

Urticaria and Allergy-Mediated Conditions



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KEYWORDS

• Allergy • Antihistamines • Hives • Swelling • Urticaria • Angioedema

KEY POINTS

- Urticaria is a common condition that involves pruritic, raised skin wheals, which may or may not be edematous.
- Although urticaria is a benign, self-limiting condition, it may cause frustration for patients often because of its chronicity and its tendency to recur. It can also be a life-threatening allergic reaction, and it affects 20% of the general population.
- The first-line treatment for nonremitting cases consists of H-1 anti-histamines.
- Other allergy-mediated skin conditions include angioedema, contact dermatitis, and atopic dermatitis; allergy-mediated conditions affect a broad range of the population.
- Diagnosis is clinical, and management focuses on prevention, avoiding triggers, and treating the itching and inflammation that accompany these conditions.

DESCRIPTION

Urticarial rashes are characterized by the sudden eruption of wheals of various shapes and sizes. The lesions are described as erythematous papules or plaques that may be blanchable. Their sizes can vary from a few millimeters to several centimeters. They are frequently pruritic or burn, eventually resolving within a few days, with no residual skin changes. Lesions lasting for more than 6 weeks are considered chronic urticaria.

Urticaria results from a cascade involving immunologic events. It begins with the degranulation of mast cells, which is a stimulus for the release of other cell mediators. These mediators include histamine, bradykinin, leukotrienes, prostaglandins, and other vasodilatory substances. In turn, these cause plasma cell extravasation into the dermis, resulting in the characteristic raised, pruritic, edematous urticarial lesions.¹

Urticaria may or may not present with angioedema. Angioedema is inflammation of the lips, face, upper airway, and/or extremities. Although urticaria and angioedema

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may have similar underlying physiologic cell-mediator mechanisms, the actual skin locations will vary. Angioedema presents in the deeper dermis and subcutaneous tissues, whereas urticaria involves superficial dermis.

In immunoglobulin E (IgE)-mediated reactions, a type 1 cell-type reaction is the main proposed mechanism (Fig. 1). This is seen in allergic reactions that take place within minutes to hours after allergen exposure. A well-studied example of IgE- and mast cell-mediated urticaria is cold urticaria. In affected people, an extremity immersed in an ice bath precipitates angioedema of the distal portion, with urticaria appearing within minutes of the challenge. Marked mast cell degranulation is seen histologically, with associated edema of underlying skin structures and elevated levels of histamine arising in the affected extremity compared with the unaffected extremity. Similar events were also demonstrated in the biopsy-proven mast cell degranulation associated with attacks of cholinergic urticaria and exercise-induced urticaria.²

For the most part, triggers may be identified in acute cases, but a specific trigger may only be found in 10% to 20% of chronic cases.²

Common acute urticarial causes include food, insects, medications, and infections. Infections make up over 80% of acute pediatric cases.² Although common viral, bacterial, and parasitic infections can be identifiable, the pathogenesis for these as

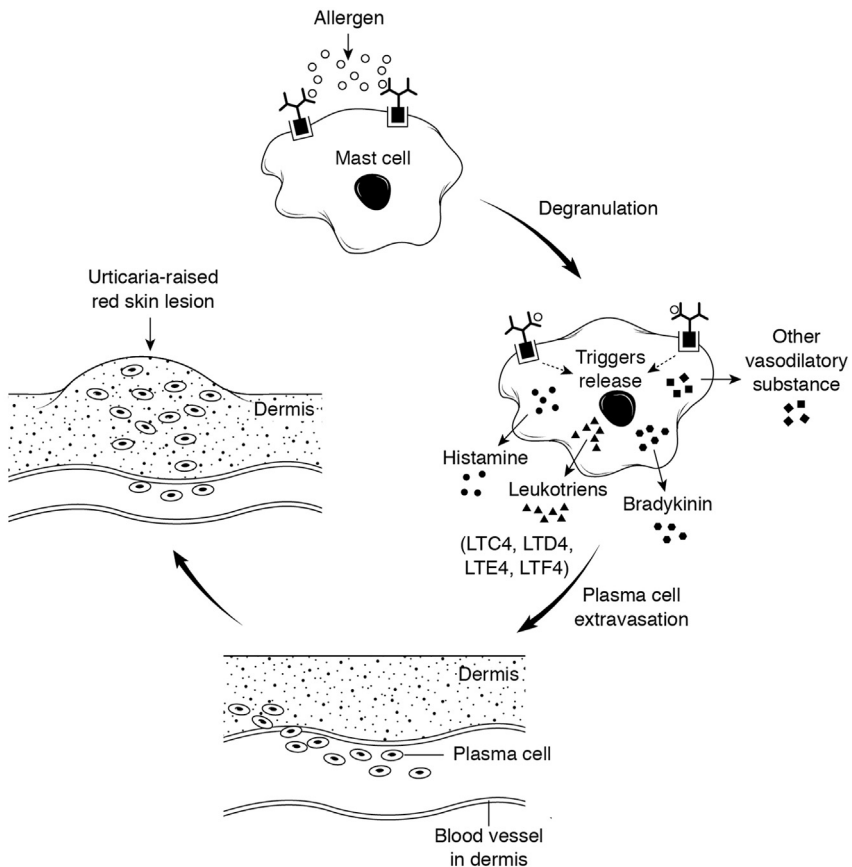


Fig. 1. Physiology of mast cell-mediated urticaria.

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