LIFIB Your Local Infant Feeding Information Board

Briefing Paper 2 January 2015

LIFIB Briefing Paper: Lactose Intolerance in Infants

The purpose of this Briefing Paper is to equip Midwives, Health Visitors and partners (including GPs and breastfeeding peer supporters), with information around Lactose Intolerance in infants (under 12 months), to

A) clarify the **differences between:**

Cows Milk Protein Intolerance (CMPI) and
Lactose Intolerance (LI);

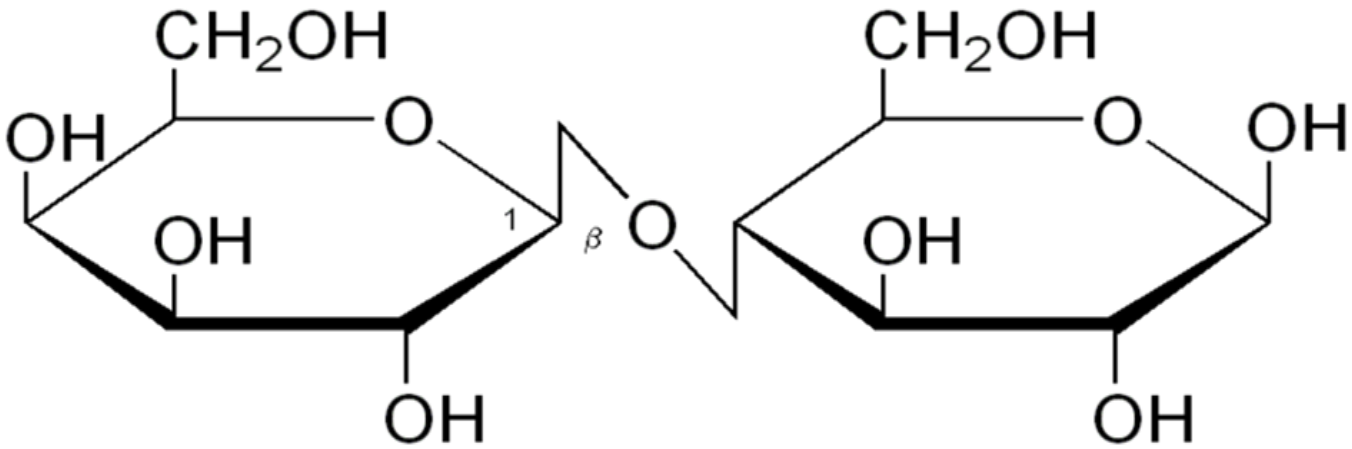
and **differences between**

Secondary (Temporary) Lactose Intolerance, and
Primary Lactose Intolerance / Galactosaemia

B) outline **possible courses of action** and ways of supporting families whose babies are suffering from Lactose Intolerance (LI).

This briefing paper has been commissioned to support healthcare professionals in Lancashire and was funded by Lancashire County Council via the North Lancashire Baby Friendly Project.

Lactose

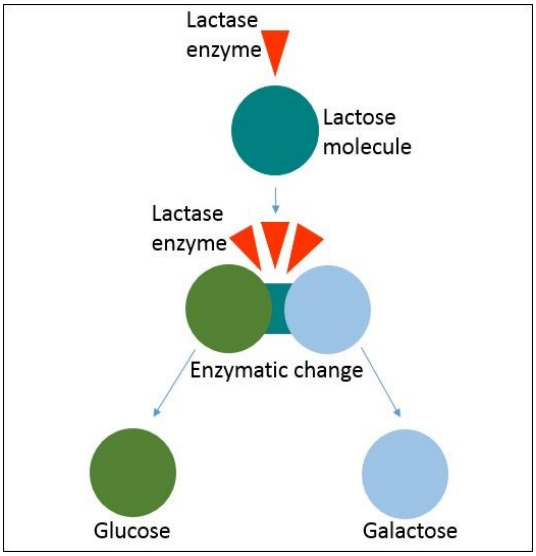


CMPI and LI

Cows' Milk Protein Intolerance is an immune system response to one or both of the milk proteins, casein and whey. It is distinct from Lactose Intolerance, which is the inability to digest the carbohydrate lactose (milk sugar) found in all mammals' milks, including cows' milk and human milk.

