CLINICAL VIGNETTE

Contacting Hives

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Contact urticaria occurs when transient hives and redness occur on the skin shortly after contact with certain allergens. Severity can range from localized wheal and flare reactions to generalized urticaria and anaphylaxis. This differs from allergic contact dermatitis which is caused by a type 4 hypersensitivity reaction that develops hours to days after contact.[1,2]

Contact urticaria is divided into two categories – nonimmunologic contact urticaria and immunologic contact urticaria. Nonimmunologic contact urticaria does not require prior sensitization of the immune system to an antigen.[1]

Many contact urticaria reactions occur within minutes to one hour after exposure to the skin. Symptoms include local tingling or itching, localized or generalized erythematous wheals which resolve within 24 hours of onset. Patients may also experience extracutaneous reactions including wheezing, rhinitis, and even anaphylaxis. Common reported compounds include foods, preservatives, fragrances, plant and animal products and metals. Diagnosis is based on history and physical exam. Laboratory testing is not recommended.

Case

A 35-year-old female with asthma presented for hives that were clearly associated with grass exposure. She has no history chronic urticaria or angioedema. She only notes hives associated with grass. She works in landscaping and with frequent grass contact. She presents to Allergy/Immunology clinic for further evaluation.

Immunologic contact urticaria is a type 1 hypersensitivity reaction that is IgE mediated. Nonimmunologic contact urticaria is the most common type of contact urticaria and directly results from a substance contacting blood vessels. Nonimmunologic contact urticaria rarely goes beyond a localized reaction.[3]

While there is limited literature on contact urticaria, a few studies report the types of exposures patients may have. A retrospective study of 151 patients diagnosed with contact urticaria and reported the majority were work related.[4] A few case reports reported contact urticaria with glycerin[5] and squid.[6] The most common cause of immunologic contact urticaria is with latex proteins.[7]

Our patient, underwent skin testing and open testing with grass allergen. Both tests were positive. Histamine control was 5mm/10mm, saline 0mm, percutaneous timothy grass 5mm/10mm and open testing with timothy grass serum was positive at 20 minutes.

The open test for contact urticaria is performed on nonaffected skin. If negative, it can be performed on currently or previously affected skin. Saline is used as a negative control. The open test places 0.1ml of the suspected substance causing urticaria over a 3x3 cm area. The reaction is measured at 20, 40, and 60 minutes. Immunologic contact urticaria is seen within 15-20 minutes, while nonimmunologic contact urticaria can be delayed up to one hour.[8] If open testing is negative, patch testing, skin prick testing, scratch testing or use testing (person wears the object) can be performed.

Aeroallergens are known to cause rhinitis symptoms including sneezing, rhinorrhea, nasal congestion and post nasal drip. Ocular allergy is also commonly caused by aeroallergens. However, there are no studies reviewing the potential for aeroallergens to cause contact urticaria.

One study demonstrated exacerbation of atopic dermatitis with aeroallergen contact.[9] Werfel et al., tested patients with positive IgE to grass pollen for cutaneous reactions to grass pollen in an environmental challenge chamber.[9] Although they did not look specifically at open testing with grass pollen, they found exposure to grass pollen through environmental air induced a worsening of the eczematous lesions.

Our patient decided to wear skin protection when coming into contact with grass and cetirizine 10mg daily was prescribed to control her urticaria. At 6 months follow up, she was doing well without any symptoms. Her daily cetirizine was changed to as needed.

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