

Answers to Medical Quiz

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- A.1.** Intussusception.
- A.2.** Donut sign in ultrasound and filling defect in pneumatic enema.
- A.3.** Bowel perforation.

DISCUSSION

Intussusceptions can be classified into three types: enteroenteric, colocolic, and enterocolic. An enterocolic intussusception (ileocolic type) involves both the small and large bowel; this is the most common type of intussusception¹.

The etiology of intussusception in children, in most cases is unknown. Non-idiopathic causes can be attributed to polyps, lipomas, Meckel's diverticulum, intestinal duplication, Henoch-Schönlein purpura, lymphomas, hypertrophied Peyer patches secondary to infection, foreign bodies, parasitic infestations, celiac disease, cystic fibrosis and abdominal surgical adhesions^{2,3}.

The incidence rate in infants aged less than one year ranges from 0.9 per 100000 to 217 per 100,000 per year in different countries^{3,4}.

The presentation of intussusception is usually sudden, loud crying caused by abdominal pain. The pain is colicky and intermittent, but increasing in both intensity and duration with progress in time. The pain may be accompanied by a drawing up of the knees while crying. In 90% of cases, diarrhea and vomiting quickly follow the onset of abdominal pain³⁻⁵.

Other symptoms and signs depend on the duration of intussusception and may include:

- Currant jelly stool, which is mucus-like bowel movement.
- Abdominal distention and vomiting.
- Lethargy and shock. Physical examination may reveal a palpable sausage-shaped mass in the mid-abdomen. Abdominal mass and signs of dehydration in early cases, peritonitis or shock in late presentation³⁻⁵.

Most cases of intussusception can be diagnosed based on the history and clinical examination, few equivocal cases require radiological test for diagnosis such as US, which is the diagnostic procedure of choice after clinical history and examination, or enema (pneumatic or contrast). Pneumatic reduction has become increasingly popular as a clean, efficient technique⁶⁻⁸.

The management of these cases starts with stabilization and resuscitation with intravenous fluid for hydration and insertion of nasogastric tube to decompress the stomach and to prevent aspiration. Blood test for urea and electrolytes and creatinine is essential before any intervention. The intussusception can be reduced in the majority of cases by air or contrast enema, but if this procedure fails after a trial of a minimum of three attempts or when the patient has peritonitis or exhibits signs of perforation, surgical intervention is required. According to the operative findings, manual reduction or resection and anastomosis, as well as appendectomy are usually performed. Laparoscopic hydro-reduction has also been reported in selected cases after failure of enema reduction⁸⁻¹⁰.

The mortality rate of treatments of intussusception is 1% to 2%. The overall recurrence rate of an intussusception after pneumatic reduction is 2% to 3% in the 24-hour period following the reduction procedure and it is lower after surgical reduction. Most early cases have an excellent prognosis and the outcome of late cases depends on the duration of intussusception and the presence or absence of comorbidities¹⁰.

CONCLUSION

Intussusception is the second most common abdominal emergency in children after appendicitis. Most cases of intussusception can be diagnosed by history and clinical examination. In equivocal cases, US is the diagnostic procedure of choice. Pneumatic reduction has become the first therapeutic option and cases of peritonitis and bowel perforation required surgery as the first option.

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