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Cows' Milk Protein Allergy (CMPA) and Breastfeeding

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- Feeding with artificial formula in the first 4-6 months of life increases the risk to cow's milk protein allergy (CMPA) compared to exclusive breastfeeding (Vandenplas et al 2007)
- 0.5% of exclusively breastfed infants show reactions to cow's milk protein compared to 2%-7.5% of formula fed infants. (Vandenplas et al 2007)
- If a breastfed baby is thought to have CMPA the mother should eliminate all sources of cow's milk from her own diet as well as that of her baby for a minimum of 3 weeks. Although improvement **may** be seen after 3 days it may not resolve for 4 weeks (Ludman et al 2013)
- A breastfeeding mother who is on a diet free of cow's milk protein she should be prescribed a supplement of 1000 mg of calcium and 10 microgramme of vitamin D

Cows' milk allergy can often be recognised and managed in primary care. Patients warranting a referral to specialist care include those with severe reactions, faltering growth, atopic comorbidities, multiple food allergies, complex symptoms, diagnostic uncertainty, and incomplete resolution after cows' milk protein has been excluded (Ludman 2013).

Cow's milk protein allergy (CMPA) can affect people of all ages but is most prevalent in infants, affecting between 2 and 7.5% of formula fed and 0.5% of exclusively breastfed babies. Exclusively breastfed babies develop CMPA as a result of milk proteins from products the mother has eaten transferring through breast milk. The level of cow's milk protein present in breast milk is 100,000 times lower than that in cow's milk. Most reactions to cow's milk protein in exclusively breast fed babies are mild or moderate and severe forms of CMPA very rare. It is thought that immunomodulators present in breast milk and differences in the gut flora of breastfed and formula fed infants may contribute to this. (Ludman 2013).

Secretory immunoglobulin A (sIgA) in breastmilk "paints" a protective coating on the inside of a baby's intestines to prevent penetration by potential allergens such as foreign proteins. SIgA cannot be replicated in formula.

To speak to a Breastfeeding Supporter call the National Breastfeeding Helpline 0300 100 0212

Calls to 0300 numbers cost no more than calls to UK numbers starting 01 and 02 and will be part of any inclusive minutes that apply to your provider and call package

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The reaction may be mediated by IgE (anaphylaxis, urticaria) if they occur immediately following consumption of cow's milk protein or non IgE (GI reactions, eczema, GOR) which may occur several hours or even days after consumption. The immune system responds to the protein casein or the whey found in cow's milk.

Although these symptoms may be related to other conditions, they are likely to be due to CMPA if the severity is related to a change in the amount of cow's milk consumed by the mother and/or baby, or if cow's milk based formula or other similar foods are introduced into the baby's diet. CMPA is also a likely cause if the symptoms appear in more than one system, for example diarrhoea and atopic dermatitis, and also if these symptoms are resistant to treatment. It is important to consider all outcomes and to take a full medical history to ensure that the symptoms are not due a cause other than CMPA. (Ludman 2013). Attention should also be paid to optimising attachment and frequent feeding if the baby is breastfed.

Where CMPA is suspected in a breastfed baby, the recommended treatment is for the mother to remove all sources of products containing cow's milk from her diet, ideally under medical supervision. Mothers should be prescribed a supplement of 1000mg of calcium and 10 microgrammes of vitamin D every day.

