

## **Delayed Type Hypersensitivity in a Tricenarian with Skin Prick Testing**

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### **Introduction**

A rare, adverse event of skin prick testing (SPT) is the development of a delayed hypersensitivity reaction (DTH). The features and pattern of this reaction are likely reflective of a Th1 immune response in which CD8+ T cells in the epithelial cells are pre-sensitized to the antigen, resulting in cell-mediated toxicity.

### **Body**

A female allergist in her 30s with a history of allergic rhinitis and atopic dermatitis had aeroallergen SPT performed in clinic that was prompted by a noticed discrepancy between multi-prick and single prick application of the positive control despite the test being administered by the same nurse.

The SPT was performed on the forearm using the ComforTen Skin Test System and QuinTip with extracts prepared by HollisterStier. At 15 minutes following placement, histamine, cat, and dust mite were positive. Over days and weeks, the allergist noticed persistent wheals and erythema at the prick sites of cat and dust mite, consistent with a DTH.

Prior to this, she had had two SPTs performed, one in 2016 and the other in 2017, without adverse events. She has never been treated with subcutaneous immunotherapy (SCIT).

### **Discussion**

It is evident based on the nature of this reaction that our patient developed a DTH to SPT. Patients who develop DTH reactions to skin prick testing can be symptomatically treated with topical steroids. It is currently recommended that SCIT be avoided in patients who develop DTH to prevent similar reactions following immunotherapy injections.

### **Objectives:**

1. Recognize Delayed Type Hypersensitivity reactions are a rare, but possible adverse event to skin prick testing
2. Discuss symptomatic treatment options for Delayed Hypersensitivity Reactions from Skin Prick Testing