

Family Physician Corner

Myths and Facts about Infantile Colic

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Infantile colic is a common condition affecting 10% to 30% of infants in the first 3 months of life. Infantile colic can be quite distressing to the parents. The condition cannot be clearly defined because of its variability. Nevertheless, the definition given by Wessel (1954) is still widely accepted. It is based on the rule of three: crying for more than three hours per day, for more than three days per week, and for more than three weeks in an infant that is well-fed and otherwise healthy¹.

Despite the fact that it has been more than 50 since it was first defined, the etiology is still vague. The causes of excessive crying in infants can be divided into two categories organic and non-organic. The later accounts for almost 95% of the cases, see Table 1.

Table 1: Causes of Excessive Crying in Infants

Organic 5%	Non-Organic 95%
Gastrointestinal Gastroesophageal reflux Constipation Cow's milk intolerance Lactose intolerance Rectal fissure	Gastrointestinal ? Hyperperistalsis ? Excessive gas
Neuralgic Chiari type I malformation Infantile migraine Subdural hematoma	Psychological (not proven)
Infection Meningitis Otitis media Urinary tract infection Viral illness	Neurodevelopmental Infants crying because of the colic maybe at the upper range of normal pattern of crying (like the normal infants it peaks around 6 weeks of age with crying late in the afternoon and evening).
Trauma Abuse Corneal abrasions Foreign body in the eye Fractured bone Hair tourniquet syndrome	

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Diagnostic Approach

As in any medical condition careful history and physical examination are of paramount importance to rule out organic causes. Physician must ask about the details of infant crying such as the timing, duration and the infant behavior during these episodes. One should also ask about symptoms of other serious diseases such as cardiac or pulmonary conditions. Spitting up and vomiting might indicate the presence of a gastrointestinal problem such as gastroesophageal reflux or pyloric stenosis. A history of loss of consciousness, vomiting, seizures, or lethargy should prompt evaluation for occult intracranial injury².

On examination, the infant must be observed for decreased muscle tone, lethargy, and poor skin perfusion. Rectal temperature should be measured and breathing pattern should be noted. Signs of infection in the ears, skin, soft tissues, bones, and joints should be looked for. Abdominal examination should be performed when the infant is calm to rule out the presence of abnormal bowel sounds, diffuse tenderness, rigidity or masses. Neurological examination is also important looking particularly for abnormal pupils, bulging fontanel or retinal hemorrhages².

Management

Once an organic cause is ruled out, it is safe to reassure carefully the parents about the benign nature of the condition. Despite this fact, physicians often face the urge to prescribe a medication or give an advice to the troubled parents. Since the etiology is still obscure, the suggested modalities of treatment vary according to the theoretical hypothesis of the underlying etiology, see Table 2.

Table 2: Modalities of Treatment According to the Etiology of Infantile Colic

Possible etiology	Suggested intervention
Gut Hypothesis	<ul style="list-style-type: none">- substituting cows' milk with soy milk- substituting cows' milk with protein hydrolysate (hypoallergenic)- substituting cows' milk with low lactose, or fibre enriched formula milk Drugs reducing painful intestinal contractions (dicyclomine) or (Cimetropium) or drugs reducing the formation of intraluminal gas (simethicone) - Herbal tea

Behavioral hypothesis

Modification of parents' responsiveness:
using motion and sound to calm the baby,
and reducing stimuli

Neurodevelopmental hypothesis

No suggested modality

Feeding, Drugs and Herbs

It is not recommended to stop breast feeding as the incidence of infantile colic is similar in both breast and bottle fed infants³. However, two systematic reviews showed that eliminating certain food items such as milk products, wheat, eggs and nuts from the breast feeding mothers diet could be beneficial^{4,5}.

Results from randomized controlled trials (RCT's) for the use of soy based formula is conflicting and the American Academy of Pediatrics' Committee on Nutrition does not recommend changing to soy formula in the management of colic because of possible allergy⁶. Randomized controlled trials on hypoallergenic, lactase enzyme-treated formula or fiber-enriched formulas showed no significant differences in the degree of symptoms compared with infants who received placebo⁴. However some physicians may still recommend a trial of hypoallergenic formulas for babies with positive family history of atopy¹.

Drugs that decrease intraluminal pressure, such as Simethicone (Mylicon), have been studied in a number of RCT's, despite its safety it was not better than the placebo⁷. Anticholinergic drugs such as dicyclomine (Bentyl) were found beneficial by several systematic reviews; nevertheless, this drug has been linked to infant apnea, seizures, syncope, asphyxia, muscular hypotonia, and coma. Therefore, it is no longer recommended to infant younger than 6 months^{8,9}. In Italy, they use an anticholinergic drug called Cimetropium; it showed a decrease in duration of crying crises in the treated group compared with placebo. However, it causes drowsiness otherwise it is relatively safe¹⁰.

In our region and at the ministry of health in Bahrain a product called Alinal Drops (Phenobarbital and pipenzolate) is commonly prescribed to infants with colic. Surprisingly the scientific literature does not support the use of this product for this condition¹¹.

Herbal tea is used anciently in all over the world to alleviate colic in infants. In Bahrain,



Figure 1: Magnified Fennel Seeds

A product called "Gripe Water" (Maa Ghareeb- ماء غريب in Arabic) has been commonly



Figure 2: Gripe Water

Behavioral Modification

In view of the behavioral hypothesis, many interventions aimed at decreasing crying in colicky infants have been suggested. Car-ride simulators, early response to crying, gentle soothing motions, avoidance of overstimulation, use of a pacifier, prophylactic holding and carrying, use of an infant carrier, and maintenance of day-night orientation showed no significant improvement in symptoms. Even parental counseling didn't show any benefits above routine advice, support, and reassurance. Neither crib vibrators nor infant massage showed any significant improvement in symptoms¹.

CONCLUSION

The benign nature of infant colic and the excellent prognosis should reassure the parents. Physicians however need to emphasize the possible harm of using unknown herbs recommended by friends or drugs advertised claiming magical effects. Parents should be directed to products with known clinical effects and approved by health authorities.

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