

Procedures and Precautions for Skin Prick Tests

Seoul National University Bundang Hospital, Physiologic Study Laboratories Allergy Lab, Korea

Hyo Joung Kong

Allergy is an unnecessary overreacting immune response to external antigens, such as house dust mites and pollen that are not generally harmful to the body. Allergic reaction causes various symptoms such as skin itching, redness, dry cough, sneezing, runny nose, and fever, which are related with allergic diseases including bronchial asthma, allergic rhinitis, and atopic dermatitis.

Both genetic and environmental factors contribute to the development of allergic diseases. About 15% of the children have allergy disease. If one of someone's parents have allergy, 40 to 50 percent may become a patient with allergy, and both parents have allergy problems, possibility goes up to 75 percent.

The representative environmental factors are inhalant allergens such as house dust mites, pollen, fungi, pet hair or dandruff, insect debris such as cockroaches, etc., but food, food additives, and drugs. also can be causes of allergic diseases. Typical aggravating factors that aggravate allergy include climate change, colds, air pollution, and stress.

Dermal reaction tests for allergy include skin prick test, intradermal test, and patch test and their method are as following.

Inspection precautions:

- ① Cold medicine, herbal medicine, salivary medicine, and allergy rhinitis medicine, which may affect result of test should be stopped three days before the examination. (or in accordance with the doctor's instructions)
- ② Antihistamines should be stopped 72 hours before the test.
- ③ Anti-depressant should be stopped 10 days before the test.
- ④ Very rarely, systemic reactions or vasovagal reactions can occur, resulting in a need for observation, treatment or visit to the emergency room.

The test method:

- ① Wipe the patient's back using alcohol sponges and dry up.
- ② One drop each of the allergy reagents (antigen), positive and negative control that you want to examine. Generally, positive control is histamine and negative control is saline.
- ③ The allergy reagent (antigen) is dropped at about 2–3 cm spacing, and the area is slightly pricked with a 23G needle or the surface of the skin is lifted slightly to allow the antigen to penetrate into skin. For the examination of each allergic reagent (an antigen), different needles should be used to prevent allergy reagents (an antigen) from being mixed with other reagents.
- ④ After 15 minutes, observe the response, measure the size of wheal, and enter the results.

Skin prick test reactions with a size of less than 3 mm should not be considered positive, and negative control should be lesser than 3 mm as the external stimulus may affect the skin test result. The size of wheal is expressed as average value of the longest diameter (B) and the longest perpendicular diameter of that (A). In general, an average diameter of at least 3mm larger than the negative control is regarded as evidence of presence of allergen-specific IgE on the skin.