Science commentary: Skin prick testing

Skin prick testing is conventionally used to investigate immediate type hypersensitivity to allergens in patients with rhinoconjunctivitis, contact urticaria, asthma, atopic eczema, and suspected food allergy. It is also a means of detecting allergen specific IgE and has the advantage of being relatively inexpensive, providing immediate results compared with measurement of serum allergen specific IgE by radioallergosorbent testing (RAST).

The technique used for skin prick testing involves puncturing the skin with a calibrated lancet (1 mm) held vertically, or a hypodermic needle or blood lancet at an angle of 45°, and introducing a drop of diluted allergen. All patients undergoing skin prick testing should also have a positive histamine control and negative diluent (saline) control test included. An itchy weal should develop at the histamine puncture site within 10 minutes. Test solutions are standardised to give a mean weal diameter of 6 mm. The maximum or mean diameter of the weals to various allergens should be read at 15 minutes. A weal of 3 mm or more in diameter is generally considered to represent a positive response (indicating sensitisation to the allergen). The negative control is important because it excludes the presence of dermographism, which if present makes interpretation in the context of the patient's history. Positive results can occur in people with symptoms and, similarly, false negative results may occur. “Blanket” allergy testing (whether by skin prick testing or serological methods) can give false positive results and, particularly in the case of foods can lead to unnecessary dietary restrictions. Standardised solutions to a wide range of allergens are available commercially. For more labile allergens (such as those found in fruit and vegetables) fresh produce should be used. Skin prick tests to aeroallergens are generally considered safe, but intramuscular adrenaline should be available and full resuscitation facilities are needed when tests are carried out with other allergens such as foods and natural rubber latex.