

The Pollen

Issue N°6

While all medicines including allergen immunotherapy tend to have great clinical benefits, they also have the possibility to react adversely. With immunotherapy there tends to be two main types of reactions that one can experience, localized and systemic reactions. In this issue we will focus primarily on the localized reactions by looking at what defines a localized reaction, what is causing the reaction, the major symptoms experienced, and how your doctor can treat these reactions.

A localized adverse reaction is defined as any reaction that is limited to between adjacent joints, i.e. the shoulder and elbow, and does not show signs of spreading to other bodily systems. An example of a large local reaction can be seen below.

It is important to note that there is no correlation between local and systemic reactions. Having any number of local reactions does not increase the risk of having an adverse systemic reaction¹.

What's happening:

When one is administered an immunotherapy injection, there is the possibility that one of the allergens can bond with a special type of white blood cell, the Mast Cell. Once this bonding occurs, the mast cell will release different chemicals into its immediate surroundings, including histamine, tryptase, etc.² These molecules cause an influx of fluids and other immune cells into the immediate area. This influx of cells into the subcutaneous epithelial layer is what causes the warmth, swelling, and redness experienced, while the histamine release causes one to itch.

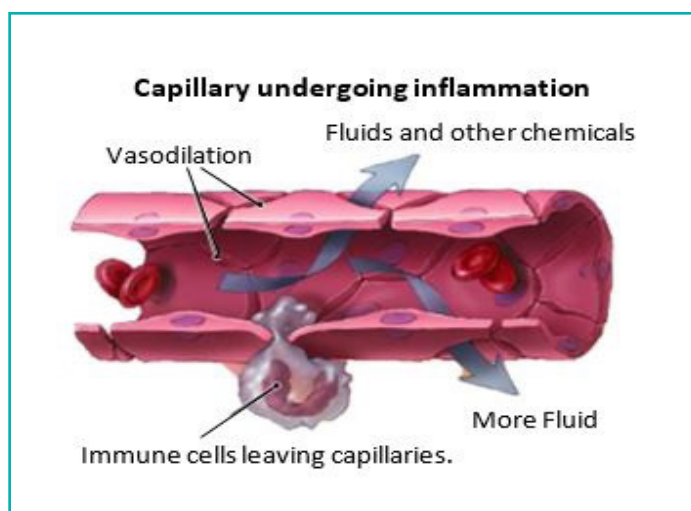
Symptoms:

The major symptoms of a localized allergic reactions include, but are not limited to:

- Angioedema (swelling)
- Pruritus (Itching)
- Erythema (redness)
- Urticaria (hives)

How a Doctor can treat:

When a patient presents with any of the above symptoms, the most common remedies include the prescribing of antihistamines and corticosteroids. When a patient has reoccurring local reactions, it can be suggested that the patient take a long-acting antihistamine 6 hours prior to immunotherapy injections to prevent reactions from occurring. The physician may also consider adjusting the dosing accordingly, but this should be done on an individual basis and is not always recommended.¹



Large local reaction located on rear of arm

1. Tankersley MS, Butler KK, Butler WK, et al. Local reactions during allergen immunotherapy do not require dose adjustments. *J Allergy Clin Immunol.* 2000; 106: 840-843.

2. Lockey R. Mechanisms of Anaphylaxis. WAO International Scientific Conference. 2012. Oral Presentation.

3. <http://www.nowpublic.com/health/allergic-reaction>

4. <http://www.iamast.com/communities/6/004/010/645/566/images/4571479927.jpg>