CMPA MANAGEMENT: A BRIEF GUIDE

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When advising parents and carers with children who are suffering symptoms of CMPA, here are some points to note . . .

CMPA (or CMA) is an immune-mediated allergic response to one or more proteins in cow's milk. It can be triggered in an infant by drinking cow's milk or by drinking or eating products made from cow's milk. This also includes the transition of milk protein from mum to baby when breastfeeding if mum has milk protein contained in her diet. Cow's milk protein (CMP) can cause the immune system to be 'sensitised' so that when the protein is again consumed, the immune system remembers this protein and may react to it by producing allergic symptoms.

Dairy-free diet advice remains the same for babies with both IgE-mediated (type 1) and non-IgE-mediated (type 2) CMPA. For IgE-mediated CMPA, babies and children need to follow a dairy-free diet until they develop confirmed tolerance. Confirmation is done by an allergy specialist using tests like the skin prick test.

Babies with a confirmed diagnosis of non-IgE-mediated CMPA need to follow a strict dairy-free diet for six months with reintroduction guided by a dietitian afterwards. See Table 1.

FIRST SIX MONTHS OF LIFE

If a breastfed baby only shows symptoms when exposed to standard formula milk, then the mother can continue to have dairy in her diet after discussing it with an allergy specialist or paediatric dietitian. iMAP guidance states that in exclusively breastfed infants, not always enough cow's milk protein passes into breast milk to trigger a reaction in the infant.[1] Therefore cow's milk exclusion from the maternal diet may not be needed.

If a baby reacts to breast milk when the mother has dairy in her diet and it resolves upon maternal dairy exclusion, then the maternal diet should be dairy-free with alternative plant-based substitutes and vitamin D plus calcium supplementation.

If a baby is combined or formula-fed, the best practice is to switch to hypoallergenic formula milk until the first birthday and then over-the-counter fortified plant-based alternatives from then on.

There are two types of hypoallergenic formula milks available:

1. Extensively hydrolysed milk in which cow's milk protein is broken down to ease digestion. Contains some dairy.
2. Amino acid-based formula milks made from easily absorbed proteins. Completely dairy-free.

Both varieties have a different taste and smell from standard formula milk, which may lead to babies not tolerating them. Mixing them up with standard formula milk and gradually increasing specialist formulas over time can help.

Babies on these formula milks can sometimes develop constipation

REFERENCES

Please visit: www.NHDmag.co.uk/article-references.html

NHD's Fact File on CMA is a useful resource for nutrition professionals. Download it here: www.nhdmag.co.uk/nhdfactfiles

Table 1: Recommended diet for confirmed diagnosis of CMPA

	Type 1 milk allergy	Type 2 milk allergy
0-6 months	Hypoallergenic formula/breast milk	Hypoallergenic formula/breast milk
6-12 months	Hypoallergenic formula/breast milk + dairy-free weaning with the use of fortified dairy-free alternatives except alternative milk as a drink	Hypoallergenic formula/breast milk + dairy-free weaning with the use of fortified dairy-free alternatives except alternative milk as a drink
>12 months	Dairy-free diet with the use of dairy-free alternatives including alternative milk as a drink + follow allergy specilaist's advice regarding reintroduction	Dairy-free diet with the use of dairy-free alternatives including alternative milk as a drink + reintroduction via milk ladder

or their stools can change colour and become greenish. This is perfectly normal but if problematic, mothers should contact a medical professional.

MILK-FREE WEANING

Dietitians can support families with milk-free weaning once a baby is six months old. This should include information on how to check labels on prepackaged products, what terms to look out for and to avoid products which say, 'may contain dairy'. Advice on how to ensure products are dairy-free when buying from bakeries or farmers' markets is useful too. Further information on label checking can be found on the Allergy UK website.[2]

Babies can be offered fortified, non-organic, full-fat plant-based dairy alternatives including cheese, nut butters, margarines, yoghurt, cream and dairy-free milk. Other examples of alternatives to offer include:

- Oat milk
- Soya milk – soya milk should not be given to babies under six months old. Soya can be introduced as part of weaning in the form of soya yoghurts/puddings or cooking after the child is six months old and if soya is safe for them. Some children with non-IgE-mediated milk allergy may also be allergic to soya. Dietitians will guide on this. Soya milk can be used as a main drink after one year of age.
- Nut milk alternatives (almond, coconut, cashew and hazelnut)
- Hemp milk/pea milk/coconut milk

Always choose a milk alternative that is fortified or enriched with calcium, as it should provide at least 120mg of calcium/100mls. Organic versions do not usually have calcium added, so check the label.

