

Table 1. Taxonomic relationship between cereal grains and grasses of Poaceae family

Family	Subfamily	Tribe	Genus	Common name
Poaceae (Gramineae)	Poideae	Festuceae	<i>Dactylis</i>	Orchard grass
			<i>Festuca</i>	Meadow fescue
			<i>Lolium</i>	Ryegrass
			<i>Poa</i>	June grass
			<i>Cynosurus</i>	
		Agrostideae	<i>Agrostis</i>	
			<i>Alopecurus</i>	
			<i>Phleum</i>	Timothy grass
		Bromeae	<i>Bromus</i>	Brome grass
		Aveneae	<i>Anthoxanthum</i>	Sweet vernal grass
			<i>Holcus</i>	Velvet grass
		Triticeae	<i>Arrhenatherum</i>	
			<i>Avena</i>	Oats
			<i>Hordeum</i>	Barley
			<i>Secale</i>	Rye
			<i>Triticum</i>	Wheat
	Panicoideae	Oryzae	<i>Oryza</i>	Rice
		Paniceae	<i>Panicum</i>	Common millet
			<i>Setaria</i>	Japanese millet
			<i>Echinochloa</i>	Italian millet
		Maydeae	<i>Zea</i>	Corn
		Andropogonae	<i>Sorghum</i>	Johnson grass
			<i>Saccharum</i>	
		Sporoboleae	<i>Eragrostis</i>	
			<i>Eleusine</i>	

tolerated them well. Allergic reactions to millet have been described by some authors but have been rare. If cereals such as millet are increasingly introduced into the Western diet, allergic reactions to them may be more frequent in the future.

Key words: anaphylaxis; cereals; millet.

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Localized cold urticaria associated with immunotherapy

LOCALIZED cold urticaria is an unusual type of cold urticaria which is characterized by the development of urticarial and/or angioedematous reaction after cold contact only at a restricted part of the body. We report two cases of localized cold urticaria after immunotherapy injections.

The first case was that of a 29-year-old woman who had received immunotherapy with 100% gramineous pollen extracts (Bayer, Madrid, Spain) for 2 years for seasonal allergic rhinoconjunctivitis. During year 2, she developed pruriginous fleeting wheals a few minutes after cold exposure, strictly localized on her right arm at the site of hypo-sensitization injections. She was treated with oral antihistamines (cetirizine 10 mg/day) with progres-

sive remission of her local symptoms. Some months later, the following dose of immunotherapy did not induce new skin lesions.

The second patient was a 36-year-old woman with springtime rhinitis and asthma who had been treated with 100% gramineous pollen extracts (Ifidesa Aristegui, Bilbao, Spain) for 3 years. At the beginning of year 4, she developed pruritus and urticarial papules immediately after cold contact on her arms, especially her left arm. Spontaneous remission of these symptoms occurred 6 months later. The patient did not receive new doses of immunotherapy.

Both patients presented a positive ice-cube test (application of covered ice cube to the skin for 5 min) confined to the area of immunotherapy injections, the rest of the body being negative. Laboratory analyses, including complete blood count, globular sedimentation rate, cryoglobulins, complement levels, antinuclear antibodies, rheumatoid factor and syphilis, and hepatitis and mononucleosis serologies, were normal or negative. In the second patient, biopsy of the lesions showed major edema in the upper dermis and a perivascular mixed cellular infiltrate with mononuclear cells, neutrophils, eosinophils, and mast cells. These histologic findings are compatible with urticaria.

There is a previous report in which cold urticaria was also associated with immunotherapy, but, in this case, cold urticaria was not confined to the area

of injections (1). A few cases of localized cold urticaria have been reported after antigenic stimulus, such as tetanus antitoxin (2), skin tests with allergens and NaCl (3), insect bites (ladybird) (4), scratching of the skin during dermographic testing ("cold-dependent dermographism") (5, 6), and hypothermic insults (7). We have found only one other reported case of localized cold urticaria after immunotherapy injections (ragweed) (8). In all these cases, cold urticaria could be induced by local (immunologic or not) tissular injuries on skin with latent cold hypersensitivity.

Key words: antigenic stimulus; immunotherapy; localized cold urticaria.

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*We report two patients
who developed
localized cold urticaria
only at the sites of
immunotherapy
injections.*

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