Case Report

An Interesting and Rare Cause of Post-Operative Intussusception: Roux Limb Intussusception

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Abstract

Intussusception is a common disease in children. Most intussusception is idiopathic and approximately 1% develops postoperatively. We present a case of a 6-year-old male patient who underwent surgery for a type 1 common bile duct cyst. In his post-operative 2nd month, the patient presented with a complaint of abdominal pain after eating, but his pain was not accompanied by nausea or vomiting. No pathological findings were evident in the examination or an abdominal X-ray of the patient. Intussusception was detected by ultrasonography and computed tomography. We wanted to introduce this interesting intussusception that originated from the Roux limb that was not seen before.

Keywords: Child, choledochal cyst, post-operative intussusception, Roux limb

Introduction

Intussusception is one of the most common causes of abdominal pain and acute intestinal obstruction in infants and children. Although intussusception has many aetiologies, most of them are idiopathic.[1] Post-operative intussusception (POI) is one of the causes of post-operative intestinal obstruction;[2] however, its aetiology and mechanism are unknown. POI may develop after either abdominal or non-abdominal surgeries.[3]

Here, we present a case of a 6-year-old child who underwent an operation for a choledochal cyst and subsequently developed a POI in the Roux limb.

Case Report

A 6-year-old male patient had complained of intermittent abdominal pain for 2 years. The patient had experienced severe abdominal pain and vomiting for 2 weeks before applying to our hospital. Ultrasonography revealed an anechoic cyst with a diameter of 47 mm × 22 mm adjacent to the gallbladder and subsequent magnetic resonance cholangiography detected a fusiform enlargement in the common bile duct. The patient was referred to our clinic for an operation to remove a type 1 common bile duct cyst. The patient underwent cyst excision and Roux-en-y hepaticojejunostomy. At 15–20 cm distal of the Treitz, the jejunum was transected, approximately 40 cm of the Roux limb was brought to the portal area retrocolicly, and an end-to-side anastomosis was performed into the hepatic canal. The patient showed no problems in the intraoperative or early post-operative periods and was discharged on the 7th post-operative day.

In the 2nd post-operative month, the patient presented with a complaint of abdominal pain after eating. The pain was not accompanied by nausea or vomiting. No pathological findings were evident in the examination of the patient. His laboratory results revealed a white blood cell count of 4.96 × 10^9/L, aspartate transaminase of 39 units/L, alanine transaminase of 14 units/L, alkaline phosphatase of 181 units/L, total bilirubin/direct bilirubin ratio of 0.48/0 1 mg/dL, amylase of 93 units/L and lipase of 10 units/L. An abdominal X-ray revealed no dilated bowel loop or air-fluid level [Figure 1]. During the 2-day observation period, an operation decision was made due to the persistence of the intussusception in the patient's control ultrasonography and computed tomography scans. No ileoileal or ileocolic intussusception was detected during the laparotomy; rather, the intussusception segment originated from the Roux limb and extended approximately 20 cm towards the jejunojejunostomy by the liver [Figure 2].

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Figure 1: Pre-operative abdominal X-ray of the patient

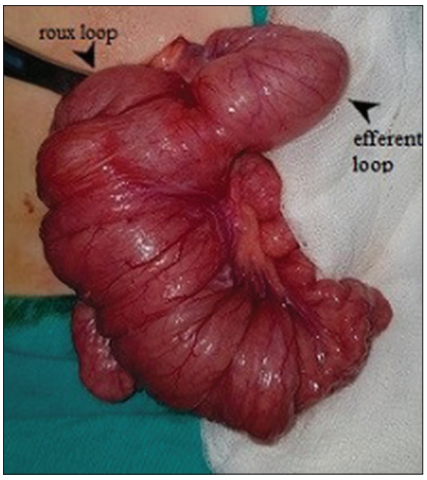


Figure 2: Intraoperative intussusception image

A manual reduction was performed. During this procedure, the invaginated segment was reduced until the hepaticojejunal anastomosis. The patient had no problems during the intraoperative or early post-operative period and was discharged on the 6th post-operative day. The patient had no further complaints in the post-operative 2-month follow-up.

Discussion

Overall, 95% of intussusceptions are idiopathic and have no pathological lead point. A pathologic lead point is found in 4% of intussusceptions; these lead points are most commonly Meckel's diverticula, followed by polyps and duplications. Only 1% of intussusceptions occur postoperatively.[1] Most post-operative bowel obstructions are caused by adhesions (78%), with only 5%–10% due to intussusception.[2]

POI usually occurs after surgery for appendectomy, malrotation, Meckel's diverticulum, retroperitoneal teratoma, Wilms tumour and Hirschsprung's disease.[3] The aetiology of POI is unknown; however, it is thought to develop in response to many factors, such as surgical trauma, ileum oedema, extensive bowel procedure, neurogenic stimuli, anaesthetic agents and chemotherapy or radiation.[4] Yalçın *et al*. stated that the POI developing in patients operated on for choledochal cyst may be caused by peristalsis changes due to a disrupted myoelectric circuit.[5]

Idiopathic intussusception typically includes painful abdominal cramps, vomiting, rectal bleeding and a palpable abdominal mass. By contrast, POI is characterised by diffuse, non-specific abdominal pain, mostly bile vomiting and prolonged adynamic ileus symptoms.[6,7] The interesting point of this case was that because the intussusception occurred in the Roux limb, our patient did not experience nausea or vomiting and no air-fluid level was observed in his abdominal X-ray. Another interesting feature was that the intussusception allowed bile flow without obstruction. Therefore, a demonstration of intussusception by ultrasonography is important in patients who have undergone this type of surgery and have vague abdominal pain.

The literature presents a few cases who underwent operations for choledochal cyst and developed ileoileal intussusception in the post-operative period.[5,8,9] In our patient, the intussusception developed in the post-operative Roux limb, and he showed no pathological findings other than the non-specific diffuse abdominal pain. The possibility that this rare complication can develop postoperatively should be kept in mind for early and accurate diagnosis.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the guardian has given consent for the patient's images and other clinical information to be reported in the journal. The guardian understands that the patient's name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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