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Unexpected outcome (positive or negative) including adverse drug reactions

Ileo-colic intussusception in premature neonate

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Summary

Intussusception in neonatal age is very rare. A 12-day-old child was referred from peripheral hospital with history of intolerance to feed, absolute constipation, abdominal distension and significant bilious aspirate. Per-rectal examination revealed necrotic haemorrhagic fluid. The patient was treated on the lines of necrotising enterocolitis in the referring hospital. On further investigation and exploration, the patient turned out to be ileo-colic intussusception which is exceedingly less common in premature neonates. Hence, other causes of intestinal obstruction should also be considered along with vigilant clinical outlook in neonates.

BACKGROUND

Intussusception is rare in neonates and even more rare in premature neonates. To the best of my knowledge, the present case is the first reported case in the literature of ileo-colic intussusception in premature neonate.

CASE PRESENTATION

A 36 gestational week male baby was referred from peripheral hospital on 12th postnatal day with progressive abdominal distension, vomiting, intolerance to feed and absolute constipation. On arrival, the child was alert and active weighing 1760 gm with mild tachycardia and tachypnoea, blood pressure-70/50 mm Hg and SpO2 – 96%. Abdomen was distended along with visible bowel loops, but no tenderness/guarding/rigidity. There was no palpable lump/organomegaly. Ryles tube aspirate was bilious. On per-rectal examination, necrotic haemorrhagic fluid was found.

INVESTIGATIONS

Investigations were, Hb was 16 gm%, total leucocyte count-13 900, differential leucocyte count=P-70%, L-20%, E-4%, M-2%, B-0%. Platelet count=1.65 lakhs/cumm. Blood group-O+ve. Serum bilirubin=T-17.2 mg%, D-1.6 mg%, I-15.6 mg%. Serum Na-136 mmol/l, Serum potassium-3.6 mmol/l.

Abdominal roentgenograms showed dilated bowel loops in the centre of abdomen (figure 1). Ultrasonography abdomen showed multiple dilated abdominal loops.

DIFFERENTIAL DIAGNOSIS

1. Necrotising enterocolitis
2. Sepsis
3. Other surgical conditions leading to intestinal obstruction (malrotation, intestinal atresias, meconium ileus, etc.).

TREATMENT

Surgical exploration was done (figure 2). Intraoperatively, ileo-colic intussusception was found. No lead point was detected. Efforts of manual reduction failed; hence resection of involved segment with end-to-end ileo-transverse anastomosis was done(figure 3).

OUTCOME AND FOLLOW-UP

Postoperatively, the child remained stable.

DISCUSSION

Intussusception is common between 3 and 9 months of age;[1 2] but is rare in neonates, especially premature neonates. Its incidence is only 3% of intestinal obstruction

Figure 1 Preoperative abdominal x-ray, showing dilated bowel loops in the centre of abdomen with paucity of gases in pelvic colon and rectum.

Figure 2 Intraoperative photograph, showing portion of ileum (small bowel) going inside colon (large intestine) that is, ileo-colic intussusception with gangrenous changes in intussusceptum and serosal tears on intussuscipiens, in a premature neonate.

Figure 3 Intraoperative photograph, showing completed ileo-transverse anastomosis after resection of gangrenous portion.

and 0.3% (0%–2.7%) of all cases of intussusceptions.[3–6] In our institution, this is the only neonatal case, out of 72 cases of childhood intussusception in the last 10 years.

It is difficult to assess intussusceptions in premature neonates. Typical features are absent and the symptoms mimic other common surgical conditions.[7] Mass is also infrequently palpated as against infantile intussusception.[3 8–10]

Intussusception in full term neonates and infant is usually ileo-colic (80%),[4] while in premature neonates it is mostly in small bowel (91.6%)-ileal/jejunal.[11] In review

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report of 35 cases of neonatal intussusception Avansino *et al*[8] reported it to be localised in ileum in 24 of these cases, whereas in our case it was localised to ileo-colic region. The aetiology of neonatal intussusception in premature infants remains unclear. In full term neonates it is associated with identifiable lead point.[11 12] In premature no lead point is found[6] and it is suggested that common perinatal risk factors resulting in intestinal hypo perfusion/hypoxia, dysmotility, stricture formation may act as a lead point for intussusceptions.[12] However, a lead point may be found in about 8% cases. In the present case, we did not find any lead point, similar to Anand *et al*[9] Ueki *et al*[10] in a recent study of 14 neonates concludes that hypoxic events may play a crucial aetiologic role in the pathogenesis of late onset neonatal intussusception.

In our case, sonography missed the finding of intussusceptions. On systematic review of literature we found that in neonates the sigmoid colon comes to lie superficially on the right side (43%) along with distended small bowel loops overlaping the intussusceptum and obscuring absent cecal shadow which is one of the major criterion for diagnosing intussusception causing diagnostic dilemma.

Learning points

- Clinical signs and symptoms are non-specific.
- Radiological diagnosis is also difficult.
- Neonatal intussusceptions being rare clinical entity with unusual constellation of symptoms may adjourn the diagnosis and increase the mortality and morbidity. Hence a high degree of suspicion is must.

Competing interests None.

Patient consent Obtained.

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