

## **GASTRO-OESOPHAGEAL REFLUX (GOR)**

### **RECOGNITION AND ASSESSMENT**

#### **Symptoms**

- Frequent vomiting after feeds in otherwise healthy baby
- Recurrent desaturations in ventilated babies (exclude BPD spells)
- Chronic lung disease of prematurity may be worsened by recurrent aspiration caused by GOR

#### **Risk factors**

- Immaturity of the lower oesophageal sphincter
- Chronic relaxation of the sphincter
- Increased abdominal pressure
- Gastric distension
- Hiatus hernia
- Malrotation
- Oesophageal dysmotility
- Neuro-developmental abnormalities

#### **Differential diagnosis**

- Suspect cow's milk protein intolerance (CMPI) in babies who are formula bottle fed and have recurrent vomiting and irritability despite appropriate management of GOR

### **INVESTIGATIONS**

- Litmus test (pH paper on two occasions) for acid in oropharyngeal secretions (OPS), but not after stimulation for apnoea or bradycardia (which can cause a GOR episode) and not immediately after a feed
- ~~24 hr pH monitoring is of limited value in preterm babies. Consider in cases where repeated apnoea/bradycardia is resistant to other measures~~
- If repeated apnoeas/bradycardia, consider 24 hr pulse oximetry recordings to assess extent of problem and relationship to feeding
- If apnoeas/bradycardia persist at term-equivalent, perform oral contrast study looking at suck-swallow feeding patterns to exclude aspiration, GOR and anatomical malformations

### **MANAGEMENT**

#### **Position**

- Head upwards, at an angle of 30°
- Nurse baby prone or in left lateral position if monitored

#### **Feeding**

- Frequent low volume feeds
- Avoid overfeeding
- **Confirm diagnosis with testing of OPS with litmus paper before starting medical treatment**
- Infant Gaviscon (1 dose = half dual sachet)
  - breastfed: give during or after a feed (add 5 mL sterile water/milk to make a paste, then add another 5–10 mL and give with a spoon)
  - bottle fed: add to at least 115 mL of milk
  - NG fed: make up with 5 mL water and give 1 mL per 25 mL of feed

**Caution: Gaviscon contains sodium 0.92 mmol/half a dual sachet**

- ~~If symptoms persist, consider change to Instant Carobel (will thicken with cold or hand-warm milk). Add 2 scoops to 100 mL shake well and leave for 3–4 min to thicken. Shake feed again and give immediately. Take care that thickened liquid does not block fine bore nasogastric tube~~

**Warning: do not give Gaviscon and Carobel together as this will cause the milk to become too thick**

### Drugs

- If above measures fail, add ranitidine 2 mg/kg orally 8 hrly or 500 microgram/kg IV 12-hrly if <32 weeks' gestation and in the first week of life, increasing to 6–8 hrly if  $\geq$ 32 weeks and/or >7 days old – then titrated to gastric pH
- Give over 3–5 min (BNFc) as rapid administration can cause arrhythmias
- If still no improvement, change ranitidine to omeprazole 700 microgram/kg/day and add domperidone 300 microgram/kg 4–8 hrly

### Other measures

- If symptoms persist, consider other measures after discussion with consultant e.g.
  - erythromycin 6 mg/kg four times daily
  - cow's milk protein-free formula (in artificially fed infants)
  - some neonates with suspected CMPI are also allergic to hydrolysate formula and will respond to an amino acid-based formula
- assessment by speech and language therapy team as poor suck-swallow coordination can result in aspiration during feeds if unable to protect airway; can also occur following an episode of GOR

### Summary of management of GOR

