

CLINICAL
FEATURE

Dietary allergies in breastfed babies

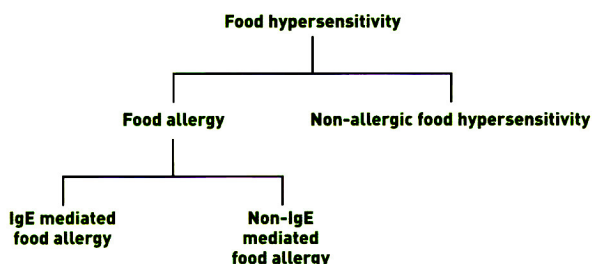


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Food allergies are adverse immune responses to food allergens. They are a common allergic disorder and are recognised as a major health problem affecting children in Western countries. It is estimated that five to six per cent of children suffer from food hypersensitivity reactions up to the age of three years (Venter et al, 2008). Allergic reactions caused by food can be mild or extremely severe, and hospital admission rates for food allergy in the UK have risen by 500 per cent since 1990 (Gupta et al, 2007). The three most common allergens affecting children under three years of age are cow's milk, eggs and peanuts. (Venter et al, 2008).

Health visitors are likely to see many different manifestations of food allergy and need to know enough to question whether allergy could be a cause of the symptoms. They also need to know when the symptoms can be managed in primary care or when referral to a specialist is needed. There is often confusion about the term food allergy, as opposed to a food hypersensitivity or food intolerance. The term 'food hypersensitivity' can be used to describe both food allergy and non-allergic food hypersensitivity. Food intolerance - now reclassified as non-allergic food hypersensitivity (Johansson et al, 2004) - is not immune mediated. A common example of this is lactose intolerance, which is caused by the lack of the enzyme lactase in the gastrointestinal tract. Food allergy is an immune-mediated adverse reaction to food (Venter et al 2008). Reactions can be immunoglobulin E (IgE) mediated, characterised by a rapid onset, within the first two hours of exposure and requiring only small quantities of allergen to elicit a



Johansson SG, et al (2004)

Figure 1: Revised nomenclature for global use

response; or they can be non-IgE mediated, T-cell-mediated, slow onset occurring from two to 72 hours after exposure and requiring larger quantities of allergen.

IgE mediated allergy is generally well understood. Symptoms develop rapidly after exposure to the allergen, often within minutes but definitely within two hours. This may be followed by a 'late phase reaction' which can develop three to 24 hours after the initial reaction. A detailed history needs to be taken of the reaction and past medical history and this may be followed by skin prick testing or a specific IgE blood test of the suspected substance, this will show a positive result to IgE antibodies if present. Food allergy symptoms and anaphylaxis as well as asthma and allergic rhinitis, can all be caused by an IgE-mediated food allergic reaction.

It is important to establish whether there is a risk of a serious allergic reaction. This can be a challenge for non-specialist healthcare professionals, but if the patient has already had a severe reaction, responded to trace amounts of the allergen or if they are asthmatic, there is a much higher risk of a severe reaction and they should be referred to an allergy

clinic for follow up (NICE CKS, 2014).

Non IgE mediated food allergy is much more complex and the symptoms may be subtle which creates a real challenge when trying to form a diagnosis. To hinder this further there are no clear cut diagnostic tests for non IgE mediated food allergy. This presents a huge challenge in primary care as parents may have heard of allergy testing and cannot understand why these tests are not being offered. Careful explanation is needed as parents may go on to find unhelpful and expensive allergy testing on the high street or internet (NICE, 2011).

For non-IgE-mediated food allergies, the only way to find out whether the suspected substance has caused the symptoms is to avoid it, so an elimination diet may be suggested. If the symptoms improve with a period of avoidance, then re-exposure should be used to confirm the diagnosis. Symptoms that can be caused by a non-IgE-mediated food allergic reaction include atopic eczema, severe colic, constipation, diarrhoea and abdominal pain, gastro-oesophageal reflux, food aversion, blood or mucus in the stools and peri-anal redness. Occasionally, non IgE-mediated food allergy can be responsible for

more serious conditions such as eosinophilic esophagitis, proctocolitis and food protein induced enterocolitis syndromes (FPIES). For further advice and guidance on diagnosis and management of IgE and non-IgE mediated food allergies see Box 1.

