South Thames Paediatric Network

General Paediatric Surgery: Bilious vomiting in the new-born

Overview

There is a wide range of differential diagnosis in this presentation, the most concerning being intestinal malrotation and volvulus which can lead to the loss of the entire midgut. Other differentials include sepsis, neurological defects and other causes of intestinal obstruction. Malrotation can sometimes only be excluded with an upper GI contrast study in a tertiary surgical centre. This guideline has been created to advise clinicians in peripheral hospitals regarding pre-transfer management of the baby with bilious vomiting.

Clinical assessment

History

- Onset, colour and frequency of vomits, bilious vomits are **GREEN**
- Volume and persistence of bilious vomit
- Timing and passage of meconium
- Feeding
- Wet/dirty nappies
- Perinatal risk factors for sepsis e.g. maternal group B streptococcal infection or prolonged rupture of membranes
- Presence of blood in stools (this may indicate damage to the gastro-intestinal tract)

Physical examination

- Airway, Breathing, Circulation, Disability and check blood glucose
- Does the baby look lethargic and unwell? This is a cause for clinical concern
- Abdominal examination – tenderness, distension, hernial orifices, patency of anus
- Visible gastric peristalsis

Investigations

- Cannula insertion + bloods for full blood count, urea & electrolytes, c-reactive protein and blood gas
- Consideration of full septic screen – blood culture, urine culture, viral swabs, chest x-ray and lumbar puncture
- Abdominal x-ray – assess gas pattern. Is there a paucity of gas?

If clinical concerns of cardiovascular shock (prolonged capillary refill time, tachycardia, hypotension, failure to respond to >20ml/kg fluid resuscitation) then consider contacting STRS.

Guidelines can be found here: https://www.evelinalondon.nhs.uk/our-services/hospital/south-thames-retrieval-

Management

- Fluid resuscitation if required (as per APLS guidelines)
- Keep nil by mouth
- Nasogastric tube insertion (minimum 8 Fr in term neonate) and place on free drainage
- Fluids
  - Full IV maintenance fluids – 0.9% sodium chloride + 5% glucose + 10mmol potassium chloride/500ml (as guided by electrolytes)
  - Replace NG losses ml for ml – 0.9% sodium chloride + 10mmol potassium chloride/500ml
- IV antibiotics to cover sepsis as per local trust protocol
- Close monitoring of fluid balance
- Contact paediatric surgical registrar on call at designated primary tertiary centre with results of bloods, x-ray and most recent observations.
- Once a bed is confirmed at the designated primary tertiary centre, please arrange safe transfer of the child with two cannulas, IV fluids, nasogastric tube on free drainage and copies of documentation from your centre.

Tertiary Centre Management

- Please inform the parents that the tertiary centre will re-assess the baby and consider other potential diagnoses.
- If indicated the tertiary centre will perform an upper GI contrast study –contrast to delineate the configuration of the bowel and check the lie of the duodenum
  - **If the child is transferred for diagnostic contrast study, please hold their bed. If the imaging rules out malrotation and there are no other surgical concerns the patient can be transferred back to their local hospital for ongoing management**

Level of care and the urgency with which input is required:
Emergency transfer
Referral accepted within 30 minutes
Surgical input within 6 hrs

The original content for this guidance was created and provided by Evelina London. Authors: Iain Yardley and Zeni Haveliwala