Acta Biomed 2022; Vol. 93, Supplement 1: e2022117 DOI 10.23750/abm.v93iS1.11492

Case report

Intussusception of the bowel in adult woman due to bulky inflammatory fibroid polyp treated in emergency. A case report

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Abstract. *Introduction:* Intussusception represents a rare form of bowel obstruction in the adult, which is defined as the telescoping of a proximal segment of the gastrointestinal tract into the lumen of the adjacent distal segment of the GI tract *Case Report:* We report the case of a 50-year-old woman was admitted in our hospital with acute bowel obstruction. CT showed intestinal occlusion secondary to intussusception. the patient underwent emergency surgery. Surgery confirmed intussusception at the level of the distal ileum (about 30 cm from the ileocecal valve) due to a 3-4 oval mass of hard consistency that appeared to be suspicious for GIST. Was performed a resection of the ileal segment involved associated with oncologically radical lymphadenectomy. The histological examination reported benign ileal mesenchymal neoformation compatible with inflammatory fibroid polyp. Patient had a regular course *Discussion:* In adults, 90% of invaginations manifest as a result of an organic lesion caused by benign or malignant tumors. The clinical presentation in adults is generally chronic or nonspecific. The emergence of acute symptoms due to complete intestinal obstruction occours in fewer than 20% of patients. Abdominal computed tomography (CT) is the most sensitive radiologic method to confirm intussusception. As many cases are secondary to organic pathologies with malignant potential, surgical resection of the affected bowel segment with oncological procedures is the primary method of treatment *Conclusion:* Due to the fact that adult intussusception is often frequently associated with organic lesions, surgical intervention is necessary. Treatment usually requires formal resection of the involved bowel segment. (www.actabiomedica.it)

Key words: intussusception, bowel obstruction, benign tumor

Introduction

Intussusception represents a rare form of bowel obstruction in the adult, which is defined as the telescoping of a proximal segment of the gastrointestinal tract into the lumen of the adjacent distal segment of the GI tract.

Intussusception could be described as an "internal prolapse" of the proximal bowel with its mesenteric fold within the lumen of the adjacent distal bowel as a result of overzealous or impaired peristalsis, further obstructing the free passage of intestinal contents and, more severely, compromising the mesenteric vascular flow of the intussuscepted segment. The result is bowel obstruction and inflammatory changes ranging from thickening to ischemia of the bowel wall (1).

Intussusception was first described in 1674 by Paul Barbette of Amsterdam (2). Sir Jonathan Hutchinson was the first to operate on a child with intussusception in 1871 (3).

It is a relatively frequent seen condition in childhood and presents with the classic triad of cramping abdominal pain, bloody diarrhea and a palpable tender mass. However, bowel intussusception in adults is considered a rare condition (4).

Intussusception is found in 1% of adult patients with bowel obstruction (5), representing 5–10% of all patients with intussusception. The average age of affected individuals is 50 years, and the male/female ratio is 1:5 (6).

Unlike the pediatric form, in most cases idiopathic and primitive, almost 90% of the cases of intussusception in adults are secondary to a pathologic condition, such as carcinomas, polyps, Meckel's diverticulum, strictures or benign neoplasms, which are usually discovered intraoperatively (7).

Case Report

MS, a 50-year-old female was admitted in our hospital with acute bowel obstruction reporting abdominal pain, nausea and vomiting.

The medical history of patient reported umbilical hernia repair at the age of 5.

The abdominal medical examination revealed significant abdominal distension meteoric as from bowel obstruction.

Laboratory tests revealed hemoglobin 12,7 g/dL, WBC = 14,41 x 10^9/L, plateled count 341000/ul, CRP = 59,50/dl.

The patients pulse rate was 110/min, blood pressure of 150/70 mmHg, respiratory rate of 15/min, body temperature of 37,4°C, and oxygen saturation of 98.% on room air. The abdominal X ray showed gastric distension and ectasia widespread meteor bowel loops with multiple air-fluid levels (Figure 1).

The CT scan showed framework intestinal occlusion secondary to intussusception ileal distal to the left side with a target image and traction of the vascular pedicle with no signs of visceral ischemia. On the distal side was detected a hypodense image of 2-3 cm. Resulting in distension of the intestinal loops upstream of the obstruction with the development of air-fluid levels and gastrectasia (Figure 2,3).

