Colic is commonly described as a behavioral syndrome in neonates and infants that is characterized by excessive, paroxysmal crying. Colic is most likely to occur in the evenings, and it occurs without any identifiable cause.

Essential update: Study suggests that colic is a form of migraine headache

A recent meta-analysis indicated that colic may be a form of migraine headache rather than, as has been proposed, a gastrointestinal condition. The analysis utilized 3 studies (891 subjects total), one of which indicated that there is a greater likelihood of colic in infants whose mothers have migraine headaches and the other two of which indicated that infants with colic are more likely to experience migraine in childhood and adolescence. Using a pooled random effects model in their analysis, Gelfand and colleagues found the odds ratio for an association between migraine and colic to be 5.6.[1, 2]

In a secondary analysis, which included two additional studies (both of which also looked at the colic/migraine link but addressed a different primary research question), the odds ratio for the association between migraine and colic was 3.2.[1]

Signs and symptoms

In the setting of colic, a detailed history should be obtained regarding the following:

- Timing of crying: Crying by infants with or without colic is mostly observed during evening hours and peaks at the age of 6 weeks
- Amount of crying: The amount of crying is not related to an infant’s sex; the mother’s parity; or the parents’ socioeconomic status, education, or ages
- Characteristics of crying: Compared with regular crying, colicky crying is more turbulent or dysphonic and has a higher pitch
- Family’s daily routine
- Possible other causes of excessive crying (eg, having hair in the eye, strangulated hernia, otitis, sepsis); colic remains a diagnosis of exclusion

On physical examination, the keys to the diagnosis are as follows:

- Normal physical findings
- Weight gain: Infants with colic often have accelerated growth; failure to thrive should make one suspicious about the diagnosis of colic
- Exclusion of potentially serious diagnoses that may be causing the crying

Demonstrated and suggested causes of colic may include the following:

- Gastrointestinal causes (eg, gastroesophageal reflux disease [GERD], over- or underfeeding, milk protein allergy, early introduction of solids)
- Inexperienced parents (controversial) or incomplete or no burping after feeding
- Exposure to cigarette smoke and its metabolites [3, 4]
- Food allergy [5, 6]
- Low birth weight [7]
- Characteristic intestinal microflora [8, 9]

See Clinical Presentation for more detail.

Diagnosis

The following should be kept in mind in the workup of a patient with colic:

- Laboratory studies are usually not indicated unless another condition is suspected
- If the patient’s stools are excessively watery, testing them for excess reducing substances may be worthwhile; positive results may indicate an underlying GI problem
- Stool may be tested for occult blood to rule out cow’s milk allergy
- Irritability and crying may be associated with GERD because of the pain associated with esophagitis

See Workup for more detail.

Management

General management principles include the following:

- Rule out common causes of crying
- Recommend that the parents not exhaust themselves, and encourage them to consider leaving their baby with other caretakers for short respites
- Drug treatment generally has no place in management of colic unless GERD appears likely; although the anticholinergic agent dicyclomine hydrochloride is effective against colic, it has rare but serious adverse effects.

http://emedicine.medscape.com/article/927760-overview
effects and cannot be recommended
- Consistent follow-up and a sympathetic physician are the cornerstones of management
- Various benign but unproven treatment modalities are available, including the following:
  - Maternal low-allergen diet (ie, low in dairy, soy, egg, peanut, wheat, shell fish) may offer relief from excessive crying in some infants.
  - *Lactobacillus reuteri*
  - Simethicone
  - Oral hypertonic glucose
  - Spinal manipulation (to recommended with caution, if at all)
  - Behavioral management
  - Nutritional supplements and other complementary medicines

Dietary changes may include the following:
- Elimination of cow's milk protein in cases of suspected intolerance of the protein
- In infants with suspected cow's milk allergy (CMA), a protein hydrolysate formula is indicated
- Uncommonly, amino acid–based formulas may be needed to manage suspected CMA, though evidence may be lacking for use in colic
- Soy-based formulas are not recommended, because many infants who are allergic to cow's milk protein may also become intolerant of soy protein

See Treatment and Medication for more detail.

Background

Colic is commonly described as a behavioral syndrome characterized by excessive, paroxysmal crying. Colic is most likely to occur in the evenings, and it occurs without any identifiable cause. During episodes of colic, an otherwise healthy neonate or infant aged 2 weeks to 4 months is difficult to console. They stiffen, draw up their legs, and pass flatus. Colic is one of the common reasons parents seek the advice of a pediatrician or family practitioner during their child's first 3 months of life.

The most widely used definition of colic was used by Wessel et al.\[10\] Their definition is based on the amount of crying (ie, paroxysms of crying lasting >3 h, occurring >3 d in any week for 3 wk).

Colic is a poorly understood phenomenon. It is equally likely to occur in both breastfed and formula-fed infants. Although potential adverse sequelae have been described, the disorder is generally believed to be self-limited and benign. Different feeding practices and crying may result in large amounts of air entering the gastric lumen, which suggests that excessive aerophagia may be associated with colic. Colonic fermentation is the second proposed source of excessive intestinal gas in infants. However, no experimental evidence supports either theory.

Increased levels of certain biochemical markers, such as motilin, alpha lactalbumin, and urinary 5-hydroxy-3-indole acetic acid (5-OH HIAA) have been associated in infants with colic. Data from one study suggested that psychosocial stress during pregnancy is associated with babies who develop colic.\[11\] Further research is needed to establish a causal relationship of these factors to colic.

Although anticholinergic drugs have proven effective, they are not recommended because of their serious adverse effects. Parental anxiety can be minimized if the physician discusses colic, offers insight on future expectations, and answers the parents' questions. Reassure the parents about the generally benign and self-limiting nature of the illness. A caring and compassionate healthcare provider remains the cornerstone in the management of colic, a problem for which effective therapy remains elusive.\[12\]

Pathophysiology

The term colic derives from the Greek word *kolikos* or *kolon*, suggesting that some disturbance is occurring in the GI tract. Researchers have also postulated nervous system, behavioral, and psychologic etiologies.

Frequency

International

Colic affects 10-30% of infants worldwide.

Mortality/Morbidity

Increased susceptibility to recurrent abdominal pain, allergic disorders and certain psychological disorders may be seen in some babies with colic in their childhood.

Sex

This condition is encountered in male and female infants with equal frequency.

Age

The colic syndrome is commonly observed in neonates and infants aged 2 weeks to 4 months.

Clinical Presentation

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References


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