Abstract:
Intussusception is a common pediatric surgical emergency but rarely seen post operatively as a cause of mechanical bowel obstruction in children. We have to consider this diagnosis in the pediatric age group. POI is a uncommon cause of post operative mechanical bowel obstruction in children, POI constitutes 1 percent of all intussusception and 5-10 percent of post operative mechanical bowel obstruction, POI is suspected in cases of prolonged and copious bilious aspirate. DI is rare, PODI has not been reported so far. Here I am reporting a case of DI seen in the post operative period of a child operated for choledochal cyst with review of literature.

Keyword: DI Double Intussusception, POI - Post Operative Intussusception, PODI Post Operative Double Intussusception

Introduction:
Intussusception is the telescoping of one portion of the intestine into another. Intussusception has 1.5–6% incidence as a postoperative complication and 0.5–8% incidence after laparotomies. POI occurs only about once per 200 to 1000 pediatric laparotomies, and is the cause of 12% postoperative mechanical bowel obstruction. Due to this low incidence, the possibility of POI in the pediatric patient is often either forgotten or overlooked. Most cases occur following abdominal surgery, but it has been reported in non abdominal surgeries like thoracic and cervical lymph node biopsy. POI is almost always found in the small bowel and they are single. They are rarely diagnosed by ultrasound. DI is a very rare entity, and its diagnosis is made during surgical interventions. PODI has not been reported so far.

CASE REPORT:
6 months old male child 2nd of twin operated for choledochal cyst Type 1B. Excision and Roux-en-y Hepatico jejunostomy.
On POD 3
Child developed abdominal distension, obstipation and copious biliary aspirate.

**X-Ray**

Dilated small bowel loops. Step ladder pattern. Laparotomy done. 200 ml of serosanguinous fluid. Both Anastomosis (hepatico-jejunostomy and jejunu-jejunostomy) were intact. Dilated small bowel loops up to H.J. anastomotic site. 

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**1st Intussusception**

Manually Reduced.

While examining the remaining bowel, 2nd intussusception noted distal ileoileal.

**2nd Intussusception**

Manually reduced.

Both the intussusception were in the native bowel distal to the Jejuno Jejunal Anastomosis. They were not related to the Roux loop. Postoperative period uneventful.

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**DISCUSSION:**

Post operative intussusception is an uncommon, but important cause of postoperative intestinal obstruction. This condition must be suspected in every child who shows symptoms of post operative intestinal obstruction occurring within a week following an abdominal (and more especially retroperitoneal) operation. Since the typical features of intussusceptions are usually absent and radiology frequently unhelpful (except for ultrasound), a high index of clinical suspicion is necessary for early diagnosis and treatment, in order to avoid intestinal necrosis. POI differs from classical idiopathic intussusceptions in that it usually occurs in children older than one year, and it is almost always found in the small bowel. The intussusceptions are single and located in the small bowel in 85% of cases, but multiple sites are also affected in about 5%. POI occurs most frequently after retroperitoneal procedures, but can also follow other abdominal operations. They rarely follow extra abdominal procedures such as inguinal hernia repair, cervical lymph node biopsy and thoracotomy.
The etiology of POI is obscure. There is evidence that the operative procedure leads to an edematous reaction with subsequent perfusion deficits and motility disturbances of the intestine. Many reports emphasize the relationship between intussusceptions and lengthy operations with extensive handling of intestines. Retroperitoneal dissection is also reported to be related to POI. Irregular peristalsis of the intestine after an abdominal operation often promotes one or more incipient invaginations of the bowel, and these may progress to true intussusceptions. Desiccation of exposed portions of the bowel, adhesions or edema due to manipulation at operation may also act as leading points. Occasionally a suture line is found to be the lead point. Usually it is reported to occur after a symptom-free postoperative interval of less than a week. At five to seven days postoperatively, patients may experience cramping abdominal pain, sudden appearance of slight abdominal distention, bilious vomiting and prolonged nasogastric tube drainage. Because nasogastric drainage is usually a part of postoperative periods of children with abdominal operations, a progressive increase in its amount and a change of quality into a bilious form should raise the suspicion of a mechanical intestinal obstruction. The symptoms start in 64 percent within 1 week and in 90 percent within 2 weeks. A palpable mass and rectal bleeding, as in ileocolic intussusceptions, are relatively rare. The diagnosis of POI may be suspected clinically.

In case of suspicion of POI, plain abdominal radiograph and ultrasonography of the abdomen are done. In the differential diagnosis, abscesses may be visualized sonographically and adhesive bowel obstruction or volvulus can often be diagnosed on the plain films. Ultrasonography, furthermore, has been reported to document the presence of an intussusception with high sensitivity of 80%. However, it must be borne in mind that a negative ultrasonography does not rule out intussusceptions. Double intussusception (DI) in children is a very rare entity, and its diagnosis is made during surgical interventions. Only six pediatric cases have been reported in the English literature (Table 1).

It is defined as a second intussusception that involves the bowel above the first. The first intussusception is followed by contraction of the bowel wall around it, and the solid mass so formed is enveloped by the proximal portion of the bowel and is thus the cause of the second intussusception. Double intussusceptions can be categorized into four types. The first type is one in which two separate intestines prolapse into the same distal intestine, resulting in a characteristic "triple-circle" sign when sonography and computed tomography are performed. The second type is double compound intussusception which is extremely rare and has only been reported once in the literature. The third type is double prolapse of the proximal and distal intestine through a patent vitello-intestinal duct. The fourth type is double-site intussusceptions.

In conclusion, POI are common to occur in Roux limb, although in this case it was not involving the Roux limb. POI must be suspected in every child who shows symptoms of postoperative intestinal obstruction occurring within a week following an abdominal operation. POI must be considered in patients experiencing cramping abdominal pain, sudden appearance
Of slight abdominal distention, bilious vomiting and prolonged nasogastric tube drainage. A high index of clinical suspicion is necessary for early diagnosis and treatment, in order to avoid intestinal necrosis. After reduction of an intussusception, a thorough examination should be performed to rule out the possibility of a second intussusception.

BIBLIOGRAPHY:


