Allergy Management

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Allergy is said to affect as many as 40% of children and 30% of adults in the U.K. The prevalence, severity and complexity of allergy are rapidly rising and perhaps as many as one in 50 children in England is now allergic to nuts – almost a quarter of a million children. Nut allergy can cause some children to suffer anaphylaxis which may be fatal.[1] A serious problem of allergy exists and allergy sufferers' needs are not being met.

"Allergy: the unmet need" is the title of a blueprint for better patient care, a report from the Royal College of Physicians.[2] The report states:

"Although genetic susceptibility is an important risk factor for allergic sensitisation and its expression as disease in different organs, the current allergy 'epidemic' is a consequence of our changing environment. Increased exposure to allergens and air pollutants, over-use of antibiotics and other drugs, reduced fruit and vegetable intake, reduced early life exposure to bacterial products, and an alteration in bacterial colonisation of the gut have all been blamed".

What is an allergy?

The traditional medical concept of allergy is that it is due to exaggerated sensitivity (hypersensitivity) to a substance which is inhaled, swallowed or comes into contact with skin, eye or mucous membranes. This term 'allergy' is used where there is heightened or altered reactivity of the immune system in response to an external or foreign substance, known as an allergen. Typical allergens include pollens, fungal spores, house dust in which there may be house dust mite, and animal products.[2]

An allergic response occurs when a foreign agent attaches to a substance made by the body, called an 'antibody'. Antibodies float in the fluid components of the body and attach to the allergen and the combined product will stick on to cells, which then release histamine and other substances, causing the symptoms of allergy such as swelling, pain, redness, itching, in the location where the release of these chemicals has occurred. There are five different types of antibodies. However, many allergy tests only check for one type, usually IgE antibodies.

When visiting their doctor, many people may report an altered reaction to some foreign agent(s). Not all of these are typical allergies because the body has not made an antibody reaction to the foreign agent and the production of an antibody defines an allergic response. It may simply be that, in some individuals, there may be an imbalanced ability to dispose of chemicals, or that reactivity to a food may have followed an event such as a gastrointestinal infection. Therefore a person may experience an abnormal response which would usually be called an allergic response, but that some of the simple allergy tests commonly used are not able to prove this. Nevertheless, it may be important to try to identify a cause by the standard tests.

Amongst allergic reactions are: [2]

- **hayfever**
- **rhinitis (which can occur throughout the year)**
- **asthma**
- **acute reactions to foods such as nuts, eggs and fruit**
- **anaphylaxis, which is a shock-like condition as a result of a reaction**
- **urticaria and swelling**
- **eczema**
- **food allergy**
- **drug allergy**
- **venom allergy from bee or wasp stings, etc.**
- **latex allergy, which is allergy to rubber**

There are many reactions which are not directly related to this type of response but are categorised by people as allergic responses because they know the response occurs following an exposure. Examples of these may be food sensitivities and chemical sensitivities. The mechanism for these reactions is different from the allergic antibody reaction. The sensitivity reaction may occur when the chemicals or foods are not cleared away from the body efficiently because the total load of the substance to be cleared is too great, or because the pathway for removal of the substance is defective. All surfaces of the body have dendritic cells, which can assess foreign material, and these can pass information to the autonomic nervous system through nerves which are called 'C-fibres'. This transfer of information can result in an immediate response without the engagement of antibodies. Some people have a more delayed response to food, which may cause problems such as irritable bowel syndrome, migraine or arthritis.

Causes : food, chemicals, inhalants

Obviously it is important to know the cause of a problem in order to be able to manage it. Where it is clear what the causal agent is, in managing the condition one can avoid the cause. This is clearly possible if it is something which is rare. For example, an allergy to horse dander may be managed by avoiding exposure to horses. However, where the problem is due to something which is common amongst one's encounters, then it may be very difficult to avoid.

The largest amount of foreign material coming into the body is food. Management of food allergy is very difficult, because very often it is common foods which cause reactions rather than uncommon foods or foods eaten rarely. If they are eaten rarely, then it is very easy to identify the cause. Examples of such foods may be strawberries, which might provoke a rash, or shellfish, which might cause diarrhoea.

Foods such as milk or wheat, which are present in many manufactured foods and are staples in our western diet, are more difficult to avoid and as they are present in so many things that we eat, it is often harder to pinpoint exactly what is causing the reaction.

Your doctor has several different ways to make a diagnosis of allergy, including traditional methods, skin tests or blood tests. Often the doctor will rely on taking a clinical history, which may be sufficient for diagnosis when there is an acute symptom, such as urticaria (rash), angiooedema (swelling), pruritis (itching), asthma, abdominal pain, vomiting, faintness or collapse, occurring immediately or soon after ingestion of a food. Blood tests may also be used. Interestingly, in people who are allergic to grass and who have a positive blood test result to wheat, (which is part of the grass food family), 60% will not experience any obvious reaction to wheat when they eat it.[3] The "challenge diet" method may also be used to identify a food that is causing a reaction. With this diet, the first step is to eliminate a suspected food from the person's usual diet, and after some time has passed, the second step is to reintroduce that food and see if the symptoms recur. When there is a "challenge" with a food, only 50% of people respond acutely with a symptom.[4]

Allergies may be apparent in infancy, particularly to milk and egg. Thereafter fruits, fish, crab, shellfish,

