DOCUMENT CONTROL PAGE

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1. Purpose and Scope of document

Cow’s Milk Protein Allergy (CMPA) is a common paediatric problem affecting 2-7% of infants. It may be IgE (Immunoglobulin E) mediated or non-IgE mediated. Common symptoms include reflux, vomiting, diarrhoea, constipation, colic, urticaria, bloody stools and wheezing. It is commonly misdiagnosed, and left untreated results in failure to thrive and ongoing symptoms.

A diagnosis is confirmed by resolution of symptoms after introduction of an elimination diet. Without guidance, inappropriate infant milk substitutions are often made leading to ongoing symptoms or dietary deficiencies.

This guideline aims to raise awareness of symptoms and signs, aid in diagnosis and standardise management ensuring an appropriate elimination diet is instigated whilst dietary intake remains replete. This guideline is in accordance with the NICE guideline ‘Food Allergy in Children and Young People 2011’ and ‘Food Allergy in Children and Young People: Evidence Update May 2012’.

This guideline applies to all children <16 yrs suspected of having Cow’s Milk Protein Allergy who are seen as an inpatient or outpatient at Royal Bolton Hospital.

2. Definitions

An extensively hydrolysed formula (EHF) refers to any modified infant formula that has been shown in clinical trials to alleviate symptoms in ≥90% of children diagnosed with Cow’s Milk Protein Allergy.

3. Policy Statement

See purpose and scope of document
4. Guideline
Assessment of child presenting with features of cow's milk protein allergy

Please use checklist in Appendix 1 to aid in making a diagnosis and differentiate between IgE and non-IgE mediated allergy.

Serum specific IgE testing should be carried out if IgE mediated allergy is suspected by sending a serum sample requesting specific IgE to cow’s milk and total IgE levels. Consider sending this for all patients – this can be decided by the leading clinician on review if it is not sent at first presentation.

Evidence also indicates that children with non-IgE mediated allergy may convert to IgE-mediated allergy after an elimination diet. This suggests that conducting IgE-mediated allergy tests may be useful before reintroduction of excluded foods.

Please warn parents that results take several weeks and this is not a diagnostic test but will be used in conjunction with clinical features in making a diagnosis and deciding when to reintroduce milk to the diet.

Management of CMPA

If a diagnosis of cow’s milk protein allergy is suspected, refer to flowchart in Appendix 4 for management.

Patients should be commenced on an elimination diet which will remove all natural cow’s milk protein from the diet, replacing it with extensively hydrolysed protein. Infant formula or cow’s milk will be replaced with an Extensively Hydrolysed Formula (EHF) and if weaned, foods containing cow’s milk protein will need to be removed from the diet. The dietitian will supply further information and advice on dietary changes for babies who are weaned to ensure the diet contains adequate calcium and is balanced.

Please prescribe the first tin of EHF. Several formulas are available but current recommendations are to use Aptamil Pepti 1 or Nutramigen 1 for babies less than 6 months old or Aptamil Pepti 2 or Nutramigen 2 for babies greater than 6 months old. Soya milk should not be used for the treatment of CMPA as there is a high level of cross-reactivity between soya and cow’s milk. Soya milk is not advised at all for infants under 6 months due to the high levels of phytoestrogens. Both Aptamil Pepti and Nutramigen are defined as an EHF (see definitions above) and should cause resolution of symptoms if the diagnosis is correct in ≥90% patients. Aptamil Pepti contains some lactose and may be contraindicated in lactose intolerance, however lactose intolerance may be secondary to CMPA and the vast majority of patients would be expected to respond to either EHF.

Parents should be warned that <10% children with CMPA will not respond to an EHF and may need an amino-acid formula such as Neocate or Nutramigen AA. This will be supplied at dietetic review if felt to be necessary due to continuing symptoms. If patients are already using EHF with continued symptoms and a diagnosis of CMPA is still suspected, change formula to an amino-acid formula such as Neocate or
Nutramigen AA. Parents should be advised not to reintroduce cow’s milk protein into the diet without receiving prior advice from a dietitian or paediatrician.

**Information for parents and GP prescription**

Please give the leaflet in **Appendix 2** to parents or carers, and print and complete **Appendix 3** - GP request for prescription. Ensure an appropriate discharge summary or clinic letter is also completed.

**Referral and follow up**

Please make referral to dietitian and arrange follow up as described in **Appendix 4**.

5. **Monitoring, Evaluation and Review**

The guideline should be audited every 1-3 years as part of the audit of NICE guideline “Food Allergy in Children and Young People”. The guideline will be reviewed by review date stated or earlier if new local, regional or national guidance is released.

6. **References**

1. NICE. Diagnosis and Assessment of Food Allergy in Children and Young People in Primary Care and Community Settings. National Institute of Health and Clinical Excellence; London; 2011

Appendix 1 - Cow’s Milk Protein Allergy - Clinical History Checklist

Consider cow’s milk protein allergy in an infant who:

- Presents with one or more of the symptoms listed below, or
- Who has had treatment for atopic eczema (under 1 year old), gastro-oesophageal reflux disease or chronic gastrointestinal symptoms and their symptoms have not responded adequately to other treatment.

