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Baby colic

What is baby colic?

Baby colic is commonly defined as distress or crying in an infant, which lasts for more than three hours a day, for more than three days a week, for at least one week in an otherwise healthy infant. It is a common, benign, self-limiting condition and, despite much research on the subject, the underlying cause is still not clear.

Baby colic can cause considerable distress for parents and paediatricians. Despite 40 years of research, its pathogenesis is incompletely understood and treatment remains an open issue.

Who gets baby colic? (Epidemiology) [1]

- The condition typically presents in the second or third week of life, peaks around 6 weeks, and resolves by the age of 12 weeks in 60% of infants and by 16 weeks of age in 90%.
- It affects males and females equally.
- Breastfed and formula-fed infants are equally affected.
- It is one of the most common reasons for parents to consult their doctor in the first three months of their baby's life.

What causes baby colic? (Aetiology)

Despite decades of research, the actual cause of infantile colic remains unknown.

- Infantile colic may be caused by the impact of abnormal gastrointestinal motility and pain signals from sensitised pathways in the gut viscera.

- Smoking and also nicotine replacement therapy during pregnancy have been shown to be risk factors for baby colic [2] .
- There is an increased risk of infantile colic in preterm and small-for-gestational-age infants [3] .
- Baby colic may be associated with cow's milk allergy or lactose intolerance in some cases [4] .
- The composition of intestinal microbiota, especially an inadequate amount of lactobacilli and an increased concentration of coliforms, has been suggested in some studies to influence the pathogenesis of baby colic [5] .
- Food allergies have been advocated as a possible cause of infantile colic [6] .
- Behavioural issues such as family tension, parental anxiety, or inadequate parent-infant interaction have also been explored as causative factors for infantile colic [7] .

Colic symptoms

Infantile colic is defined according to Rome III criteria as episodes of irritability, fussing or crying that begin and end for no apparent reason and last ≥3 hours per day, ≥3 days per week, for ≥1 week [8] .

Baby colic symptoms [1]

The symptoms seen in infants described as having colic are all nonspecific and baby colic must be a diagnosis of exclusion when the clinician is satisfied that the child is otherwise healthy. Commonly described features of colic include:

- Inconsolable crying - typically, high-pitched and occurring frequently in the afternoon or evening.
- Redness of the face.
- Drawing up of the knees.
- Flatus.

A history should include:

- Feeding - breast/bottle.
- Weight gain.
- Bowel habit - stool consistency/colour/blood.
- Vomiting or reflux.
- Timing of crying.
- Duration of crying.

An examination should include:

- General examination, including weight.
- Abdominal examination, including hernial orifices and genitalia.

Differential diagnosis

Inconsolable crying and distress may indicate pain or other physical discomfort and other possible causes of pain should be sought in an acute situation, although many parents usually present with a history of inconsolable crying in an infant who appears to be thriving and content.

In an acute situation when faced with a distressed infant, consider:

- Physical discomfort - cold, wet, hungry.
- Severe nappy rash.
- Corneal abrasion from the infant's nails.
- Intussusception.
- Volvulus.
- Strangulated hernia.
- Torsion of the testis.
- Safeguarding issues.

When the history is over a longer period of time, consider:

- Reflux oesophagitis.

- Lactose intolerance.
- Constipation.
- Cow's milk protein allergy.
- Parenting skills and experience of parents.
- Maternal postnatal depression.

Gastro-oesophageal reflux disease is the most common differential diagnosis.

Investigating baby colic

- The diagnosis is usually made using history and examination alone and does not normally require any further investigations.
- Normal weight gain is typical in these infants.
- An alternative diagnosis should be considered if failure to thrive is present.
- Infants who exhibit atypical features, or in whom the diagnosis is in doubt, should be referred for a specialist opinion either as an emergency or to an outpatient clinic, depending on the clinical presentation.

Baby colic treatment and management

For the majority of cases simple reassurance is all that is required.

General support

- The parents of infants with colic often require support, as they will be anxious as to the cause of the crying and their apparent inability to help the child.
- A caring and compassionate healthcare professional is extremely important in the management of colic [9] .
- General advice to the parents may be all that is needed in terms of feeding regimes, temperature of the child's room, and clothing worn by the child, together with an explanation of the likely course of the condition.

- Parents may be advised to share childcare with each other and friends/grandparents until this stage has passed, in order to prevent physical/mental exhaustion.

Dietary approaches

- A hypoallergenic diet for breastfeeding mothers which excludes cow's milk products and other possible trigger foods may be helpful in some cases[7] .
- Where a suspicion of cow's milk protein allergy exists there is some evidence that the use of an empirical time-limited trial of a completely hydrolysed formula is a reasonable option[10] .
- If food intolerance is suspected in a baby with infantile colic (ie atopy risk, other signs or symptoms of food intolerance) then some experts recommend a short trial with an extensively hydrolysed cow's milk protein formula or, if breastfed, with a maternal hypoallergenic diet (eliminating dairy foods, eggs, peanuts, tree nuts, wheat, soy and fish)[11] .
- Partially hydrolysed formulas are not recommended for the management of infantile colic[9] .
- There is no proven role for the use of soy-based formulas or of lactase therapy in the management of baby colic and these interventions are not recommended[12] .
- Although some studies have shown that *Lactobacillus reuteri* may be effective as a treatment strategy for crying in exclusively breastfed infants with colic, the evidence supporting probiotic use for the treatment of infant colic or crying in formula-fed infants remains unresolved[13] .

Physical therapies

- There is inconclusive evidence for spinal manipulation.
- There is limited evidence from the literature to recommend complementary therapies such as massage, acupuncture or chiropractic care in infantile colic[9] .

Medication

A 2020 meta-analysis of four treatment approaches (manual therapy, probiotics, proton pump inhibitors and simethicone) on colic symptoms had outcome measures including infant crying time, sleep distress and adverse events [14] :

- High-level evidence showed that probiotics were most effective for reducing crying time in breastfed infants (range -25 min to -65 min over 24 hours) [15] .
- Simethicone had moderate-to-low evidence showing no benefit or negative effect.
- One meta-analysis did not support the use of proton pump inhibitors for reducing crying time and fussing.
- Three national guidelines unanimously recommended the use of education, parental reassurance, advice and guidance and clinical evaluation of mother and baby. Consensus on other advice and treatments did not exist.

A great deal of accumulated clinical experience tells us that children with colic incur no serious long-term effects from the disorder and that symptoms abate with time. The potential harm associated with diagnostic testing and treatment of infants is likely to surpass the harm from colic itself.

Outlook of a baby with colic (prognosis)

- The prognosis is excellent.
- Most infants with colic recover spontaneously by 3-4 months of age.
- However, it remains a frustrating problem for parents and caregivers because it is difficult to treat and may result in significant psychosocial consequences [13] .

Further reading

- Camilleri M, Park SY, Scarpato E, et al; Exploring hypotheses and rationale for causes of infantile colic. Neurogastroenterol Motil. 2017 Feb;29(2). doi: 10.1111/nmo.12943. Epub 2016 Sep 20.

- Halpern R, Coelho R; Excessive crying in infants. J Pediatr (Rio J). 2016 May-Jun;92(3 Suppl 1):S40-5. doi: 10.1016/j.jped.2016.01.004. Epub 2016 Mar 17.

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