Type problem	Substance	Reaction	How to minimise or eliminate the
Inhaled – Indoor	House dust House dust mite	Asthma Rhinitis Eczema Wheezing	Use pillows, cushions, etc. with synthetic filling; use cotton sheets, blankets, pillowcases, curtains; vacuum mattresses regularly; wipe all surfaces with damp cloth; replace carpets with wood or vinyl flooring; change vacuum bags regularly and vacuum upholstered furniture at least twice a week.
	Animal dander	Asthma Rhinitis Eczema Wheezing	Wash hands after touching pets; if possible avoid houses where pets live.
	Moulds	Asthma Rhinitis Eczema Wheezing	Ventilate rooms well; use a dehumidifier; change wood fittings to uPVC in windows, etc. Store fruits and vegetables carefully and use quickly.
	Chemicals	Asthma Rhinitis Eczema Wheezing	Use natural fibres; use natural cleaning materials and avoid commercially bought products. Buy unperfumed cleaning agents, toiletries, etc.
Inhaled – Outdoor	Pollens	Asthma Rhinitis Eczema Wheezing	Keep windows shut; avoid contact with flowers, etc. Dry washing indoors.
	Moulds	Asthma Rhinitis Eczema Wheezing	Avoid contact with soil, plant litter, decaying vegetables, bird droppings, etc.
	Chemicals	Asthma Rhinitis Eczema Wheezing	Avoid traffic fumes, particularly in built-up areas; shopping areas; crop and garden sprays.

Table 1. Management of Inhalant Allergies

wheat, soya, peanuts and vegetables will appear as these are introduced into the diet, and other allergies such as latex, insect venom, bee and wasp sting sensitivities occur later in life.[5]

Most people have immediate sensitivities.[6] Blood tests have been undertaken with egg, milk, peanut and fish and have shown 6% of people with IgE sensitivity to egg, 32% to milk, 15% to peanut and 20% to fish; 40% of people are sensitive to pollen, 30% to mites and 20% to animal danders, 5% to moulds and 2% to insects. Also 2% are sensitive to foods through the antibody pathways and 1% have miscellaneous sensitivities.

Management of food or chemical allergies

Babies: Allergy to milk or egg accounts for 50% of allergies in infants in their first year of life. Consider which is the principal problem, and if the baby is being breast-fed, one might cut those items out of mother's diet. If the baby is being fed on formula, maybe a change of formula is required.

Once weaned, babies can react to foods and then one needs to consider the most likely items to which they might be sensitive, according to a response immediately after a food has been introduced, remembering that gastrointestinal reactions can take up to two days, whereas skin reactions may take five days to appear and subside. Asthma and eczema can be reactions to foods as well as to inhaled agents.

Children: The first thing to do is to cut out additives, colourings and flavourings and have only fresh food, organic if possible. Processed foods should be avoided, as well as nuts, coffee, tea, chocolate and instant drinks. If symptoms to foods are persistent, then one may need to consider coeliac disease (a sensitivity to gluten from wheat and other grains), lactose intolerance and favism (a food sensitivity).

Adults: Food allergy diagnosis in adults is much more difficult. One can still consider the person's history. In skin prick tests, the suspected substance is put on the skin and pricked in with a needle, and the size of the resulting bump or 'wheal' relates to the likelihood of allergy. These tests may be of limited use, as often the person will already know that there is an allergy; overall allergy tests will give information about the chances of being clinically allergic but are not absolute. The laboratory tests for IgE antibodies might be helpful only where an individual has an acute response; but often other tests, called IgG antibody tests, are done : these are of relevance and importance where IgG antibodies inhibit the protection of the gut lining.

Presentation of food allergy in adults may be gastrointestinal sensitisation with milk, egg, peanut or fish. Sometimes there are foods which cross-react and provoke responses.

Examples of this are birch, hazelnut and apple in one group, celery and spices in another group, latex, which is from rubber and will give contact sensitivity of the skin, and some fruits such as mango and kiwi. Salicylates, which can provoke reactions, are present in many fruits, vegetables, seeds and nuts, honey, coconut oil, olive oil, herbs and spices and alcoholic drinks.

Some people react to foods which release histamine, the substance which can provoke redness and swelling and allergic reaction, and to other biogenic amines like tyramine, which is present in chocolate, yeast extract and cheese and can lead to migraine. One may need to avoid particular foods or drugs related to them, for example, aspirin for people who are sensitive to salicylates, as mentioned above. With adults, avoidance of a principal substance which provokes reactions can often reduce sensitivity to all the others, but in some people there may be a requirement for treatment to reduce sensitivities.

There are some anti-histamines which can be obtained from health-food stores such as quercetin. Many people benefit from B vitamins, vitamin C and antioxidants. These supportive measures can help people with allergies.

Living with allergies

Table 1 makes some suggestions for allergy sufferers to follow to reduce allergic reactions. The three major components involved in health and allergies are the genetic make-up of the individual, environmental exposure and the body's ability to regulate itself. We cannot change our genetic make-up but we can try to identify what is causing the reaction and reduce exposure to it. Reducing the exposure to as many allergens as possible will often reduce sensitivity to many other allergens and providing the body with the best quality and variety of foods and pure water will help the allergy sufferer to enjoy healthier living.

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