

A Stomach Turning Condition



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Physicians across several disciplines are increasingly recognizing the wide range of manifestations of gastroesophageal reflux (GER) in children. More often than not, the issues revolve around diagnosis and treatment, apart from the timing of referral to a sub-specialist. This article summarizes the current understanding and practice guidelines of this condition.

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Uncomplicated GER

Up to 50% of infants between zero-months-of-age and three-months-of-age regurgitate at least once during the day. This high prevalence peaks at four-months-of-age, involving two-thirds of all infants. Regurgitation dramatically drops to one infant in 20 infants by the time they reach one year-of-age.¹ This is an indicator that GER is a physiologic self-limited condition in infancy. These babies are essentially healthy, develop well and are not particularly distracted by this passage of gastric contents into the esophagus (GER), or into the oropharynx without effort and pain (regurgitation) or even when expelled out of the mouth (vomiting) due to transient lower esophageal sphincter (LES) relaxation; hence, the term "happy spitters" that is used for babies with uncomplicated GER. The history and the

physical examination are sufficient to make a diagnosis and no further workup is necessary. There is no need to medicate these infants and parental reassurance, anticipatory guidance and feeding (volume and frequency) adjustments are often sufficient according to the North American Society for Paediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) recommendations.²

If the regurgitation continues beyond 18 months-of-age to 24 months-of-age, an upper GI series to look for anatomic causes or a consultation with a pediatric gastroenterologist should be considered.³

Finally, this condition is also seen in late childhood and adulthood and may present as heartburn.

Complicated GER

Gastroesophageal reflux disease (GERD), on the other hand, is used to define a complicated GER which occurs in a minority of infants with recurrent vomiting. It may present either singly or in various combinations with:

- poor weight gain (failure to thrive or FTT),
- irritability,
- arching of the back during feedings,
- chronic cough,
- recurrent pneumonia,
- stridor or reactive airway disease, as well as other less common, but more ominous ones such as anemia and hematemesis.



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Beyond infancy, GERD-related common symptoms, like acid regurgitation, epigastric pain and heartburn occur in less than one child in 10 children between three years and 17 years of age⁴ compared to about one adult in five adults > 25 years-of-age to 74-years-of-age.⁵ Less commonly seen are those who experience:

- dysphagia,
- odynophagia,
- non-cardiac chest pain,
- hematemesis and
- dental enamel erosion.

Diagnostics

The diagnostic and therapeutic approach in an infant with GERD varies with a predominant symptom or complaint. Other diagnoses may be made in the presence of warning signals or comorbidities suggesting a non-GERD etiology of symptoms, such as:

- bilious vomiting,
- organomegaly,
- microcephaly or macrocephaly,
- hematochezia and
- fever or delayed onset of vomiting

Endoscopy and biopsy

Any infant or child with anemia and hematemesis with recurrent vomiting needs an endoscopy and biopsy. This initial test will not only help diagnose GERD by pathological features of esophagitis, but will also look for other diagnoses. The procedure is also advisable when the trial of a proton pump inhibitor (PPI) fails or in cases of PPI dependence, when there is a recurrence of symptoms upon discontinuing PPI. On the contrary, the endoscopy and biopsy do not always demonstrate esophagitis in non-digestive manifestations of GERD.

Barium study

An upper GI barium study is not recommended to diagnose GERD routinely, unless secondary

stricture is suspected. However, it can identify morphologic or anatomic explanation for the vomiting such as:

- pyloric stenosis,
- malrotation or
- antral web.

24 hour pH probe

Although generally considered a gold standard, 24 hour pH probe has no role in infants with evident digestive symptoms. It may be helpful in patients with non-digestive symptoms like recurrent pneumonia and asthma who are not responsive to conventional therapy, or for those on PPI to assess the adequacy of prescribed doses. Alternatively, for those with non-digestive GERD symptoms, such as laryngitis with an incomplete response to optimum doses of PPI, a positive pH-metry may facilitate the decision for surgery.⁶

Therapeutics

For an infant showing poor weight gain with regurgitation, a trial of feeds, thickened with rice cereal may be beneficial. In formula fed infants with vomiting, there is some evidence to support a one week to two week trial of hypoallergenic formula. One must be tuned to the warning signals that may point to other causes of FTT.

If the diagnosis of esophagitis is made by biopsy, PPIs should be prescribed for eight weeks full dose^{3,7} and the response should be monitored at two weeks from the start date. Evidence suggests benefits of PPIs in children with reflux esophagitis.^{9,10} Omeprazole and lansoprazole have been well studied in children. Long-term treatment with a PPI is usually required for GERD-related asthma.

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