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CASE REPORT

A Case of Duodenoduodenal Intussusception Secondary to Duodenal Polyp

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Abstract

Adult intestinal intussusception accounts for 1 to 5 percent of mechanical bowel obstructions and is relatively rare. Its presentation, aetiology and treatment varies greatly from childhood intussesception. Duodenoduodenal intussusception (DDI) is unusual due to fixed position of the duodenum within the retroperitoneum with only a few cases of adult DDI reported in literature. In adults, a pathologic lead point within the bowel typically leads to intussusception, and this may be malignant in up to 77 percent of cases. DDI is a challenging condition due to its rarity and nonspecific presentation. Here, we present a case of DDI secondary to a duodenal polyp.

Keywords: Adult intestinal intussusception, Duodenoduodenal intussusception, duodenal polyp, adult small bowel obstruction

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Case Report

A 49 year old gentleman, premorbidly healthy, no prior surgical history, presented with complaints of umbilical and epigastric pain since 25 days. Pain was mild to moderate in intensity, colicky in nature and associated with nausea. History of increased pain since 2 days, abdominal bloating and vomiting which was non bilious and occurred within 1-2 hours of food intake.

On examination, patient was afebrile, haemodynamically stable, abdomen soft, non-tender, no guarding, rigidity or organomegaly. Systemic examination unremarkable. Biochemical and haematological investigations within normal limits. Ultrasound (USG) abdomen and pelvis showed bowel within bowel appearance in the supraumbilical region. Contrast enhanced computed tomography (CECT) of abdomen suggestive of DDI involving third part of duodenum (D3) for approximate length 5.5 cm with dilatation of stomach. Further investigation with oesophagoduodenoscopy (OGDscopy) showed large duodenal polyp (about 4 to 5 cm.) almost occluding entire lumen in second part of duodenum (D2). Biopsy showed tubular adenoma with low grade dysplasia, negative for malignancy. In view of these findings and persistence of symptoms, patient was taken up for exploratory laparotomy.

During surgery large D2 polyp was seen extending into D3 segment causing intussusception. Intussusception was reduced, duodenum opened and polyp delivered out. Wide excision of polyp at its base was done using 55mm blue linear stapler. Duodenum closed transversely with 2-0 Vicryl® and No. 10 flat drain kept in abdomen. Contrast gastrography (CONRAY) done on post operative day (POD) 1 showed no leak or extravasation from anastomotic site. Following this, nasogastric tube was removed and patient gradually started on oral diet. Abdominal drain was removed on POD 4. Post operative recovery of the patient was uneventful with stay of 6 days. Histopathological examination of resected polyp showed tubular adenoma with low grade dysplasia, negative for malignancy. At one year follow up, patient was symptom free..

Figure 1. Endoscopy showing large polyp in D2

Figure 2. Wide excision of D2 polyp at base

Discussion

Intussusception refers to the invagination (telescoping) of a part of the intestine into itself. Adult intestinal intussusception accounts for 1 to 5 percent of mechanical bowel obstructions and is relatively rare [1]. In adults, a pathologic lead point within the bowel typically leads to intussusception, and this may be malignant in up to 77 percent of cases [2]. In case of adult intestinal intussusception, 90% occur in small or large bowel and 10% involve either stomach or surgically created stoma [3]. DDI is extremely rare as duodenum is a fixed retroperitoneal structure. While exact mechanism of DDI is not fully understood, any lesion in the duodenal wall or irritant within the lumen that can alter normal peristaltic activity may initiate an invagination. The lead points for intussusception may be benign, malignant, or idiopathic [4].

Clinical manifestations of DDI are usually nonspecific; it presents with obstructive features which may be acute, chronic, or intermittent and also with weight loss, fever, and a palpable abdominal mass. Involvement of the ampullary region and obstruction of common bile duct and pancreatic duct may occur with features of obstructive jaundice or acute/chronic pancreatitis [5].

Due to its non-specific presentations and relative rarity, clinical diagnosis may be challenging and is often delayed..

Various modalities such as USG, upper gastrointestinal series (UGI), CECT, and endoscopy have been used to establish diagnosis; however, this is frequently confirmed only during surgical intervention.

Sonography may show a “target sign or doughnut sign” while CECT is reliable for preoperative diagnosis showing characteristic “bowel within bowel appearance” and “target sign” consisting of outer intussuscipiens, inner intussuceptum, and central fat density formed by intussuscepted mesenteric fat and vessels[6,7].

Endoscopy can give a tissue diagnosis to help plan definitive treatment.

Surgical procedure is determined by the size and site of lesion and presence of complications. Adult intussusception is usually treated surgically or endoscopically and not by fluoroscopic reduction as done in paediatric population.

Diagnosis of intussusception is important due to high risk of complications such as bowel ischemia, obstruction, and intraluminal bleeding.

In conclusion, DDI is a challenging diagnosis and surgeons should maintain a differential diagnosis of intussusception in patients with nonspecific abdominal pain, gastric outlet obstruction, duodenal stricture, pancreatitis, upper gastrointestinal bleed or obstructive jaundice. A high index of suspicion with appropriate imaging can help in pre operative diagnosis and better management of these patients.

Conflicts of interest

The authors declares that they do not have conflict of interest.

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