<table>
<thead>
<tr>
<th>IgE-mediated (Immediate onset &lt;1hr)</th>
<th>tick</th>
<th>Non-IgE-mediated (Delayed onset 1hr-days)</th>
<th>tick</th>
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<tbody>
<tr>
<td><strong>Skin</strong></td>
<td></td>
<td><strong>Gastrointestinal symptoms</strong></td>
<td></td>
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<tr>
<td>pruritus (itchy skin)</td>
<td></td>
<td>angioedema of the lips tongue and palate</td>
<td></td>
</tr>
<tr>
<td>erythema (redness)</td>
<td></td>
<td>oral pruritus</td>
<td></td>
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<tr>
<td>acute urticaria (raised itchy rash)</td>
<td></td>
<td>nausea</td>
<td></td>
</tr>
<tr>
<td>acute angioedema (swelling)</td>
<td></td>
<td>colicky abdominal pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>vomiting</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>diarrhoea</td>
<td></td>
</tr>
<tr>
<td><strong>Upper respiratory tract symptoms</strong></td>
<td></td>
<td><strong>Lower respiratory symptoms</strong></td>
<td></td>
</tr>
<tr>
<td>nasal itching, sneezing</td>
<td></td>
<td>Cough</td>
<td></td>
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<tr>
<td>runny nose or congestion</td>
<td></td>
<td>Chestiness</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wheezing or SOB</td>
<td></td>
</tr>
<tr>
<td><strong>Signs or symptoms of anaphylaxis or other systemic reactions</strong></td>
<td></td>
<td>GOR</td>
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</table>

If cow’s milk protein allergy is suspected, see full guideline for management advice.
Cow's Milk Protein Allergy – Advice for parents and carers

Your baby has suspected cow’s milk protein allergy. This means they find it difficult to digest the proteins found in cow’s milk and may have symptoms such as: being generally unsettled after feeds, colicky, reflux, diarrhoea, vomiting, bloody stools, eczema or faltering growth. Cow’s milk is the most common food to cause a reaction in infants. However prognosis is good and most infants will outgrow cow’s milk protein allergy by 1 year of age, and almost certainly by 2-3 years of age.

As a result your baby has been prescribed an extensively hydrolysed formula (EHF) (e.g. Nutramigen or Aptamil Pepti). This means that the proteins are broken down in the milk making them easier for your baby to digest. You should see some improvement in your baby’s symptoms after 2-4 weeks or even earlier. **Attached is a letter to give to your GP to get your EHF on prescription. You need to take this request to your baby’s GP as soon as possible.**

Some babies will not like the taste of their new formula, especially as they get older. To make it easier to introduce, you may need to start by mixing a small amount of new formula in with their old formula and gradually increasing the amount of new formula with each feed until they are drinking the new formula. There is no problem mixing the formula once made up but each should be made according to the instructions first and mixed before giving to your child.

You will be referred to the paediatric dietitian for an outpatient appointment, and further management. In some instances you might be asked to bring your baby back to the Children’s Ward or to see a paediatrician for review. Please do not reintroduce cow’s milk protein into your child’s diet without discussing this with your dietitian or paediatrician to gain advice on how this can be safely carried out.

In the interim, if you think your baby is not improving on this formula you should contact your GP in the first instance. If you would like to speak with a paediatric dietitian please call 01204 390 390 and ask switchboard to bleep 3011.
Appendix 3 – Discharge Prescription Request

Date: ................................................
GP: ........................................................................................................
Surgery: ....................................................................................................

Dear Doctor,

Re:

The patient above has recently been seen at Royal Bolton Hospital. You will receive full written communication regarding their appointment or admission in due course.

I would be grateful if you would prescribe the following for a period of 1 month (please tick):

- Nutramigen Lipil 1 400g x 2/week
- Nutramigen Lipil 2 400g x 2/week
- Aptamil Pepti 1 900g x 1/week
- Aptamil Pepti 2 900g x 1/week
- Neocate 400g x 2/week
- Nutramigen AA x 2/week

Follow up will be arranged by Royal Bolton Hospital.

If you would like to discuss his/her needs in more detail, please do not hesitate to contact the dietetic department on 01204 390 390 ext: 4236, Fax number 01204 390 465 for advice.

Yours sincerely,

Sign and print name and designation
Appendix 4 – Management of CMPA Flowchart

Patient presents acutely or as out-patient

Clinical history suggests CMPA (see checklist - Appendix 1)

Perform or request Specific IgE testing if IgE mediated illness suspected. Consider for all patients.

Commence elimination diet using EHF eg Nutramigen or Aptamil Pepti. See full guidance to aid choice of milk. Supply 1 tin (2 at weekends) along with parent advice leaflet (Appendix 2) and GP prescription request (Appendix 3)

If the infant is thriving and otherwise well

Refer to dietitian by blue form, letter, email (mandy.davies@boltonft.nhs.uk or Danielle.sudell@boltonft.nhs.uk) or bleep (3011) or face to face

Review in dietetic clinic 2-4 weeks after commencing EHF. If not improving, a change of milk to neocate or nutramigan AA may be suggested. Further paediatric follow up will be requested by dietitian if the diagnosis is not confirmed by a response to appropriate treatment

If the infant is not thriving and / or there are other medical concerns requiring more urgent medical review

Review within 2 weeks in Rapid Assessment Clinic for ward patients or in out-patient setting for out-patients

Consider referring to the dietitian for further management of CMPA. Ongoing paediatric follow up should be arranged as required