PULSE Nursing IN PRACTICE

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QUICK GUIDE

Cow's Milk Protein Allergy

Cow's Milk Allergy (CMA) affects 2-3% of infants in the UK.[1] This quick guide aims to highlight key differences between immunoglobulin E (IgE)- and non-IgE mediated CMA.

			Symptoms			
CMA Type	**Timing of symptoms**	**Reproducibility**	**Skin**	**Gut**	**Respiratory**	**Other**
IgE-Mediated	• Develop within minutes to 1-2 hrs • Resolve within 1-2 hrs; small number of patients have a secondary late reaction	• Baked milk may be tolerated • Symptoms otherwise occur every time they are given cow's milk products	• Urticaria • Angioedema • Itching & erythema	• Oral puritis • Vomiting • Diarrhoea • Abdominal pain	• Rhino-conjuncivitis	• Anaphylaxis (ABCD)*
Non-IgE-Mediated	• Present 2-72 hours after ingestion	• Baked milk may be tolerated • Symptoms otherwise occur every time they are given cow's milk products	• Itching & erythema • Non-specific rashes • Does not cause eczema, but can make eczema difficult to manage**	Upper gut • Vomiting • Reflux Lower gut • Frequent, loose stool • Constipation • Blood +/- mucous in the stool • Perianal redness • Unsettled, & cry for longer periods	• Nasal congestion	• Severe disease may cause height or weight impairment • Possible food aversion/ refusal which may contribute to growth issues

*ABCD = Airway (coughing, voice change, tongue swelling), Breathing (wheezing, difficulty in breathing), Conscious level/Circulation (dizziness, pale, tachycardia, hypotension, collapse), Deterioration (continued worsening of symptoms). **Removing the allergen should improve control alongside usual eczema management.

If IgE-CMA is suspected:

- Provide an allergy action plan[4] and explain how allergic reactions present
- Prescribe antihistamines for mild to moderate reactions. Consider indications for prescribing adrenaline autoinjectors (AAI) (e.g., previous anaphylaxis or asthma[5,6])
- Ensure AAI training is specific for the brand prescribed
- Give information on food labelling
- Breast feeding mothers do not need to remove cow's milk from their own diet unless this has clearly triggered a reaction. For those wanting formula, an extensively hydrolysed formula (EHF) should be prescribed; try amino acid formula (AAF) if there has been an anaphylactic reaction[7]
- Consider allergy testing[2]
- Refer to an allergy clinic[2]

If non-IgE CMA is suspected:

Breastfed infants

- Continued breast feeding should be encouraged
- Cow's milk should be removed from maternal diet for 2-4 weeks to see if symptoms resolve
- Mothers should have supplements containing 1000 mg calcium and 400 IU vitamin D
- 50% babies with Non IgE CMA will also have soya allergy[3]

Formula fed infants

- Prescribe an EHF; the majority of infants will tolerate EHF
- AAF should be given to those with growth restriction or multiple allergies[7]
- Symptoms may take 2-4 weeks to resolve. Allow sufficient time before switching to an AAF. If there is partial improvement after 2-4 weeks, then trial AAF[7]
- Each formula has slight differences. Some infant formulas containing probiotics may help relieve symptoms and promote tolerance acquisition[8]
- Initially prescribe 2 x 400g. Families should be warned that stools can turn green, and compliance may be an issue. Adding vanilla essence drops to the formula can help. Once the formula is tolerated, prescribe enough tins for the child's weight; see iMAP guidelines.
- Once diagnosis is confirmed, prescription formulas are usually continued until the child is 2 years old[1]

Confirmation of Diagnosis

Without any diagnostic tests, a rechallenge is done to confirm continued exclusion of milk is needed. If the infant's symptoms have fully improved after 2-4 weeks, they should be retried on milk to confirm their symptoms return. Breast-feeding mothers should return to a normal diet. Formula fed infants should be tried on small amounts of cow's milk formula to see if their allergy symptoms return (see iMAP guidelines). The amount of milk given can be steadily increased if tolerated. If symptoms return, a definite diagnosis can be given.[3]

Ongoing Treatment

Once non-IgE CMA is confirmed, milk products should be excluded for six months and then reintroduced using the milk ladder (see iMAP guidelines). NICE recommends referral to a dietician. Infants with growth restriction should be referred to secondary care.[2]

Weaning

Weaning should not be put on hold for CMA. More guidance can be found in the BSACI Early Feeding Guidance.[9] Infants should avoid cow's milk/animal milks and their products.

Prognosis

Approximately 2/3 of children with CMA can tolerate milk by the age of 5; approximately 1 in 20 will have an allergy that persists into adulthood.[1]

References

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8. Tan-Lim CSC, Esteban-Ipac NAR. *World Allergy Organ J*. 2018 Nov 6;11(1):25.
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Helen Evans-Howells

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STOP the symptoms of CMA faster* and ***START*** reducing the risk of future allergic manifestations

NEW clinical study reinforces consistent superiority[1-7]

>2X MORE INFANTS
returned to cow's milk
vs whey-based EHF[1†]

57% FEWER INFANTS
developed allergic manifestations
vs whey-based EHF[1‡]

Plus Nutramigen LGG® provides
99% AVERAGE CLINICAL EFFICACY[8§]

Nutramigen LGG® is a food for special medical purposes for the dietary management of cow's milk allergy and must be used under medical supervision. Nutramigen LGG® is not recommended for premature and immunocompromised infants unless directed and supervised by a healthcare professional.

IMPORTANT NOTICE: Breastfeeding is best for babies. The decision to discontinue breastfeeding may be difficult to reverse and the introduction of partial bottle-feeding may reduce breast milk supply. The financial benefits of breastfeeding should be considered before bottle-feeding is initiated. Failure to follow preparation instructions carefully may be harmful to the health of the baby. Parents should always be advised by an independent healthcare professional regarding infant feeding. Products of Mead Johnson must be used under medical supervision.

*Compared to extensively hydrolysed formula (EHF) without LGG®. †After 12 months of dietary management. ‡Allergic manifestations during a period of 36 months included eczema, urticaria, asthma, and rhinoconjunctivitis. §Calculated using data on allergic reactions after oral food challenge with an EHF from Table 3 of Dupont *et al*. Studied before the addition of LGG®.

References: 1. Nocerino R, et al. *J Pediatr*. 2021;S0022-3476(21)00093–7. **2.** Canani RB et al. *Clin Immunol*. 2017;139(6):1906–1913. **3.** Baldassarre ME, *et al. J Pediatr*. 2010;156:397–401. **4.** Lothe L et al. *Pediatrics*. 1989; 83:262–266. **5.** Nermes M et al. *Clin Exp Allergy*. 2011;41:370–377. **6.** Canani RB, *et al. J Pediatr.* 2013;163:771–777. **7.** Canani RB, *et al. J Allergy Clin Immunol.* 2012;129:580–582 **8.** Dupont C *et al. Br J Nutr.* 2012;107(3):325–338.

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