LACTASE

The enzyme lactase breaks down milk sugar (lactose). Lactase enzymes are found in the mucus of the small intestine. They cleave the molecules of lactose apart and so change the milk sugar into the absorbable compounds of glucose and galactose.



If there is not enough lactase around, the lactose skips the usual digestive process and is partially broken down by the bacteria in the intestines.

This fermentation process causes excessive wind, bloating and associated pain.

Any undigested lactose is sent quickly along the intestinal tract.

Water is not removed from the faecal matter, and so diarrhoea is the result.

LACTASE DEFICIENCY

Around two thirds of babies, either breast- or bottle-fed, will experience some degree of lactase deficiency in their early months without it causing them any harm. Human breast milk contains around 7% lactose. The amount of lactose in breast milk is not affected by the mother's diet. This means the mother can't influence the amount of lactose in her milk by reducing or eliminating dairy foods.

True lactose intolerance is due to deficiency of the enzyme lactase; it is not an allergy. **Primary lactase deficiency** is genetic and doesn't usually present until later childhood or adult life and is due to a reduced ability to produce lactase after the age of weaning; it is the most common cause of lactose intolerance in the UK population as a whole.

INFANTS ARE THEREFORE MORE LIKELY TO HAVE ONE OF THE FOLLOWING:

Congenital lactase deficiency: (Galactosaemia)

- a very rare, autosomal recessive genetic disorder that prevents lactase expression from birth. **People with congenital lactase deficiency are unable to digest lactose from birth, and are unable to digest breastmilk.** This would not manifest at 'x weeks' old.

Secondary / acquired / transient lactase deficiency: **this is the most probable**

- caused by an injury to the small intestine, usually during infancy this is by acute gastro-enteritis, diarrhoea, chemotherapy, intestinal parasites or other environmental causes.

WHAT ARE THE SYMPTOMS OF LACTOSE INTOLERANCE?

- **Diarrhoea** (loose stools may also be frothy, or have a greenish appearance)
- **Colic**
- **Transient nature, usually secondary to GI insult e.g. post infective**
- **improvement within 2-3 days of starting lactose-free diet**
- **Resolution within two weeks.**

Blood or slime in the stools is not a feature of lactose intolerance.

Lactose intolerance does not cause vomiting in babies: this is more likely to be a symptom of a cows' milk protein intolerance.

HOW CAN LACTOSE INTOLERANCE BE DIAGNOSED?

First, ascertain what possible causes there may be for the feeding problem: could it be the procedure followed to make up the infant's feed, or the method of delivery of the infant's feed, or the amount of the infant's feed, or the type of feed they have?

If you have explored all other possibilities and still believe that the type of feed may be the problem, then there may be some type of milk intolerance, so this may need referral to a Paediatrician, via the GP: artificially fed babies with secondary (transient) LI can be managed with off-the-shelf artificial milks designed for the purpose, so no referral or prescription are required. See following pages for more details on care.

CARE OF THE BREASTFED INFANT WITH SUSPECTED LACTOSE INTOLERANCE

The primary healthcare practitioner should first take a full history of baby's health in previous days, weeks and months, also include mother's medical history including any pituitary or other hormone issues, and feeding history of any siblings.

Conduct a feeding assessment including but not limited to: baby's stools and urine output, weight, quality of baby's attachment to the breast, the frequency of feeds, baby's behaviour during a feed, pattern of baby's suckling during feed, how the feed ends, how the baby appears after the end of a feed, shape and colour of mother's nipple when feed ends, condition of mother's breast and nipple between feeds.

