INFANT REFLUX: NOT AS SIMPLE AS WE MIGHT THINK

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Gastrooesophageal reflux (GOR) is the passage of gastric contents into the oesophagus. It is a physiological process that occurs several times a day in healthy persons. Its clinical presentation of vomiting or regurgitation is very common in infants and in the majority of cases self-resolving and does not need treatment. It may be associated with irritability but only very few "crying babies" will have significant GOR as the cause for their irritability. Parental reassurance is important.

- peaks at 4 months of age when ~67% of healthy term infants have ≥ 1 daily episode of regurgitation
- between 5-7 months the prevalence of symptoms decreases from 61% to 21%
- at 12 months of age only 5% have symptoms

'Silent' reflux as GOR without vomiting/regurgitation is a controversial entity; certainly significant acid reflux (pH probe-proven) is always associated with vomiting.

Gastrooesophageal reflux disease (GORD) is GOR leading to complications. It is rare but more frequent in children with cerebral palsy, Down syndrome, cystic fibrosis and upper gastrointestinal malformations (tracheoesophageal fistula, hiatus hernia, pyloric stenosis). Why then do we have a significant proportion of infants in Australia (and other Western nations) being prescribed and given acid-suppressing drugs?

Winter et al (2010 and 2012) tested out two types of PPI. Of infants who improved on the medication, a switch to placebo made no difference compared to those still on PPI — placebo effect?

Chen et al 2012; Davidson et al 2013: Drugs failed to show benefits

Earlier studies used to formulate practice guidelines (2009) for both North America and Europe found no benefit of drugs over placebo

Cochrane systematic review (Gieruszczak-Bialek et al 2015) findings were that medications ineffective when prescription based on symptoms

But does it matter if the medication prescribed on an empirical basis seems to help?

Hassall (2012) - A commentary/review of the evidence regarding acid-suppression in infants. A few points from this article:

- Stomach contents buffered by feeds and is not acidic in pH
- In USA (and Europe), PPIs not approved for use in infants, despite their widespread use
- Acid suppressants not benign drugs.
- Hyperplasia of parietal cells in the stomach, so that when medication is stopped, rebound acid over-secretion occurs.

DEFINITIONS — ROYAL CHILDREN’S HOSPITAL

Gastroesophageal reflux (GER) is the passage of gastric contents into the esophagus. It is a physiological process that occurs several times a day in healthy persons. Its clinical presentation of vomiting or regurgitation is seen commonly in infants and is a normal occurrence that does not need treatment. It may be associated with irritability but only very few “crying babies” will have significant GER as the cause for their irritability. Reassurance of the parents is important.

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WHAT DOES THE RESEARCH SAY?

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WHAT ARE THE HAZARDS OF INAPPROPRIATE ACID SUPPRESSION THERAPY?

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- Stomach acid is required for:
  - defence against infection (reflux medications are associated with gastroenteritis, pneumonia, NEC, candidiasis [thrush in the blood], bacterial overgrowth of upper GIT)
  - absorption of certain nutrients (in particular vit B₁₂, calcium, magnesium, iron)
  - alteration of allergens to reduce risk of food allergy
  - activation of proteolytic (protein-digesting) digestive enzymes

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- One recent study found increased fracture risk in children given reflux meds as infants, presumably due to poor calcium absorption
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- activation of proteolytic (protein-digesting) digestive enzymes
WHAT ARE THE HAZARDS OF INAPPROPRIATE ACID SUPPRESSION THERAPY?

- Known side effects of PPIs in some children are headache, constipation, diarrhoea and nausea. What about infants?
- Profound effect on microbiota in gut
- PPIs also associated with kidney diseases unrelated to acid suppression
- PPIs also affect other acid-producing functions of the body, which could result in increased risk of heart attack, dementia or renal failure
- Adverse effects not always obvious as being associated with use of acid suppression drugs

WHAT MIGHT CAUSE ‘REFLUX’ SYMPTOMS?

