

GI manifestations of food allergy

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Food allergies change both in their frequency, becoming increasingly recognised in the childhood population and in its clinical expression, at least in western communities. If cow's milk allergy remains a common problem, having increased considerably in the first part of the 20th century due to the increasing use of infant formulae, it seems now to be decreasing thanks possibly to the renewed popularity of breast feeding and to the use of cow's milk hydrolysates. It also alters its clinical pattern, the classical cow's milk enteropathy with villous atrophy, first described in Finland (1, 2); in Spain, the incidence fell from 1.09/100 live births in 1980 to 0.20/100 live births in 1987. Quite frequently cow's milk sensitive enteropathy is mild in severity. Furthermore, this condition is currently largely outnumbered by the more common symptoms only recently demonstrated to be consistently related to cow's milk allergy: gastro-oesophageal reflux without any patent histological change in intestinal mucosa, oesophagitis (3), especially when associated with eosinophilic infiltration of the mucosa, constipation, disorders of motility and abdominal pain. Other disorders include villous eosinophilic proctocolitis (4) and enterocolitis (5). Finally, some infants may experience extreme irritability or colic as the only symptom of cow's milk protein allergy (6). The prevalence in infancy of milk protein allergy is considered low, from 2% to 3% (7–9), and changing with age, estimated in David Hide's studies on the Isle of Wight to occur in 4.4% of children aged 1 year, 1.9% aged 2 years and 0.4% aged 4 years (10). However, when considering the potentially numerous cases under-diagnosed since only recently being recognised as related to cow's milk allergy, one may consider that in fact cow's

milk occurs more frequently than usually reported.

The child is now confronted with allergy to an unlimited amount of foods. Cultural eating habits, especially the use of potent food allergens (e.g. peanut, soya) in an increasing number of food products, markedly influence the incidence and the large variations in reported frequencies of food allergy in various parts of the world. Potent allergenic foods, e.g. kiwi fruit and mangoes, have now reached Europe and also contributed to changing the pattern in food allergies. Acute reactions may occur following such unusual allergens in children as mustard, paprika and chestnuts, often in the form of hidden foods. Children with delayed symptoms often react to classically well tolerated food such as carrot, rice, potato and banana. Analysis of infants with hypersensitivity to cow's milk and other multiple food proteins allowed identification of a new syndrome, multiple food protein intolerance of infancy (11), a condition in which the child tolerates a limited number of foods, if any, which may last for several years and largely challenges providing the child with an adequate amount of energy and nutrients.

Symptoms of food protein allergy may commonly be related to immunoglobulin E (IgE)-associated reactions, such as angio-oedema, urticaria, wheezing, rhinitis, vomiting, eczema and anaphylaxis (12) but, especially for cow's milk, soy and some other dietary proteins in infant feedings, to non-IgE-associated, immunologically mediated conditions.

Diagnosis of food allergy in children with GI manifestations may be difficult. Classical cases of chronic diarrhoea and failure to thrive with

moderate to severe enteropathy are easier to recognise than a more puzzling blend of gastro-oesophageal reflux, minor eczema and sometimes infant distress, with or without minor immunodeficiency and low IgA. In these cases, such as for certain clinical presentation of eczema, the use of patch testing, in addition to or complementing of prick testing, allowing recognition of delayed reaction, must be emphasised.

Hypoallergenic formulas, like all formulas intended for infant feeding, must demonstrate nutritional suitability to support infant growth and development. To be labelled hypoallergenic these formulas, after appropriate preclinical testing, must demonstrate in clinical studies that they do not provoke reactions in 90% of infants or children with confirmed cow's milk allergy with 95% confidence when given in prospective randomised, double-blind, placebo-controlled trials. Extensively hydrolysed and free amino acid-based formulas have been subjected to such studies and are hypoallergenic (13–15). Treatment of food allergies other than milk may be more complicated due to the absence of replacement foods.

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