Case Report

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Postoperative Spontaneous Intussusception Caused by a Jejunal Peritoneal Cyst: A Case Report and Literature Review

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ABSTRACT

Postoperative intussusception in adults is an extremely rare clinical entity. Postoperative intussusception caused by a jejunal peritoneal cyst is even rarer. Etiopathogenesis of this clinical condition is not well understood. In the given case it seems to be a complication of prolonged contact of a draining tube with bowel. We present a case of postoperative spontaneous intussusception in a 72-year-old female patient after gastric surgery. The cause of intussusception appeared to be a jejunal peritoneal cyst which is extremely rare. Desinvagination and excision of cyst via laparotomy was performed and the postoperative course was uneventful. Abdominal draining tubes should be placed in a position which will avoid possible further prolonged contact with bowel.

Keywords: Intussusception; Enteric cyst; Peritoneal cyst; Postoperative complication; Draining tube.

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Introduction

Postoperative intussusception, which is defined as acute intussusception occurring within 30 days of index surgery, is a recognized and well-described, on the other hand, an extremely rare clinical entity [1, 2]. This clinical condition is more common in pediatric population compared to adults. Unlike idiopathic intussusceptions, in postoperative intussusception abdominal pain, gastrointestinal bleeding and vomiting may not always be present, thus it can easily be overlooked [3]. Another important issue is that postoperative intussusception cannot easily be detected by widely used diagnostic tests, such as radiography or ultrasonography. The etiopathogenesis of intussusception is not always understood. We herein present a rare case of postoperative intussusception after gastric surgery caused by a jejunal peritoneal cyst.

Case Presentation

A 72-year-old female patient with non-significant past medical history (except for controlled hypertension) underwent Billroth 1 distal gastric resection for decompensated gastric outlet obstruction caused by peptic ulcer disease. Postoperatively, the only question was prolonged serous discharge via abdominal

silicon draining tube (for 8 days, about 300 ml each postoperative day). On the 8th postoperative day the tube was removed and on the 11th day the patient was discharged with no evidence of complications both clinically and sonographically. 20 days after discharge (exactly a month after gastric surgery) the patient was admitted back to the department with a 2-day history of upper abdominal distention and colicky pain, nausea, vomiting and absence of stool. On admission: she was hemodynamically stable, laboratory findings were normal except for leukocytosis (WBC- 14,000/μL) and hypoproteinemia (4.5 g/dL), tenderness on periumbilical region and succussion splash on auscultation of upper abdomen was noticed. Erect abdominal X-ray revealed fluid-gas levels and abdominal USG revealed "target" sign, intussusception was suspected (Figure 1A). After a short preoperative fluid replacement, the patient underwent laparotomy which proved the diagnosis of jejuno-jejunal intussusception (Figure 1B). The intussusceptum was desinvaginated. A peritoneal cyst on the antimesenteric border of jejunum emerged to be the cause of postoperative intussusception (Figure 1C and 1D). The absence of signs of bowel ischemia and the risk of recurrence of intussusceptions encouraged to salvage the intestine adjacent to the cyst. Cyst excision became the definitive treatment. The postoperative course was uneventful and the patient was discharged on 10th postoperative day. On follow-up after 3 and 6 months the patient was well. Microscopy and biochemistry of the content showed the fluid to be transudate and histopathology showed the cyst walls to be peritoneal adhesions.

Discussion

The pathogenetical mechanisms of postoperative intussusception are not well-understood due to its rarity. However, several hypotheses including prolonged postoperative ileus, extensive non-gentle handling and drying of intestines at primary surgery, postoperative radiation or chemotherapyhave been proposed [2, 3]. As our case demonstrates, we suggest that postoperative intussusception can also be secondary to peritoneal cyst, as well as primary. To the best of our knowledge, peritoneal cyst complicated by intussusception postoperatively has never been reported before. It is obvious that such a cyst can lead to intussusception but the interesting issue is the cyst itself. Adhesions with entrapped serous content could form around the silicon drainage tube which probably contacted the jejunum thus leading to cyst formation after the removal of the tube.