Rice milk should not be given to children under four and a half years old. This is due to concerns about arsenic content. Care should also be taken to only use dairy-free milk to cook food and babies should not be given it as a drink until 12 months old.

Avoiding accidental exposure at social events is essential, so it is a good idea to advise parents/carers to inform friends and family of the baby's condition and to take their own dairy-free foods to social gatherings. When children start going to nursery, teachers should be made aware of this too.

MILK REINTRODUCTION ADVICE

For type 2 CMPA, once the six-month dairy-free period is over and the baby is 9-12 months old, gradual dairy reintroduction using the (iMAP) milk ladder[3] should be tried. For the first few steps of the milk ladder, parents can use online recipes[4] to offer homemade products. A dietitian can also help explain when to initiate and how to use the milk ladder in addition to various troubleshooting advice.

While on the milk ladder, continue to offer dairy-free, fortified, full-fat, non-organic plant-based alternatives. Once a baby is one year old they can be weaned off the formula, unless indicated otherwise, and offered dairy-free milk. This can be done gradually by mixing both kinds of milk to develop acceptance.

COMMON QUERIES ANSWERED

Cross-reactivity between soya and cow's milk

A child who is allergic to cow's milk protein may react to soya proteins. This is because the protein structure of milk and soya are similar and the body's immune system might not recognise this difference. If there are any intolerance concerns, advice should be given by a specialist dietitian and/or allergy specialist. They might also advise on avoiding soya-based products for six months followed by reintroduction under the care of a dietitian.[5,6]

Other mammalian milks

All other animal-based milks contain many of the same proteins as cow's milk. Thus, if a baby is allergic to cow's milk, they are at high risk of reacting to other animal milks such as goat, sheep, camel and buffalo milk and, therefore, these should be avoided.[7]

Introducing different textures, tastes and common food allergens

Introducing a variety of foods and textures early helps avoid fussy eating patterns and ensures proper nutritional intake. A dietitian can provide specific advice tailored to the child's needs. High-allergenic foods like eggs and peanuts should be introduced at 6-12 months of age. Whole or crushed nuts should be avoided due to choking risks.

Vitamins

For breastfed infants with CMPA, mothers are advised to take vitamin D and ensure adequate calcium intake. For formula-fed infants, hypoallergenic formulas are essential, and vitamin supplementation may be necessary if formula intake is below 500ml per day in the first year of life. Once over 12 months of age, children should be offered an age-appropriate multivitamin supplement containing vitamins A, C and D.

Monitoring nutritional status

Regular monitoring of weight and length and tracking growth patterns using the UK-WHO percentile growth charts is crucial. Faltering growth should prompt a referral to a paediatric dietitian.[8]

When to see a doctor

If a child is not gaining weight, losing weight, not feeding well, persistently vomiting, has blood in their stools or has any breathing issues, faints or has floppy episodes, they need to be seen as soon as possible. If the child is not acutely unwell then this should be by a GP and if they have any airway or breathing issues or are unable to keep fluids down, then they should be seen at the emergency department.[9]

USEFUL RESOURCES

https://www.nhs.uk/common-health-questions/childrens-health/what-should-i-do-if-i-think-my-baby-is-allergic-or-intolerant-to-cows-milk
https://gpifn.files.wordpress.com/2019/10/imap_patient_factsheet_original.pdf
https://patient.info/allergies-blood-immune/food-allergy-and-intolerance/cows-milk-protein-allergy