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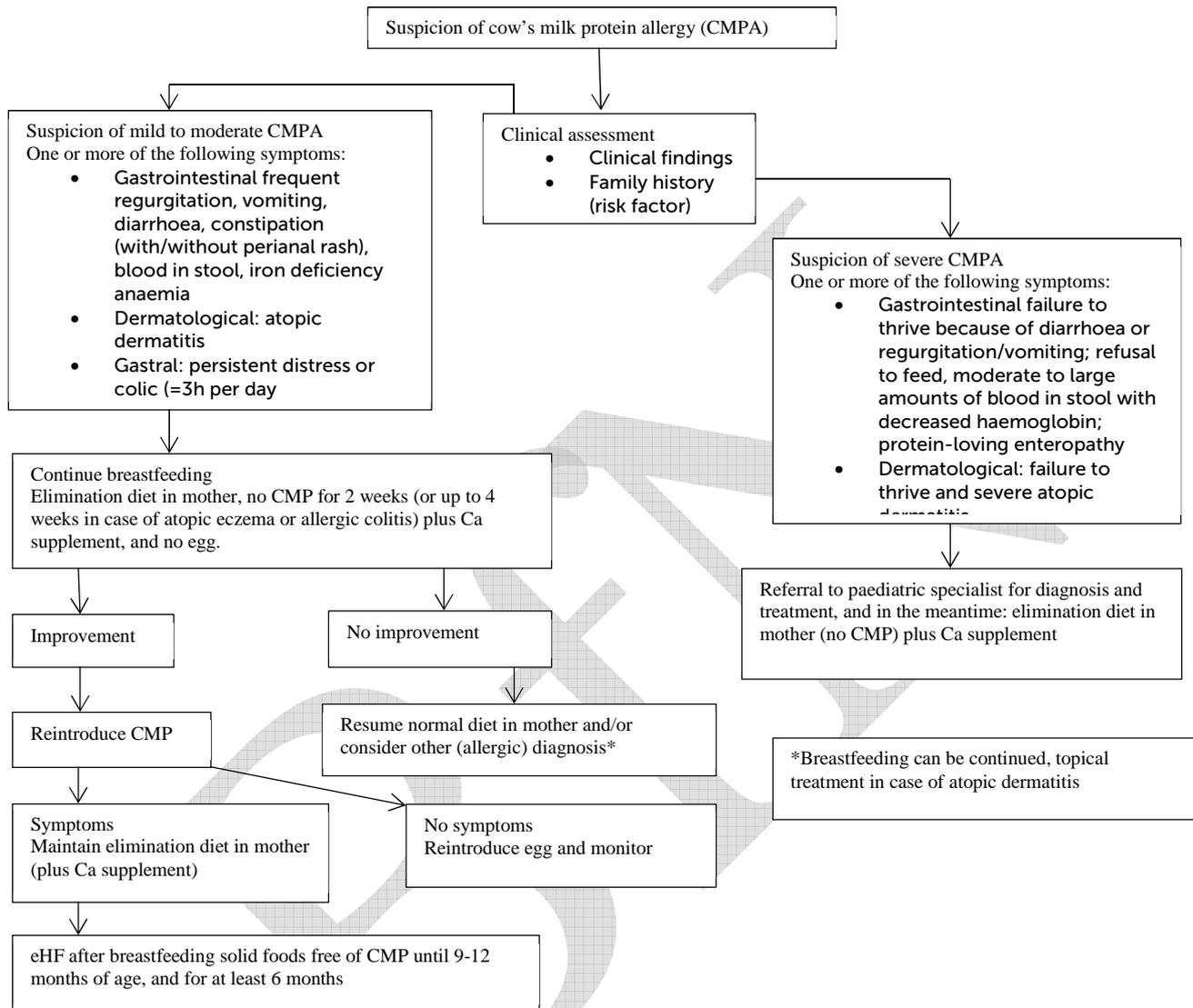
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Algorithm for the diagnosis and management of cow's milk protein allergy (CMPA) in exclusively breast-fed infants. eHF, extensively hydrolysed formula.



Vandenplas Y et al. Arch Dis Child 2007; 92:902-908

Vandenplas et al (2007) state that 10-35% of infants with CMPA have adverse reactions to soya. While Ludman et al (2013) report that up to 60% of patients with non-IgE mediated cow's milk allergy and up to 14% with IgE mediated allergy also react to soya.

Where solid foods have been introduced, all sources of products containing cow's milk should also be removed from the baby's diet. It will usually take between 2 and 4 weeks for symptoms to disappear. It is suggested that milk is then reintroduced to ensure that this has been the cause of the symptoms. (Ludman 2013, NICE 2011).

Where a diagnosis of CMPA is confirmed the mother should avoid cow's milk products in her diet for as long as she is breastfeeding. She will continue to require support to manage her nutrition, particularly where the elimination diet is over an extended period of time. A dietician or other

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healthcare professional managing the case will recommend at which point reintroduction of cow's milk should be trialled and how this should be managed. Care should also be taken with the weaning diet and appropriate alternative sources of calcium included under dietetic supervision.

There is generally no need to add special prescription formula or soya formula. The baby can continue to receive breastmilk even whilst his/her mother is beginning to eliminate cow's milk protein from her diet

A diagnosis of cow's milk protein allergy has many ramifications for mother and baby. A mother should not be asked to remove products containing cow's milk protein lightly e.g. to resolve colic symptoms, without first considering referral to a breastfeeding expert to address issues around optimal attachment.

<ul style="list-style-type: none"> • Organ involvement 	<ul style="list-style-type: none"> • Symptoms
<ul style="list-style-type: none"> • Gastrointestinal tract 	<ul style="list-style-type: none"> • Frequent regurgitation
	<ul style="list-style-type: none"> • Vomiting or diarrhoea
	<ul style="list-style-type: none"> • Constipation (with/without perianal rash)
	<ul style="list-style-type: none"> • Blood in stool
	<ul style="list-style-type: none"> • Iron deficiency anaemia
<ul style="list-style-type: none"> • Skin 	<ul style="list-style-type: none"> • Atopic dermatitis
	<ul style="list-style-type: none"> • Swelling of lips or eye lids (angio-oedema)
	<ul style="list-style-type: none"> • Urticaria unrelated to acute infections, drug intake or other causes
<ul style="list-style-type: none"> • Respiratory tract • (unrelated to infection) 	<ul style="list-style-type: none"> • Runny nose, otitis media
	<ul style="list-style-type: none"> • Chronic cough or wheezing
<ul style="list-style-type: none"> • General 	<ul style="list-style-type: none"> • Persistent distress or colic (wailing/irritable for ≥ 3 h per day) at least 3 days/week over a period of >3 week

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