

Turning the tide of low value care

Paediatric case studies

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Case study: Diagnosis and Management of the Vomiting Child



How much investigation is enough?

This is Jack at 11:26 Friday

- 9 month old with vomiting and diarrhoea
 - Multiple vomits since 03:00, no bile, no blood
 - Loose stool at 03:00 and 11:00, a little bit of blood at 11:00
 - Feeding OK and normal wet nappies
 - Unsettled at times
 - No fever, no viral contacts
 - Previously well

This is Jack at 11:31 Friday

- On Examination
 - Temp 36.4 Pulse 130 Resps 30
 - Blood sugar normal
 - Alert and settled but small green vomit
 - Moist mucous membranes
 - Abdomen soft, not distended, non tender
 - No masses, bowel sounds normal
 - No anal fissure

What would you do ... ?

Investigations

- a) Nothing else?
- b) Bloods?
- c) Urine?
- d) AXR?
- e) Ultrasound?

Management

- a) Discharge with hydration advice?
- b) Trial of oral fluid?
- c) Nasogastric fluid?
- d) Intravenous fluid?

This is the JMO at 13.53 Friday

- I did an AXR because of the blood in the stool
- The AXR was normal
- I called the surgeon who said it didn't sound surgical
- Child much better, not vomiting, obs normal
- Plan to observe with IV fluids



Later that night

- Small amount of vomiting post feeds
- Miserable, observations normal except mild fever to 37.6, examination unchanged
- Reviewed by Paediatric Team for admission;
 - History of eating lobster 3 days ago
 - “Not for surgical” noted
 - Blood and urine normal
 - Impression “infective colitis”

What would you do ... ?

Investigations

- a) Nothing else?
- b) Repeat bloods?
- c) Lumbar puncture?
- d) Stool culture?
- e) Further imaging?

Management

- a) Nothing further?
- b) Maintenance fluid?
- c) Fluid bolus?
- d) Oral antibiotics?
- e) IV antibiotics?

The next morning

- “Stable night”; no further vomiting and tolerating oral fluid
- The nurses are worried, he’s just a bit flat
- On the ward round Mum shows mobile phone photo record of the “little bit of blood”
- Ultrasound confirms intussusception

Reflections

Low value care in this case contributed to ...

- False reassurance
- Diagnostic anchoring
- Significant diagnostic delay

RACP Evolve

- Recommendation against “routine” AXR

Paediatrics & Child Health Division

The Paediatrics & Child Health Division represents 5,000 Fellows and trainees of The Royal Australasian College of Physicians (RACP). We aim to improve the health and wellbeing of neonates, infants, children and young people through education and training, research, and policy and advocacy.

1 Do not routinely prescribe oral antibiotics to children with fever without an identified bacterial infection

2 Do not routinely undertake chest radiography for the diagnosis of bronchiolitis in children or routinely prescribe salbutamol or systemic corticosteroids to treat bronchiolitis in children

3 Do not routinely order chest radiography for the diagnosis of asthma in children

4 Do not routinely treat gastroesophageal reflux disease (GORD) in infants with acid suppression therapy

5 Do not routinely order abdominal radiography for the diagnosis of non-specific abdominal pain in children

EVOLVE is a physician-led initiative to ensure the highest quality patient care through the identification and reduction of low-value practices and interventions.

EVOLVE is patient-centred and evidence-based, with rigorous and transparent processes. Its focus is to stimulate clinical conversations – between colleagues, across specialties, and with patients – to ensure the care that's delivered is the best for each patient.

EVOLVE is part of a worldwide movement to analyse medical practices and reduce unnecessary interventions. It is an initiative in partnership between the RACP and the Specialty Societies, Divisions, Faculties and Chapters.

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Case study: Bronchiolitis

- 7 week old infant, born 35/40, breastfed
- Presentation to local hospital
 - Rhinorrhea, lethargy, poor feeding
 - Mildly increased work of breathing, one brief apnoea, SaO₂ 93-96%, afebrile
 - Otherwise normal physical examination
 - 2 siblings at home with URTI symptoms

What would you do ... ?

Investigations

- a) NPA/Nasal swab for respiratory viruses?
- b) CXR?
- c) Bloods?

Management

- a) Fluids?
- b) IV Antibiotics?

Initial Outcomes

- NPA – RSV positive
- CXR – normal
- Started on iv fluids and cefotaxime
- Repeated episodes of apnoea, no improvement with low flow oxygen

What would you do now ... ?

- a) High flow oxygen?
- b) Respiratory support?

Further Progress

- Call to PICU
- Retrieval team sent – prolonged apnoeas and desaturation, ?seizure, intubated and transferred
- Provisional diagnosis: RSV bronchiolitis
- Very stable, minimal ventilatory support required
- Extubated after 2 days onto bubble CPAP
- Further apnoeas, irritability, waking and crying briefly then going back to sleep
- Progressive symptoms – then seizures
- MRI and LP – HSV encephalitis diagnosed 6 days after presentation

Reflections

- PREDICT Bronchiolitis Guideline
 - Recommendation against routine CXR, bloods, virology
- Low value care in this case contributed to
 - Confirmation bias
 - Clinically significant diagnostic delay