steroid, and antihistamine treatment. There is one report of intravenous adrenaline given safely because of drug-induced anaphylaxis over the course of a labor.[8] Intravenous adrenaline is generally not advisable and joint care with a cardiologist is a suggestion if this were undertaken, because of effects on a patient's heart.

Chronic urticaria is defined as urticaria lasting longer than 6 weeks. It is spontaneous or induced, usually by a physical stimulus (physical urticaria). Chronic spontaneous urticaria may be idiopathic, where no cause is found, or autoimmune due to circulating autoantibodies reactive with the high-affinity IgE receptor expressed on dermal mast cells and basophils or less commonly with IgE itself. Patients considered to be autoimmune usually have a positive basophil histamine release test and often have other organ-specific or non–organ-specific autoantibodies. Chronic spontaneous urticaria may continue during pregnancy and delivery and postpartum.

In cases of a physical urticaria, reproducible whealing occurs in response to a specific physical stimulus or to a rise in core body temperature. Where there is a physical