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FOOD ALLERGIES IN CHILDHOOD

***Dr. Dhananjay D. Deshmukh**

Associate Professor and HOD Balrog Department Samta Ayurvedic Medical College, Aland, District -Kalburgi, State-Karnataka.

***Corresponding Author: Dr. Dhananjay D. Deshmukh**
Associate Professor and HOD Balrog Department Samta Ayurvedic Medical College, Aland, District -Kalburgi, State-Karnataka.

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Adverse reactions to food are divided into food intolerance, which are adverse physiological responses, and food hypersensivities, which include adverse immunologic responses. Etiopathogenesis: Although Food represents largest antigenic load confronting the body, the gut associated lymphoid tissue (GALT) is able to readily discriminate between harmless food and pathogenic organisms. Even though roughly 2% of antigenic protein reach systemic circulation at each meal. It is ignored due to T cell anergy and T regulatory cells. Ingestion of food normally leads to oral tolerance. In infants functional barriers (stomach acidity, glycocalyx) and immunologic barriers (lg A) are immature, allowing increased penetration of antigens. Therefore food hypersensitivities are common during infancy. Hypersensitivities to food are mediated by two major ways: 1 g E mediated and T cell mediated reactions. Exposure and sensitization to proteins often occur very early in life, because intact food proteins are passed to infants through breast milk, and during weaning many parents provide their infants with a highly varied diet. Virtually all milk allergies develop by 12 no. of age and all egg allergies by 18 no. of age. Intermittent ingestion of allergenic foods leads to acute symptoms whereas prolonged exposure may lead to chromic disorders such as atopic dermatitis and asthma.

CLINICAL MANIFESTATIONS: It is most useful to divide these disorders according to target organ involvement.

A) Gastrointestinal manifestations:- These are often the first form of allergy to affect infants and typically manifest as irritability, spitting up, diarrhea and poor weight gain. Other features may include anaemia, edema, early satiety, streatorrhea, abdominal distension. Following syndromes have been included under gastrointestinal manifestations; food protein induced enterocolitis / proctocolitis, food protein induced enteropathy.

Cow's milk sensitivity is the most common cause of food protein induced enteropathy. Cellac disease being other rare form. Allergic eiosinophilic esophagitis; symptoms are similar to those of esophagitis with prominent weight loss. This can present as chromic GER of children < 1 yr. of age presenting with GER, 40% have cow's milk induced reflux.

Oral allergy syndrome (pollen – food syndrome): This is an 1 g E mediated syndrome. Symptoms consist of rapid onset oral pruritus, angiodema of lips. These are often initiated by fresh fruit and vegetable proteins that cross react with apple, carrot, potato, hazel nuts, banana and watermelon.

B) Skin manifestations:- Atopic dermatitis, almost 30% of children with atopic dermatitis have food allergies. The younger the child and the more severe the eczema, the more likely food allergy is playing a pathogenic role in the disorder.

Acute urticaria and angioderma are among the most common symptoms of food allergic reactions. Foods most commonly incriminated in children include egg, milk, peanuts and nuts. Chromic urticaria and angioedema are rarely due to food allergies.

C) Respiratory manifestations:- Respiratory manifestations are uncommon as isolated allergy symptoms. Although many parents believe that nasal congestion in infants is often caused by milk allergy, many studies show this not to be the case. Wheezing occurs in about 25% of 1 g E Mediated food allergic reactions, but only about 10% asthmatic patients have food induced symptoms.

Anaphylaxis

Food allergic reactions are the single most common cause of amphylaxis seen in hospital emergency department. Because many food allergies are outgrown, children should be revaluated at later age.

DIANOSIS:- Apart from thorough history. Prick skin tests are useful for demonstrating 1 g E sensitization. More often definitive test such as quantitative estimation of 1 g E, food elimination and challenge are warranted. Unfortunately, there are no lab studies to identify foods responsible for cell mediated reactions. Consequently, eliminatica diets followed by food challenges are the only way to establish diagnosis.

TREATMENT:- Appropriate identification and elimination of foods responsible are the only validated treatments for food allergies. Complete elimination of common foods. (milk, egg, soya, wheat, rice, chicken, fish, peanuts, nuts) is very difficult because of widespread use in variety of foods.

Children with asthma and 1 g E mediated food allergy, peanut or nut allergy or history of a previous severe reaction should be given self – injectable epinephrine and written emergency plan in case of accidental ingestion.

PREVENTION:- There is no consensus as to whether food allergies can be prevented. At present there is insufficient evidence to support the practice of restricting the material diet during pregnancy, breast feeding or of delaying introduction of various allergenic food to infants from atopic families.

Studies suggest that exclusive breast feeding first 4 – 6 months of life may reduce allergic disorders e.g. atopic dermatitis. However, the value of further restrictions cannot be supported by the current medical literature.