ImmunoCAP® ISAC and Microtest for multiplex allergen testing in people with difficult to manage allergic disease: a systematic review and cost analysis

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Plain English summary

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Allergy is a form of exaggerated sensitivity (hypersensitivity) to a substance that is either inhaled, swallowed, injected or comes into contact with the skin, involving the immune system. Substances that provoke allergies are called allergens (e.g. pollens, house dust mite, fungal spores, insect sting, animal hair, foods and chemicals found at home and work).

Most allergic reactions happen when chemicals in the body called immunoglobulin E (IgE) antibodies bind to an allergen and are then taken up by specialist cells in the immune system. The body responds by triggering allergy symptoms (e.g. rash or skin irritation, wheezing, watering eyes, nose irritation or stomach upset). In extreme cases, a severe allergic reaction (anaphylaxis) can result in difficulties in breathing and circulation, and can even cause death.

This project aimed to evaluate devices that can measure levels of many different IgE antibodies in a patient's blood at the same time (multiplex allergen testing). It has been claimed that these devices may help in diagnosing the cause of symptoms in patients with an unclear cause of allergy or who are allergic to more than one substance.

We found a small number of studies which indicated that multiplex allergen testing can change the clinicians' views on the cause of allergy symptoms and treatment options. However, none of the studies reported information on what happened to patients' allergy symptoms after changes to treatment. Therefore, we do not yet know how using multiplex allergen testing might affect people's experience of allergic disease.

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