The patient underwent emergency surgery. The operation was performed with a supra-subombelical laparotomy approach A diffuse jejunoileal occlusive picture supported by intussusception at the level of the distal ileum (about 30 cm from the ileocecal valve) (Figure 4) was confirmed due to a 3-4 oval mass of hard consistency that appeared to be suspicious for GIST.

This mass presented an intraluminal development but appeared to determine a retraction of about 2 cm on the visceral serous (Figure 5-6).

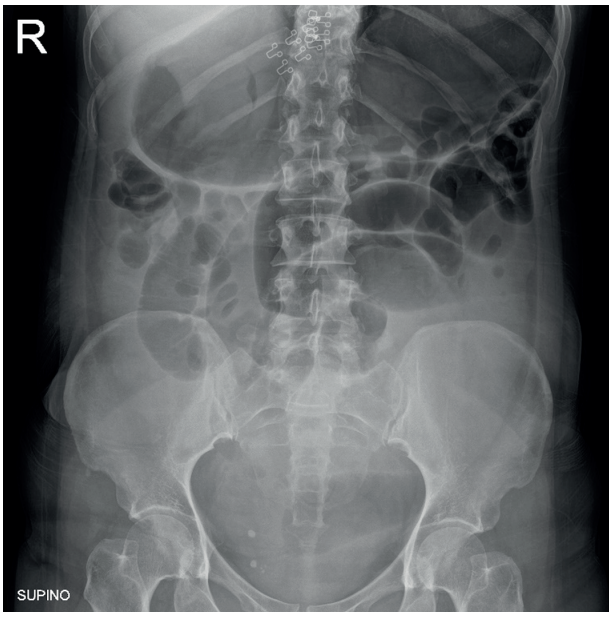

Figure 1. Abdominal X ray

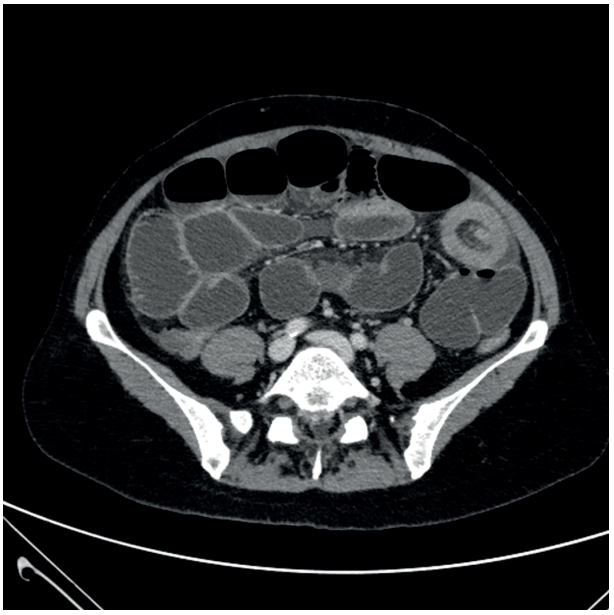

Figure 2. Abdominal CT scan: axial view

Figure 3. Abdominal CT scan: coronal view

Figure 4. Intraoperative image: Intussusception of the bowel

Figure 5. Intraoperative image: extraluminal aspect of the tumor

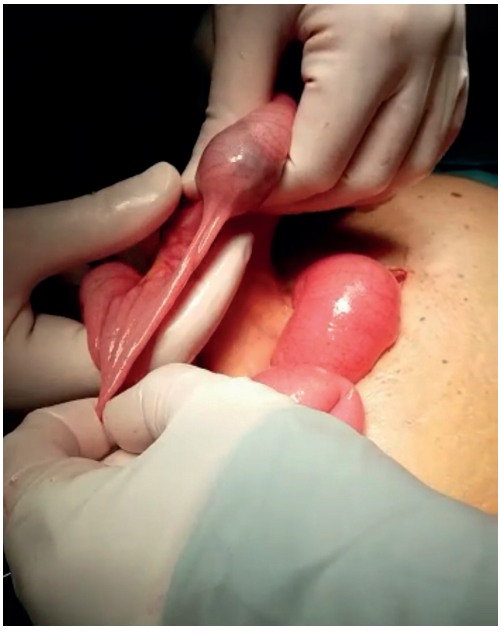

Figure 6. Intraoperative image : extraluminal aspect of the tumor

After detensioning the small intestine with retrograde squeezing it was decided to perform a resection of the ileal segment involved associated with oncologically radical lymphadenectomy conducted at the root of the mesentery and to restore digestive continuity with the packaging of a manual entero-enteric anastomosis isoperistaltic, subsequently providing for the repair of the mesentery breach.

