

Vomiting in the neonate

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James talks to Professor Nick Evans about an approach to vomiting in the neonate.

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About Professor Nick Evans

Nick Evans has been a Staff specialist in Neonatal Medicine at [Royal Prince Alfred Hospital](#) and Clinical Associate Professor at [University of Sydney](#) since 1991. His research interests have been varied including the use of ultrasound in an acute care setting, the haemodynamic causes of brain injury in preterm babies and prevention of brain injury from severe [jaundice in term babies](#).

Vomiting in the Neonate

With Associate Professor Nick Evans, Staff Specialist in Neonatal Medicine, Royal Prince Alfred Hospital, New South Wales, Australia

Introduction

Vomiting in the neonate is extremely common, and a concerning presentation. One of the challenges of assessing vomiting in the neonate is distinguishing normal vomiting from pathological vomiting. It is normal to feel nervous when assessing neonates.

Case

A 5-day-old boy is brought to Emergency by his mother, with a history of vomiting.

1. How common is vomiting in the neonatal period?

- Extremely common.
- One of the clinical challenges is distinguishing normal vomiting from abnormal vomiting. Characteristics such as quantity, frequency and colour of vomiting are relevant.
- Normal vomiting, or possetting, is a small amount of reflux, often brought up with wind.
- Pathological vomiting will generally be recurrent larger volume vomits, with other associated features.

2. Outline your assessment approach

- **History**
 - General: history of the pregnancy, delivery period, postnatal period, antenatal scans.
 - How well is the baby feeding? How is the baby's general behaviour?
 - Nature of the vomiting: frequency, colour, volume of vomiting? Bile-stained vomiting is particularly concerning for a surgical cause. It can sometimes be difficult to determine whether vomiting is truly "bile-stained" - technically this would mean it is green.
 - How has the bowel habit been? When did the baby pass meconium? Is he opening his bowels?
- **Examination**
 - State of hydration (weight is crucial in the neonate).
 - Breast-fed babies can lose up to 12% of their birth weight, formula-fed babies lose around 8%.
 - Babies should regain their birth weight by day 7-14.
 - General condition, muscle tone, activity.
 - Full general examination.
 - Abdominal examination: abdominal distension, bowel sounds.
 - Ensure the baby has a patent anus (very easy to miss).
 - Check for inguinal herniae.
 - Check blood sugar.

3. What are some of the causes of vomiting in the neonatal period?

- Any systemic infection?
- Metabolic problems?
- Surgical problems, e.g. duodenal atresia, ileal atresia, Hirschsprung's disease, malrotation?
- Meconium ileus (in cystic fibrosis)?

4. What investigations are important, and when should you consider investigations?

- If you are concerned the vomiting is pathological, investigations are required.
- Full blood count and CRP to assess for infection.
- Electrolytes, urea, creatinine (neonates may become hypernatraemic in vomiting).

- Abdominal x-ray (lateral decubitus): assessing for fluid levels. Most surgical causes will have an abnormal abdominal x-ray. Malrotation can produce an unusual x-ray pattern, however (bowel gas on the right of the abdomen), and it's important not to miss this.
- Septic screen.

5. Management

- Management depends on the underlying cause.
- Surgical cause: similar to how an adult surgical abdomen is managed. NGT insertion, intravenous access and intravenous maintenance fluids, involvement of a paediatric surgical team.
- Infectious cause: septic screen, intravenous empiric antibiotics (depending on local antibiotic guidelines).

6. What advice would you give to parents if the vomiting is non-pathological?

- The most important thing is that the baby is gaining weight. If you can persuade the parents that this is normal, that is all the reassurance they require.
- Generally, for reflux, symptoms improve in the first 3-4 months.
- Parents can consider feed thickening.
- There is no evidence for ranitidine or omeprazole.

7. Indications for admission?

- If you are concerned enough to investigate, an admission is warranted.

Take home messages

- Always remember to weigh the baby (bare weight).
- If there is anything you're not sure about, ask for advice - neonatology is very tricky, and it is right to be nervous about babies. When things go wrong in babies, it happens quickly.

- If you're unsure whether something is normal, watch the baby - it will become clear whether there is a problem or not.

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