Clinical presentation is similar to that of bowel obstruction [1]. Early diagnosis with a high index of suspicion and prompt treatment of the acute form is important [4]. Mortality rate can be as high as 50% in case of delayed or inappropriate treatment [4]. The diagnosis of intussusception in general is a challenging task. Eisen*et al*. showed the preoperative suspection rate of intussusception to be 40% [5]. Plain abdominal radiography helps to find the signs of intestinal obstruction only while upper gastrointestinal contrast series may show a "stacked coin" or "coil-spring" appearance [6]. Abdominal USG can show "target" sign on transverse section

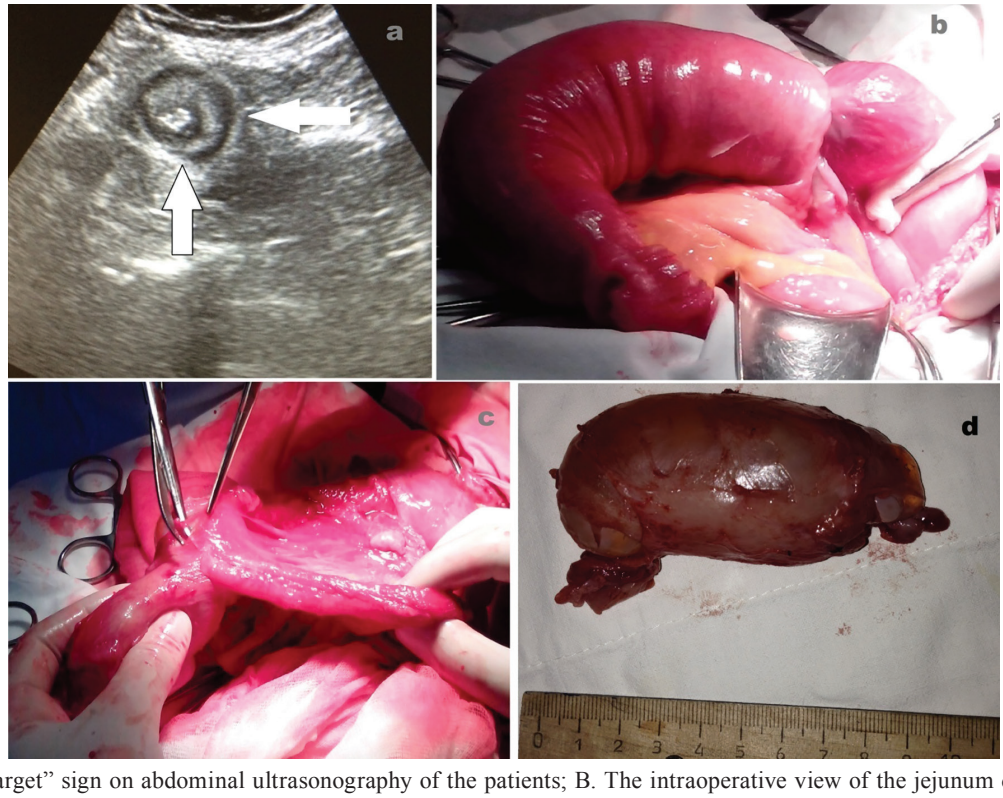

Fig. 1. A. "Target" sign on abdominal ultrasonography of the patients; B. The intraoperative view of the jejunum demonstrating the jejuno-jejunal intussusception; C. The intraoperative view of the enteric peritoneal cyst causing the intussusception; D. The specimen, post-excision.

and "pseudo-kidney" sign on longitudinal section [6, 7]. Abdominal CT is considered to be the most accurate radiologic imaging with a reported diagnostic accuracy up to 100% [6].

The treatment is mostly surgical with the extent of surgery depending on etiology, presence of bowel ischemia, location of intussusceptum. In most cases desinvagination emerges to be the definitive treatment of postoperative intussusception but bowel resection may be required as well. In our case cyst excision became the definitive extent of surgery. Non-operative spontaneous reduction has also been reported [5]. Postoperative recurrence rate of intussusception in general was reported to be about 4% either after operative reduction or reduction with iliopexy and none after bowel resection [8].

To conclude, enteric peritoneal cyst is an extremely rare postoperative complication which can lead to intussusception. The mechanism of its formation is probably similar to that of adhesions. Abdominal draining tubes should be placed in a position which will avoid possible further prolonged contact with bowel.

Conflict of Interest: None declared.

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