Case report

Ileoileocecal intussusception in an adult caused by a lipoma of the terminal ileum

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SUMMARY

Intestinal intussusception is a condition rarely observed in adults. In these cases, clinical features are often atypical. We report a 27-year-old white female who was admitted to hospital due to severe colicky abdominal pain of 6 hours' duration. Physical examination revealed epigastric tenderness without rigidity of the abdominal wall, rebound tenderness or a palpable mass. Abdominal x-rays were normal. Abdominal computed tomography demonstrated intestinal intussusception. The diagnosis was confirmed by a gastrografin enema. Laparotomy revealed an ileoileocecal intussusception. The cause of the intussusception was a lipoma located in the terminal ileum. In conclusion, the clinical spectrum of intestinal intussusception in adults is broad. In atypical cases, computed tomography can be of diagnostic help.

Key words: Intestinal intussusception, lipoma, computed tomography, abdominal pain

INTRODUCTION

Intestinal intussusception is defined as the telescoping of a segment of the intestine (the intussusceptum) into an adjacent one.[1-3] Childhood intestinal intussusception is relatively common and is usually idiopathic. However, it is rare manifestation in the adult population, accounting for 5-16% of all intussusceptions and 5% of hospitalizations due to intestinal obstruction.[1-7] Clinical manifestations may be atypical, causing severe problems in differential diagnosis from other causes of abdominal pain. We present a 27-year-old white female who was admitted to hospital due to intestinal intussusception with atypical manifestations and we highlight dilemmas caused in differential diagnosis and management of this patient.

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CASE REPORT

A 27-year-old Caucasian female, having experienced abdominal pain for 6 hours, was admitted to hospital. She reported that 6 hours prior to her admission she developed acute colicky epigastric pain, followed by 4 vomits free of blood or bile. She was admitted to another hospital where a nasogastric tube was placed revealing the presence of blood and was then transferred to our hospital for endoscopic evaluation and treatment.

The patient reported having experienced 3 similar intermittent episodes of abdominal pain during the last year, which had all resolved spontaneously a few hours later and had been attributed to a renal colic. She also reported having an appendectomy during childhood, normal menstrual cycles and a normal labor. The patient, a housewife and a resident of the Athens district, denied any alcohol or tobacco abuse. Her family history was unremarkable.

On physical examination, the patient was restless, constantly moving in her bed in an attempt to find a position to relieve her pain, without effect. Her temperature was 36.8˚C. Blood pressure was 120/75 mmHg and her pulse rate was 84/min. There was abdominal tenderness on palpation, especially in the epigastric region, but no rebound, guarding or a palpable mass. Bowel sounds

were normal. Rectal examination was normal. The Giordanno sign was positive, especially on the left side. Laboratory tests included: Hematocrit 34.5%, hemoglobin 11.5 g/dl, white blood count (WBC) 14300/mm^3 (93% neutrophils, 5% lymphocytes, 2% monocytes), platelets 282000/mm.^{3} Routine biochemistry tests, electrolytes and coagulation studies were unrevealing. Serum amylase and a simultaneous urine amylase were normal. Urinalysis was unrevealing. Electrocardiography and a chest x-ray were normal. Abdominal x-rays and ultrasonography were unrevealing. Upper gastrointestinal endoscopy was performed. Close inspection of the region failed to detect presence of blood in the stomach. However, it revealed a linear erosion in the cardia.

During the following 12 hours the patient's condition did not improve. Vomiting ceased but the abdominal pain persisted, despite administration of potent analgesics. Moreover, an increase in the patient's WBC to 17310/mm^3 (90% neutrophils) was observed. Due to persistence of the patient's symptoms and lack of a feasible diagnosis, an abdominal computed tomography (CT) scan was performed, revealing a sausage-shaped lesion in the lower abdominal region with the presence of gas throughout its wall, containing a soft tissue mass with the density of fat (Fig. 1 and 2). Immediately, gastrografin studies were performed, demonstrating a filling defect in the cecum, close to the ileocecal valve and distended loops of small intestine (Fig. 3). Laparotomy was performed revealing an ileioileocecal intussusception due to a polypoid mass located in the terminal ileum. Necrosis was apparent along the intussusceptum necessitating its extraction, as well as extraction of the cecum (Fig. 4). The adjacent intestine was normal in appearance and was therefore preserved. A side-to-side anastomosis of the ileum and the ascending colon was performed. Histological examination of the polypid mass identified it as a lipoma of the terminal ileum. The patient's postoperative course was uneventful.

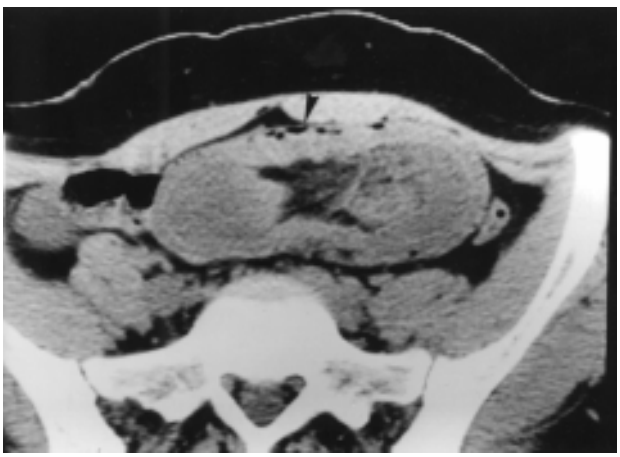

Figure 1. Abdominal computed tomography. Note the presence of gas in the wall of a dilated intestinal loop (arrowhead).

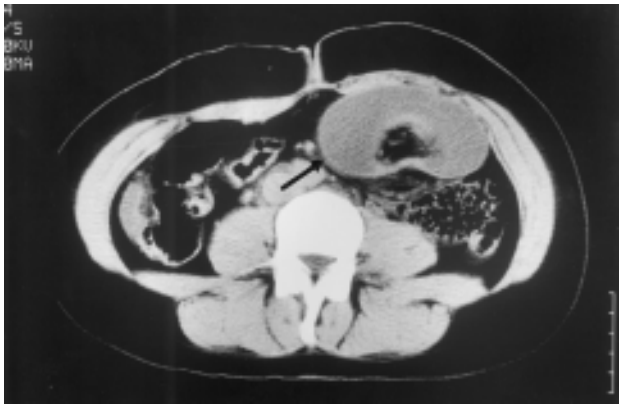

Figure 2. Abdominal computed tomography. Sausage-shaped lesion (arrow), containing a soft tissue mass with the density of fat.

DISCUSSION

Intussusception is a rather frequent cause of intestinal obstruction among infants and children. It is an uncommon entity in adults, usually occurring in patients over the age of 60 years.[5] Contrary to childhood intussusception (which is usually idiopathic) it can be attributed to an underlying pathologic process in 75-90% of cases.[2,5] The most frequent underlying causes, accounting for about 70% of adult intussusceptions, are neoplasma.[5] Adult intussusception of the small intestine is usually attributed to benign neoplasms, contrary to the large intestine, where malignancies constitute the majority.[3,5,8] Associated mortality ranges between 5-10%.[10] Clinical manifestations are often atypical. The most usual symptom is crampy abdominal pain, located according to the site of the intussusception. Abdominal pain may be accompanied by vomiting, bloating or constipation. The exact time and characteristics of emesis depend on the site of the obstruction. Occult gastrointestinal bleeding or apparent hematochezia are uncommon clinical features. Physical examination may include loud borborygmi, coinciding with the maximum intensity of the abdominal pain. Half of the patients present with a palpable abdominal mass, representing the intussusceptum.[7,11]

Our patient presented with colicky abdominal pain

Figure 3. Gastrografin enema demonstrating a smooth, large filling defect in the region of the ileocecal valve (big arrow). Note the presence of dilated loops of the small intestine, due to a previously performed per os study (small arrow).

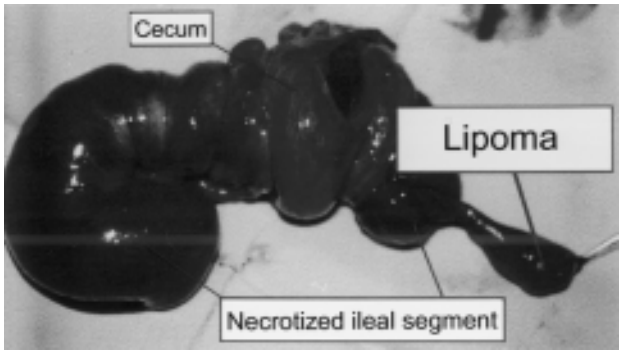

Figure 4. A part of the resected surgical specimen.

(the forth episode in the last year). These episodes were all finally attributed to intestinal intussusception of spontaneous resetting, in view of the clinical, imaging and pathological findings. However, besides epigastric tenderness, no other signs of peritoneal irritation or intestinal obstruction were present. Laparotomy, on the other hand, revealed extensive necrosis of the intussusceptum (Fig. 4). The fact, however, that the pathologic lesion was located in the intestinal lumen, without direct contact with the peritoneum, prevented signs of abdominal irritation developing. The atypical clinical manifestations led attending physicians to falsely diagnose a renal colic in the three preceding episodes of abdominal pain and made differential diagnosis extremely difficult during the present hospitalization. The fact that a nasogastric tube revealed the presence of blood in the upper gastrointestinal tract led the physicians of the other hospital to speculate the diagnosis of a perforated peptic ulcer, which was later proved false by upper gastrointestinal endoscopy. The latter was performed since signs of peritoneal irritation were absent and the presence of blood was attributed to the Mallory-Weiss syndrome, due to repeated emesis. Abdominal x-rays were normal and CT finally demonstrated the presence of a sausage-shaped lesion, a feature consistent with the diagnosis of intestinal intussusception.

CT can be of great diagnostic help in intestinal intussusception, especially in atypical cases sucg as those observed in adults.[1,3,6,10] The most usual findings include a mass resembling a target, a sausage-shaped and a reniform mass. The site of obstruction is rarely revealed and the cause of intussusception is hard to determine, with the exception of lipomas, where a round uniform intraluminal mass with adipose tissue density is demonstrated.[1,3,10] Barium or gastrografin studies may also provide significant help in differential diagnosis. Radiographs demonstrate a filling defect at the site of intussusception. A rim of contrast material between the two intestinal walls of the intussusceptum and the adjacent intestine, provides the classic "coiled-spring" appearance.[2] Previously, barium studies were mandatory in demonstrating intussusception before laparotomy. Its use though has recently been reconsidered in cases with abdominal pain or with a palpable mass, since there is a higher than usual risk of intestinal perforation, as blood flow is impaired and ischemia with necrosis and bleeding may weaken the intestinal wall. Thus, hydrostatic reduction is a contraindication in adults.[6] Abdominal ultrasonography has also been successful in diagnosing intussusception, especially if a palpable mass is found.[5,6] Unfortunately, this was not the case in our patient, as ultrasonographic findings were unremarkable. Colonoscopy is of great importance in diagnosing ileocolonic intussusception, especially as it can usually distinguish lipomas from other tumors.[10] Colonoscopy was not performed in this patient, as the diagnosis was made by the imaging studies and laparotomy was performed almost immediately. Had colonoscopy been performed, it might also have been of diagnostic help, as the lipoma responsible for the intussusception was located in the terminal ileum.

In conclusion, diagnosis of intussusception in adults may be difficult, as abdominal pain and vomiting are nonspecific findings, consistent with various abdominal or non-abdominal conditions. Abdominal x-rays and ultrasonography, on the other hand, may fail to demonstrate intestinal obstruction. In such atypical cases, CT examination may prove to be extremely helpful in making the correct diagnosis, and thus facilitating proper and timely therapeutic decisions.

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