CASE REPORT

Intussusception in a 7-week-old baby

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pauline.adiotomre@nhs.net**SUMMARY**

A 7-week-old baby presented to a district general hospital with a history of pallor, lethargy, vomiting and high pitched cry. She had vomited three times at home. It was reported that the last vomitus had a greenish tinge to it. In hospital, she had a non-bilious vomit. There was no history of fever, constipation or diarrhoea. Her birth history and medical history were unremarkable. She was noted to be pale, lethargic and quiet on examination. Her vital signs were unremarkable. She had a soft scaphoid abdomen on examination. No masses were palpable. Investigations for sepsis were done and antibiotics started. Results of all the investigations were normal apart from mildly raised blood glucose and neutrophilia. Later on she passed a small amount of blood per rectum. Examination revealed a palpable mass in the epigastrium. An abdominal x-ray was suggestive of intestinal obstruction. Intussusception was confirmed on ultrasound. The intussusception was successfully reduced following surgery.

BACKGROUND

Intussusception is the most common form of intestinal obstruction in infants.¹ It is common in children aged 3 months to 2 years old and peak incidence occurs between 3 and 9 months of age.¹ It is rare in infants under 3 months of age. The symptoms and signs in this age group may be non-specific and the infant managed initially as having a septic pathology. Early diagnosis in this age group can therefore be challenging. Lethargy and pallor in excess of abdominal signs may be important clues. Since general paediatricians are the first to see an infant who is unwell, it is important that they consider intussusception in a previously well infant who presents with excessive pallor and lethargy in excess of abdominal symptoms. Intussusception in this age group is one of the conditions that one is unlikely to diagnose in a timely manner if it is not thought of.

CASE PRESENTATION

A 7-week-old baby presented with an 8 h history of lethargy, vomiting and refusal to feed. Symptoms started the same day soon after a feed at 11:30 h. She had been well until then. She became very sleepy and had a high pitched cry. She had three vomits prior to presentation and one of the vomitus was reported to have had a greenish tinge to it. She had another vomit while on admission which was nonbilious. There was no history of fever, constipation or diarrhoea. She had no history of significance.

She was born by normal vaginal delivery at term and did not require any resuscitation. Her birth

weight was 2.85 kg (2nd – 9th centile). She was bottle fed. The baby was the second of two girls by mum with dad living elsewhere. Everyone at home was well and the parents were smokers.

On examination, she was lethargic, pale and quiet. Her temperature was 36.4°C and capillary refill time was less than 2 s. Her heart rate was 134/min and blood pressure 85/42 mm Hg. Her abdomen was scaphoid and soft with normal bowel sounds. There were no masses palpable. She weighed 4.14 kg (9th–25th centile). Her length was 57 cm and head circumference 37.5 cm.

Nine hours after admission, she passed a small amount of blood per rectum. On re-examination of the abdomen, she had a palpable mass in the epigastrium.

INVESTIGATIONS

- ▶ Random blood glucose was mildly raised at 7.6 mmol/l.
- ▶ Blood gases and urea and electrolytes were unremarkable.
- ▶ Full blood count was unremarkable apart from neutrophilia of $10.9 \times 10^9/l$ (normal range 1.2–7.5).
- ▶ Blood and cerebrospinal fluid cultures were negative.
- ▶ Urine dipstick and Cerebrospinal fluid microscopy, protein and glucose were normal.
- ▶ C reactive protein was <0.5 mg/l.
- ▶ Clotting screen was normal.
- ▶ Plain abdominal x-ray showed dilated loops of bowel centrally, consistent with small bowel obstruction and lack of gas in the rectum (figure 1)
- ▶ Abdominal ultrasound showed ileo-colic intussusception (figure 2).

DIFFERENTIAL DIAGNOSIS

A short history of lethargy, vomiting, refusal to feed and irritability in a 7-week-old baby would suggest sepsis. Intussusception and malrotation with volvulus were considered when she passed small amount of blood per rectum with palpable mass in the epigastrium and the history of bilious vomit.

TREATMENT

Surgical reduction of intussusception following failed air/fluid enema.

OUTCOME AND FOLLOW-UP

Successful reduction with no bowel loss.

DISCUSSION

Paediatricians when faced with an infant less than 3 months old presenting with nonspecific

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Figure 1 Plain abdominal x-ray showing dilated loops of bowel centrally and no gas in the rectum, suggestive of small bowel obstruction.

symptoms and signs tend to err on the side of caution and manage the patient as sepsis until proven otherwise. The lethargy and pallor present in this case may be indicative of sepsis and the lethargy in combination with a high pitched cry could indicate central nervous system diseases such as encephalitis or meningitis. However, the sudden onset of symptoms made sepsis less likely. Bilious vomiting in an infant less than 3 months old could also be indicative of sepsis or obstruction especially mid-gut volvulus.² In this case there was a history of a greenish tinge to the first vomitus, but bilious vomiting was not

Figure 2 Abdominal ultrasound showing dilated bowel in the epigastrium with an appearance of a sandwich sign of bowel within bowel.

a constant finding. Bilious vomiting is surgical unless proven otherwise and is hence a surgical emergency in neonates and infants. Frank bilious vomiting in this case would have led to earlier imaging. Vomiting however has been reported to be the most consistent symptom of intussusception.³ Eshel *et al*⁴ reported non-bilious vomiting in 60% of intussusception cases they reviewed.

The usual history of intermittent crying with drawing up of legs was not present in our case. The patient was quiet and reacted minimally to any intervention. She had a scaphoid abdomen consistent with the report of Rege *et al*.⁵ In this case, she passed fresh blood per rectum which was not the typical red currant jelly stool. The latter does not always occur and bleeding per rectum is usually late and not the only presenting features.⁶ Differential diagnosis of fresh per rectum bleeding in an unwell child could include a bleeding disorder and necrotising enterocolitis. The combination of bleeding per rectum and a mass in the epigastrium however narrowed down the diagnosis. A surgical cause was confirmed with an abdominal x-ray suggestive of small bowel obstruction. The abdominal ultrasound was diagnostic of an intussusception.

Learning points

- ▶ Intussusception is rare in infants less than 3 months of age, but do occur.
- ▶ Diagnosis of intussusception in infants less than 3 months can be challenging since majority will present with nonspecific signs.
- ▶ Intussusception should be included in the differential diagnosis when an infant less than 3 months of age presents with pallor, vomiting and lethargy acutely even with no abdominal signs.
- ▶ Non-bilious vomits do not exclude intussusception in an infant less than 3 months old.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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