Food allergies, food intolerance and food-related anaphylaxis

- Alterations in heart rate;
- Severe asthma;
- Abdominal pain, nausea and vomiting;
- Sudden weakness (drop in blood pressure);
- Collapse and unconsciousness.

Anaphylaxis occurs in over one in 3,500 of the population annually. Hospital admissions due to anaphylaxis increased sevenfold in the past 10 years (RCP, 2003).

**Diagnosis and treatment**

Non-allergic food intolerance can be difficult to diagnose as there are no scientifically validated tests. The only reliable method is to exclude the suspected food to see if symptoms improve. If they do, the food should be reintroduced (a challenge test) to see if symptoms reappear. This process should be supervised by a dietitian.

True IgE-associated allergies can also be diagnosed using challenge tests, but this should be medically supervised in case anaphylaxis occurs. Challenges may be:

- Open – both patient and observer know which food is being given;
- Single blind – only the observer knows;
- Double blind – neither patient nor observer knows.

Due to the risk of anaphylaxis, specialists often prefer skin-prick tests using an extract of the suspect substance, or radioallergosorbent tests to measure blood antibody levels. However, the value of skin-prick tests is limited by the ability to obtain pure protein extracts, and they can only diagnose IgE-mediated allergies (Buttriss, 2001b). The treatment and management of intolerance and allergy are mainly through exclusion of the allergen from the diet. This should be supervised by a dietitian, who can offer advice on maintaining a healthy diet once the intolerance is confirmed. This is particularly important for children, to ensure their growth and development are not compromised by missing essential nutrients.

People at risk of anaphylaxis (or their parents) need to be given preloaded adrenaline injection kits, which are available on prescription. Injections must be given as soon as a reaction is suspected. In the case of children, all carers should be aware of both the problem foods and how to respond to a reaction. People with allergies should also wear a medical alert bracelet or necklace.

**Specialist services**

People with allergies need specialist services to identify the specific allergens affecting them, and to advise them on managing their condition. However, such services in the UK are inadequate to meet the current need.

Only six major centres staffed by consultant allergists offer a full-time allergy service and a further nine offer part-time services (RCP, 2003). Most other allergy clinics are run by consultants in other disciplines, often concentrating on a particular organ system. However, most organ-based specialists have no training in allergy. Geographical distribution of services is also unequal, with most located in the South East. The overall provision of consultant allergists is approximately one per two million of population, compared with one per 100,000 in specialties such as gastroenterology and cardiology (RCP, 2003).

Many patients are seen only by their GP. Few GPs have training in allergy, and the shortage of specialists means they have no source of advice or referral.

The RCP (2003) estimates that as a minimum there should be one specialist allergy centre in each of the eight NHS regions in England and one each in Scotland, Wales and Northern Ireland. These would require a multi-disciplinary team with specialist training in allergies.

Regional centres should not only treat patients, but also act as educational resources, supporting training for organ-based specialists, GPs and practice nurses so that less complex cases can be dealt with in primary care. Since many allergies manifest in infancy and early childhood, health visitors would also benefit from training.

**Raising awareness**

Allergy UK is running a Food Allergy and Food Intolerance Week (26-30 January). This aims to raise awareness of:

- The distinction between food intolerance and allergy;
- The management of symptoms.

Allergy UK provides sound advice and constructive help on how people with an allergy can manage their condition to minimise its impact on their quality of life and its effect on social life, employment and education.

**Conclusion**

As the incidence and complexity of allergic diseases increase, additional services are urgently required. Training for primary health care professionals is also needed so that patients can receive early diagnosis and advice and specialist services can be reserved for those with the most complex conditions.
Allergy, intolerance and anaphylaxis

Food allergy and intolerance are increasingly widespread and can cause reactions that range from mild to life-threatening. Although a rare disorder only 10 years ago, peanut allergy now affects one in 70 children in the UK, and is the most common cause of fatal or near-fatal anaphylactic reactions in children (RCP, 2003).

The terms ‘food allergy’ and ‘food intolerance’ are often used interchangeably, but are not the same thing – although both relate to an adverse reaction to certain foods (Box 1; Box 2). Reactions usually occur after eating the food in question, but in severe cases they can occur after brief skin contact.

Food intolerance

Food intolerance is a generic term that covers a range of reproducible, non-psychological, adverse responses to specific foods or ingredients, which occur whether or not the person is aware of having eaten the food in question. It does not include aversion (dislike of certain foods), which may cause physical reactions if the person is aware of having eaten the food.

Allergic reactions are one form of food intolerance, but the term also includes adverse reactions with other causes (Buttriss, 2001a) such as:

- Enzyme deficiencies such as lactose intolerance and inherited fructose intolerance;
- Pharmacological reactions such as caffeine sensitivity;
- Non-defined responses.

The incidence of food intolerance is estimated at five to eight per cent of children and less than one to two per cent of adults. Up to 20 per cent of adults believe they have food intolerances, although tests fail to confirm this (Buttriss, 2001a; Young et al, 1994).

Food allergy

Allergic reactions are abnormal immune system responses to ingestion of or contact with a protein that is safe for most people. In most cases, the body produces immunoglobulin E (IgE) antibodies, causing the release of inflammatory substances including histamine. This leads to the development of allergic symptoms, usually localised inflammation.

Other allergies result in a more delayed response involving the T lymphocytes, taking hours or days to develop. Coeliac disease (a sensitivity to gluten – found in wheat and other cereals) is the best defined example, but a range of other foods, including milk and soya, can cause delayed reactions (Buttriss, 2001a).

It is unclear why some children develop allergies, or why some are outgrown while others tend to be lifelong, such as allergies to fish, shellfish, peanuts and tree nuts. These cause most allergic reactions in adults. Genetic factors and a susceptible immune system are considered important in the development of IgE-mediated allergies, with environmental exposure – including diet – secondary to these (British Nutrition Foundation, 1999).

Exposure in utero may also be a causative factor. While research has not yet confirmed this, pregnant women are advised to avoid nuts and peanuts during pregnancy and while breastfeeding if there is allergy in their immediate family or that of their partner (Department of Health, 1998).

Food allergy is estimated to affect one to two per cent of children and less than one per cent of adults in the UK (Buttriss, 2001a). Anaphylaxis

Anaphylaxis is a severe allergic reaction affecting the whole body, often within minutes of exposure. Peanuts and tree nuts are common causes of severe reactions, but they can be caused by other foods. Reactions include:

- Generalised flushing of the skin;
- Nettle rash (hives) anywhere on the body;
- A sense of impending doom;
- Swelling of throat and mouth;
- Difficulty in swallowing or speaking;
- Difficulty in breathing;
- A sense of impending doom;
- Nausea;
- Abdominal pain;
- Diarrhoea;
- Fainting or loss of consciousness;
- Sweating;
- A sense of impending doom.

There are dramatic differences in the incidence of allergies in the UK in recent years. Existing services are inadequate and need to be expanded so that patients with complex allergic conditions can be treated by allergy specialists and members of the primary health care team can be given training to enable them to treat non-complex cases.

There has been a dramatic rise in the incidence of allergies in the UK in recent years. This problem is compounded by the fact that the nature of allergic disease has also become increasingly complex. Previously rare and potentially life-threatening disorders such as peanut allergy are increasingly common (Grundy et al, 2002), while growing numbers of patients have disorders affecting several systems. For example, children with peanut allergy also often have eczema, rhinitis and asthma (Royal College of Physicians, 2003).

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This article discusses food allergy, food intolerance and food-related anaphylaxis. These conditions can significantly affect patients’ lives.