If there are elements of the mother and baby's breastfeeding technique which could be improved then work on these first. For example, a baby feeding ineffectively (possibly indicated by pain in the breast or nipple, mis-shapen or blanched nipple at the end of a feed, rapid suckling throughout a long feed, short frequent feeds, slow or absent weight gain, or by baby fighting at the breast with fast letdown) could be taking in air or not reaching enough of the fattier / richer milk in mother's breast and this can cause frothy, watery, sometimes green stools, as well as bloating, excessive wind and colicky symptoms in the baby. Additionally, feeding baby to a schedule or misreading feeding cues (ie not feeding responsively) could result in baby feeding less than it needs, and / or being very fractious as it feeds, so causing shallow latch or gulping of air, and baby who is not comfortable and comforted during a feed may take shorter or less satisfying feeds at the breast, causing some upset.

If attempts to resolve symptoms through work on mother and baby's breastfeeding technique do not resolve issue within 2-3 days, then primary healthcare practitioner (HV or MW or possibly GP) can do stool sample test for lactose intolerance in baby, and then, regardless of outcome (so referral can be made immediately), refer to appropriate Paediatric care at the local Acute Trust, with ongoing support given by the primary healthcare provider both before and after consultation and treatment.

CARE OF THE ARTIFICIALLY-FED BABY WITH SUSPECTED LACTOSE INTOLERANCE

The primary healthcare practitioner should first take a full history of baby's health in previous days, weeks and months, also include feeding history including any change in baby's feed type or feed pattern recently, and feeding history of any siblings.

Conduct a feeding assessment including but not limited to: baby's stools and urine output, weight, baby's feeding technique using the bottle, the frequency of feeds, how the feed ends, how the baby appears after the end of a feed, how much feed they are taking, how the feed is made up, what kind of feed the baby is having and whether the baby is being fed in a baby-centred and responsive way.

If there are elements of the baby's feeding which could be improved then work on these first: eg, a baby feeding ineffectively (possibly dribbling feed, needing a lot of winding, short frequent feeds, slow or absent weight gain) could be taking in air as they feed and this can cause frothy, watery, sometimes green stools, bloating, excessive flatulence and colicky symptoms in the baby. They might also not be feeding as much as they require. This might be resolved by offering some information to the main caregivers on more baby-centred and responsive feeding techniques. Where the feed is not being made up correctly this may result in over- or under-dilution of the feed, or bacterial overgrowth in the feed, causing gastrointestinal upset for the infant.

If work on a more responsive and baby-centred feeding style and guidance around proper preparation technique do not resolve issue within 2-3 days, then baby could be tried on a lactose-free artificial feed bought off-the-shelf eg Enfamil O-Lac, SMA LF, or Aptamil Lactose Free. If no improvement is seen in a further 2-3 days then the primary healthcare practitioner (HV or MW or possibly GP) can do stool sample test for other gut problems in baby (eg CMPI or bacterial overgrowth), and then, regardless of outcome (so referral can be made immediately), refer to appropriate Paediatric care at the local Acute Trust, with ongoing support given by the primary healthcare provider both before and after Paediatic / Dietetic consultation and treatment.

Lancashire promotes breastfeeding as the best form of nutrition for infants and this should be promoted, supported and protected wherever possible.

This briefing covers all infants; including those who breastfeed, who are artificially fed or those who do a combination of both. For breastfed babies who present with feeding problems, breastfeeding should be protected as this is usually the best management. Specialist milks should only be considered when there is truly a clinical need after a thorough assessment. Assessment should include common feeding management issues and consideration of whether the appropriate infant feed products are being correctly prepared, stored, and fed to baby.

APPENDIX

http://www.lancsmmg.nhs.uk/wp-content/uploads/sites/3/2013/04/Prescribing-Guidelines-for-Specialist-Infant-Formula-Feeds-V3-Oct-2014.pdf

http://www.firststepsnutrition.org/pdfs/Infant_milks_May_2014_final2.pdf

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Email: LIFIB@outlook.com **Twitter: @The_LIFIB**

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