

BSACI

Improving Allergy Care through education, training and research

Cow's Milk Allergy

Cow's milk allergy is an immune reaction to the proteins found in cow's milk. Cow's milk allergy affects approximately 2-3% of infants. It is rare in older children and adults, affecting around 0.5% of adults. The majority of children diagnosed with CMPA will outgrow this during childhood. There are two types of CMPA, IgE mediated (immediate, within minutes to 2 hours) and non-IgE mediated (delayed, between 2-48 hours). (table 1)

Most children with cow's milk allergy have mild to moderate symptoms. Severe symptoms (anaphylaxis) may occur in children but are more common in adults.

Table 1:

| Immediate-type symptoms (within 2 hours) | Delayed type symptoms (between 2 – 48 hours) |
|--|---|
| Itchy skin rash (hives, redness) | Eczema flare-up |
| Swelling of face, eyes, or lips | Vomiting |
| Abdominal pain (tummy ache), vomiting and diarrhoea | Abdominal pain |
| Runny nose and sneezing | Diarrhoea and/or constipation +/- mucous or blood in stools |
| Wheezing, difficulty breathing, difficulty swallowing/choking, persistently coughing, drowsiness, and floppiness in young children | Poor weight gain |

Lactose intolerance:

It is common that lactose intolerance is confused with CMPA, which occurs when the body is unable to digest lactose, a sugar found in cow's milk. Symptoms may include diarrhoea, abdominal pain and/or bloating, nausea, and flatulence.

Management of CMPA

This allergy should be managed with a strict cow's milk free diet. The allergenic proteins found in cow's milk are similar to those found in other animal milks such as goat, sheep, and buffalo milk, so these should also be avoided.

Cooking and processing can alter some of the allergic protein in cow' milk, making them more likely to be tolerated. Some children can tolerate milk that has been baked to a high temperature (e.g., in biscuits or cake) but may still react to less well cooked, uncooked, and fresh milk sources (cheese, yoghurts or milk).

Cow's milk is an important source of nutrients including calcium, vitamins, and iodine. To ensure a healthy balanced diet it will be necessary to find suitable alternatives to achieve nutritional balance. Some nutrients such as calcium may need supplementation; calcium requirements vary depending on age and gender. (table 2)

Table 2:

| Age group | Calcium requirement (mg /day) |
|---------------------|-------------------------------|
| 0 – 12 months | 525mg |
| 1 - 3 years | 350mg |
| 4 – 6 years | 450mg |
| 7 – 10 years | 550mg |
| Boys 11 – 18 years | 1000mg |
| Girls 11 – 18 years | 800mg |
| Adults 19+ years | 700mg |
| Breastfeeding women | 1250mg |

Suitable food vs. foods to avoid:

The below table lists examples of cow’s milk protein free foods and foods that may contain cow’s milk. Always check food allergy labelling.

| Suitable foods | Foods to avoid |
|---|--|
| Milk alternatives (oat, soya, pea, coconut, or nut based) – Milks, yoghurts, creams, cheeses, or ice creams | Cow’s milk, buttermilk, dried milk, condensed milk, cream, yoghurts, cheeses, and ice cream |
| Pure fats and oils Dairy free butters / margarines | Butter, margarines, shortening, ghee |
| Flours, barley, oats, rice, dried pasta, cous cous, some breads, breakfast cereals, crackers, lentils | Pastry and, cakes, biscuits, croissants, brioche, fruit loaves, breakfast cereals containing chocolate |
| Vegetables – All types of fresh, frozen, tinned, or dried | Vegetables cooked in butter, milk based. sauce, or batter |
| Fruit - All types of fresh, frozen, tinned, or dried | Fruit yoghurts, fruit pies, fruit cooked in batter, mousses |
| All meats, poultry, and shellfish - Fresh and frozen | Processed meats e.g., pies, meat / fish in breadcrumbs, batter, or sauces, |
| Eggs | Quiche, pastry-based products, scrambled eggs, omelette |
| Some soya alternatives – Mince, tofu, yoghurts, cheeses, milks | Some soya products (check individual food labels) |
| Dairy free alternatives of milk-based desserts e.g., soya custard, milk free sponge cake or crumbles | Milk based desserts – Custard, mousses, chocolate sauces, egg custard, sponge cake, crumbles |
| Confectionary – Jelly, juice-based ice-creams, dairy free chocolate | Milk and white chocolate Toffee or fudge |
| Jam, honey, marmalade, syrup, treacle Salt, pepper, herbs, and spices Fruit juice, squash/cordials, fizzy drinks, fruit / breakfast tea or coffee | Lemon curd, some nut butters Salad cream, mayonnaise, and milk-based sauces Hot chocolates, instant white tea, or coffee |

Checking food labels

Milk is one of the 14 common food allergens used as ingredients or within processing must be declared on packaging or at the point of sale as stated by food allergen labelling law within the European Union (EU). If the product contains milk the word MILK will be in bold in the ingredient list, therefore check the ingredients lists of foods carefully.

Resources

BSACI milk allergy guideline
<https://www.bsaci.org/guidelines/bsaci-guidelines/cows-milk-allergy/>

WAO milk allergy guideline (DRACMA)
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3488907/>

British Dietetic Association Calcium information
<https://www.bda.uk.com/resourceDetail/printPdf?resource=calcium>