Allergies and allergy tests

**Spec. Dr. Sladjana Cvejic, dermatologist**  
*Dermatological clinic DERMATIM, Belgrade - Serbia*

Allergies are a changed and oversensitive reaction of the immune system of the organism to the foreign substances from the surroundings, which we call allergens. Propensity to the occurrence of allergies is hereditary.

Allergens are non-harmful substances from the surroundings, but they can lead to allergic reactions in certain individuals. Most common allergens that cause allergic reactions are mites, pollen, food, animal hair, various insect pricks, mold, latex and medicine.

Symptoms of allergic reactions can be general (systematic) or localizes to an organ by which the allergens penetrate our organism. Allergic reactions can appear on the skin in the form of nettle rash, redness, itch and blisters or in the form of eczema reactions. Allergic conjunctivitis is characterized by an itch, redness and watery eyes. In allergic rhinitis symptoms are sneezing, itch, enhanced nose secretion, and in bronchial asthma dry cough and a sense of suffocation. The most severe form of our body’s allergic reaction is the occurrence of anaphylactic shock.

**Allergy tests**

Allergy tests are irreplaceable in discovering allergens which cause allergic reactions. From all the fast, efficient and safe to perform allergy tests, that enable the complete diagnosis of an allergic reaction, a few stand out:

- **Skin prick tests** for allergen detection, causes of early allergic reactions.
- **Patch tests** for allergen detection, causes of eczema skin reactions.
Skin prick tests

Skin prick test is very efficient for testing early allergic reactions mediated by antibodies of the IgE type. These oversensitivity reactions are most commonly exhibited in the form of nettle rash – hives, allergic rhinitis and conjunctivitis, bronchial asthma etc.

Which allergens are used for skin prick tests?

Standard inhalation allergens that are present in the air and are the most common causes of allergic reaction are used for testing. Solutions of 12 most common allergens are used, such as grass, weed and tree pollens, mites, house dust, mold, bacteria, tobacco smoke, animal hair etc. Solutions of histamines and saline are used for control.

How are skin prick tests performed?

The test is performed by placing drops, allergen solution on the inner skin of the forearm. After applying the allergens, lancet is used to gently prick these spots in order for allergen to penetrate the surface layer of the skin. After 20 minutes, the reaction in the areas of applied reagents is read. Redness, rash and itch occurrence in designated marked places are a reliable sign of the organisms allergic reaction to adequate allergens.

To successfully perform the skin prick tests it is necessary to stop using antihistaminic at least 48 hours before the conducted testing. During testing, a reaction at the allergen application spot can sometimes be more turbulent, resulting in appearance of intense redness. A dermatologist can ordinate an adequate therapy for such a reaction.

Patch tests

Patch tests are suitable for the diagnosis of contact allergic dermatitis or eczemas that appear on the skin, after renewed contact with certain allergens that lead to inflammations characterized by redness, itch, blisters or flaking.

How are patch tests performed?

Patch tests are performed by applying a sticking plaster with standard European series of allergens on the clean skin of the back that has no changes on it. On it, there are 18 types of substances that
most frequently cause contact allergies, such as nickel, cobalt chloride, potassium bi-chromate, neomycin, formalin, paraphenilendiamin, Peruvian balsam etc. The sticking plaster is worn on the skin for 48 hours, after which the results are displayed, and if necessary the readings can be done even after 72 hours. If a person is allergic at the spot of contact with the allergen, redness and itch appear, and sometimes even bubbles. During the wearing of the plaster it is important that the patient takes care of personal hygiene in a way that doesn’t get the plaster wet or off the body.

Patch tests are necessary when we want to discover allergens, causes of contact allergies and by preventing further exposure to appropriate allergens we enable faster withdrawal and healing of the changes in the skin.

Allergy tests enable fast and efficient discovery of allergens that cause allergic reaction, which with appropriate anamnestic data and a clinical overview submitted by the patient, enables the dermatologist to diagnose and treat the appropriate type of allergy.