- Breastfeeding issues
- Food allergy or intolerance, especially cows’ milk protein
- Aerophagia (air-swallowing) from poor seal on the breast
  - from tongue-tie and/or upper-lip-tie
  - from high palate
- Eustachian-tube irritation (precursor to ear infection) usually from food sensitivity

WHAT ABOUT THICKENED FEEDS?

- This is a strategy for formula-fed infants
- most thickeners are digested by the enzymes in breastmilk and those that are not have some safety concerns
- hard to administer to an infant feeding directly from the breast, so infant is usually taken off the breast
- The only advantage of these is to reduce the amount of vomiting, particularly in infants not keeping down enough milk to grow properly.

WHAT ABOUT THICKENED FEEDS?

- Disadvantages:
  - no affect on true refluxing, so no benefit for ‘silent reflux’
  - increase coughing
  - may decrease absorption of some nutrients
  - increase risk of NEC in preterm infants
  - increase the risk of constipation
  - thickeners provide ‘empty calories’ that may increase risk of obesity and diet-related chronic disease in later life
- usually means the infant is weaned from the breast and breastmilk
- Far better is to identify the cause and remove that, if possible

WHAT IS THE DIFFERENCE BETWEEN ‘SILENT REFLEX’ AND ‘COLIC’?

Royal Children's Hospital website on colic:
Crying is normal physiological behaviour in young infants. At 6–8 weeks of age, a baby cries on average 2–3 per 24 hours. Excessive crying is defined as crying >3 hours/day for >3 days/week. This is often referred to as ‘colic’. However, many babies present with lesser amounts of crying, as the parents perceive it as excessive.

Infants with colic are well and thriving. There is usually no identifiable medical problem. The parents are often distressed, exhausted, and confused, having received conflicting advice from various health professionals and lay sources.

RESEARCH INTO COLIC

- Decades ago, it was recognised that there is an overall increase in crying up to a peak of 8 weeks of age, followed by a decline until 4 months of age. Hunziker and Barr (1986) found that more carrying helped settle crying infants.
- Hill et al (2005): Australian randomised controlled trial restricting major allergens in maternal diet significantly improved infants with colic. Allergens restricted were cows’ milk, egg, peanuts, tree nuts, wheat, soy and fish.
- A new Australian study has found that restricting maternal intake of FODMAPs also improves colic in breastfed infants
WHAT ELSE CAN WE DO FOR THESE BABIES AND THEIR PARENTS?

- Listen to the mother’s story and her observations. Check that this is unlikely to be GORD (otherwise refer for medical assessment).
- Reassure parents that this stage is usually temporary.
- Check any feeding issues that could be increasing crying, e.g. lactose overload, or aerophagia.
- If these are ruled out and/or there are other symptoms in the breastfed infant, the mother could consider investigating her diet.
- Most common culprits are dairy and soy, but could be other allergens.
- Research evidence that reflux is often a symptom of cows’ milk-protein allergy: 48% in one 2008 study, up to 90%. (And nearly half of these also reacted to soy) in 2010 article, one third in a 2011 study.
- Also consider food sensitivity other than major allergens.

FINDING A DIETITIAN

- Go to Dietitians Association of Australia website: das.asn.au
- Click on ‘Find an Accredited Practicing Dietitian’
- Select WA and in Area of Practice ‘Allergy and food sensitivity’
- Check individual entries for dietitians to see what other areas of practice they have listed and select someone who deals with infants, breastfeeding, etc.
- Lists of dietitians experienced with food sensitivity also at fedup.com.au/Support but not all will deal with infants.
- Email joy at joyand@bigpond.net.au for a list of dietitians who do Skype/phone consultations and are knowledgeable re breastfeeding.

REFERENCES (1)


REFERENCES (2)


JOURNAL ARTICLE


Cost: $4.40
REFERENCES (3)


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Royal Children's Hospital, Melbourne: www.rch.org.au/clinicalguide/guideline_index/Gastroesophageal_Reflux_in_infants

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