COWS' MILK PROTEIN ALLERGY

Cows' milk is the most common allergy affecting infants in the UK, and affects 2-7.5 per cent (Venter et al, 2008). Cow's milk protein allergy (CMPA) can be IgE-mediated or non IgE-mediated or a mixed clinical picture which can make assessment and diagnosis difficult (Vandenplas et al, 2007). Avoidance of cow's milk in the diet is the most important element of management; however, families will need lots of advice and support to manage a milk-free diet, as milk is added into many foods and drinks. There are several proteins in milk that can cause allergy; some of the proteins will become less allergenic when heated, while other proteins are not affected by heating, so milk used in cooking can still cause problems. Milk is used in a wide variety of products (e.g. condoms, thermal clothing, washing up liquid) and not just in food, which makes allergen avoidance very difficult. Because milk is a staple in most diets, dietetic support during exclusion is recommended (NICE, 2014).

BREASTFEEDING

Breastfeeding mothers should be encouraged to continue to breastfeed while excluding milk from their diet. The incidence of CMPA is lower in exclusively breast-fed infants compared to formula-fed or mixed-fed infants. Only about 0.5 per cent of exclusively breast-fed infants show reproducible clinical reactions to cow's milk protein, and most of these are mild to moderate (Vandenplas, 2010). The mother should receive calcium and vitamin D supplementation during this process to ensure her diet remains nutritionally sound (NICE, 2014). Formula fed babies with suspected CPMA should be prescribed an extensively hydrolysed formula (eHF), however some very sensitive babies may also react to eHF, so they should be prescribed an amino acid-based milk (NICE, 2014).

EGG ALLERGY

Hens' egg allergy is a common allergen in children under five and about 50 per cent of children will outgrow their allergy (Venter, et

al 2008). Some children suffer chronic eczema without realising that egg is causing or exacerbating the problem. The main allergens in hen eggs are in the egg white (ovalbumin), and heating can also affect to some degree the allergenicity of the egg protein. For example, a patient may be able to tolerate egg in a well-baked product such as a cake or biscuit but clearly not be able to tolerate the same egg protein in scrambled egg, fried egg, etc. The influenza vaccine and the yellow fever vaccine contain egg derivatives, and must not be given routinely to egg allergic patients. The measles, mumps and rubella (MMR) vaccine however is cultured in a medium where the risk of an egg allergic patient developing a serious allergic reaction should no longer be a problem. The British Society for Allergy and Clinical Immunology (BSACI) states that the MMR is as safe as any other vaccine and an allergy to eggs should not delay vaccination (Clark et al, 2010).

PEANUTS

Peanuts (which are not actually nuts at all but legumes) contain highly potent allergens capable of causing severe allergic reactions. The allergen is made more allergenic by roasting. Peanut allergy affects about 1-70 children across the UK (Grundt et al, 2003). It is an 'unpredictable' allergy and there is often difficulty in working out at how much risk the patient is of a severe reaction in the future. Consequently this has been an area of interest to researchers and recently the LEAP study (Du Toit et al, 2015) has reported their findings. We know that early environmental exposure (through the skin) to peanut may account for early sensitisation (Lack et al, 2003), whereas early oral exposure may lead to immune tolerance. The LEAP study showed that early oral introduction of peanuts could prevent allergy in high-risk, sensitized infants and in non-sensitized infants (Du Toit et al, 2015).

Severe food allergies can have a significant impact on the quality of life of patients and families (Cummings et al, 2010) leading to psychological distress including anxiety and depression. Cummings (2010) also found high levels of stress and anxiety in mothers of children with food allergy. Families often find comfort and support from Allergy charities in the UK (see Box 1).

Food allergies are complex and can have a profound effect on patients and families.

Box 1: Advice, guidance and support

National Institute for Health and Care Excellence (NICE) Clinical Guidance on food allergy in children and young people

www.nice.org.uk/guidance/cg116

Milk allergy in Primary Care (MAP) guidelines

www.ctajournal.com/content/3/1/23

NICE Clinical Knowledge Summaries on cow's milk protein allergy

<http://cks.nice.org.uk/cows-milk-protein-allergy-in-children>

Anaphylaxis Campaign

www.anaphylaxis.org.uk

Allergy UK

www.allergyuk.org

CMPA support

cowsmilkproteinallergysupport.webs.com

They can cause minor irritating sneezing through to anaphylaxis and food protein-induced enterocolitis syndrome. Health visitors knowledgeable about allergy are ideally placed to recognise the onset of allergic disease and instigate appropriate management or if needed refer on to specialist services. Prompt intervention can improve health outcomes for the child, reducing distress for the family.

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