Figure 7. Pathology report: extraluminal aspect of the tumor

Figure 8. Pathology report: endoluminal aspect of the tumor

The histological examination reported the following macroscopic description: "segment of small intestine 34 cm in length. At 18 cm from one of the two margins, retraction of the serosa is found. Upon opening, in correspondence with this retraction, polypoid formation is detected vegetating of 3 x 2.6 x 2.5 cm of gray-brownish color" (Figure 7-8).

The following microscopic description was then reported on the samples taken: "submucosal nudular formation with expansive margins, consisting of a proliferation of spindle elements, with a fibro-myofibroblastic appearance, placed in a background of loose collagen fibers and with a myxoid appearance. Moderate inflammatory infiltrate consisting mainly of eosinophilic granulocytes and lymphocytes. The lining epithelium is completely necrotic and site of erosive inflammation. Immunoreactions for DOG1, c-kit7CD 117, S100, desmin and CD 34 are negative. mitotic not significant.

In conclusion, benign ileal mesenchymal neoformation compatible with inflammatory fibroid polyp. Resection margins and 16 lesion-free mesenteric lymph nodes."

The postoperative clinical course was regular. The patient was gradually re-fed and was discharged 9 days after surgery

Discussion

Intestinal invagination in adults is a clinical rare condition. Although the pathogenetic mechanisms of invagination are not precisely known, an intraluminal lesion or an irritating factor is believed to alter normal peristaltic movements, leading to the initiation of invagination (8). In adults, 90% of invaginations manifest as a result of an organic lesion caused by benign or malignant tumors. Leiomyoma, adenoma, desmoid tumor, carcinoid tumor, neurofibroma, lipoma, hamartoma, adenomyoma, and Meckel's diverticulum are among the benign lesions that can cause invagination (9). Malignacy accounts for up to 30% of cases of intussusception occouring in the small intestine(10). Lymphoma, adenocarcinoma, and metastatic malignant tumor are among the malignant lesions that most frequently cause invagination (11).

Intussusceptions have been classified according to their locations into four categories (12,13):

- Enteric type: The intussusception is limited to the small intestine.It's the most common type
- Ileocolic type: The ileum passes the ileocolic segment, but the appendix does not invaginate.
- Ileocecal type: The ileocecal portion invaginates into the ascending colon.
- Colocolonic (including colorectal) type: The intussusception is limited to the colon.

A literature review of 1214 adult patients with intussusception revealed a malignant tumor was the etiology in 48 % of patients with colocolonic intussusception and in 17 % of those with enteric intussusception (17)

The clinical presentation in adults is generally chronic or nonspecific. Abdominal pain, nausea, vomiting, gastrointestinal bleeding, change in bowel habits, constipation or abdomianal distension are the most frequently seen symptoms and signs of intussusception (1,12). Palpable mass may be observed in the abdomen (14). The emergence of acute symptoms due to complete intestinal obstruction, as in our case presented, occours in fewer than 20% of patients (4).

Abdominal computed tomography (CT) is the most sensitive radiologic method to confirm intussusception, with a reported diagnostic accuracy of 60%-100% (15,16). The characteristic features of CT scan include an unhomogeneous "target" shaped soft- tissue mass with a layering effect (Figure); mesenteric vessels within the bowel lumen are also typical (10).

As many cases are secondary to organic pathologies with malignant potential, surgical resection is the primary method of treatment. Resection of the affected bowel segment should be conducted in compliance with oncological procedures with removal of the involved segment with associated mesenteric nodes. (18,19).

When a preoperative diagnosis of a benign lesion is safely established, the surgeon may reduce the intussusception by milking it out in a distal to proximal direction (20), allowing for a limited resection. In patients with a risk of a short bowel syndrome due to multiple small intestinal polyps causing intussusception, such as Peutz-Jeghers syndrome, a combined approach with limited intestinal resections and multiple polypectomies is mandatory (21).

Conclusion

Jejunal intussusception in adults may have several presentations, including acute bowel obstruction in emergency. Abdominal CT is considered as the most sensitive imaging modality in the diagnosis of intussusception and distinguishes the presence or absence of a lead point. Due to the fact that adult intussusception is often frequently associated with organic lesions, surgical intervention is necessary. Treatment usually requires formal resection of the involved bowel segment.

Consent: Informed consent was obtained from the patient for publication & available upon request.

Conflict of interest: Each author declares that she or he has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article

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Received: 23 March 2021
Accepted: 27 June 2021
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