

Ileocolic Intussusception Caused by a Malignant Lymphoma of the Terminal Ileum

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ABSTRACT

A 59-year-old man with ileocolic intussusception caused by a malignant lymphoma of the terminal ileum is presented. On the barium enema examination, a typical ileocolic intussusception and a tumor as a leading point were demonstrated. After a spontaneous reduction of the intussusception, the second barium enema clearly showed a polypoid tumor in the terminal ileum. The patient was successfully managed by surgery.

INTRODUCTION

It is well recognized that telescoping of a segment of bowel (intussusceptum) into the adjacent segment (intussuspiens) causes intestinal obstruction and that it may result in gangrene of the intussusceptum or uncommonly in perforation. Intussusception is the most common cause of intestinal obstruction in infants and young children under 2. The cause of the disease may be most frequently related to adenovirus infection, and uncommonly to various underlying disorders, such as benign or malignant tumor, MECKEL's diverticulum or inflammatory lesions. In contrast, intestinal lymphoma is identified with increasing frequency in patients over 1. We report herein an adult case of ileocolic intussusception secondary to a malignant lymphoma of the terminal ileum.

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CASE REPORT

A 59-year-old man was admitted to GUNKE HOSPITAL on May 18, 1987 because of intermittent abdominal cramps, nausea and vomiting of two days' duration. His past history and family history were not contributory. He denied weightloss, taking any medication and a previous history of operation.

Physical examination on admission revealed a well-developed and well-nourished middle aged man with his temperature 37.8°C, blood pressure 180/100 mmHg, pulse rate 82/min regular and respiration rate 12/min regular. His abdomen was slightly distended, soft, and tender throughout. The gurgles and highpitched tinkles were audible. Rectal examination showed an empty rectum and a dark bloody stool on the examining finger sac.

The abdominal plain roentgenogram showed multiple stepladder air-fluid levels without colon gas, suggesting a bowel obstruction at the terminal ileum (Fig. 1).

The patient was treated with intravenous fluid and a nasogastric tube. Abdominal radiograms taken 2 and 4 hours after ingestion of 100ml of gastrografin confirmed the terminal ileal obstruction, but did not provide further information. Colonofiberscopy was done 5 hours after admission, and showed multiple adherent blood coagula to the mucosal surface of the sigmoid colon and rectum. The first barium enema suggested an ileocecal intussusception with a polypoid tumor as a leading mass (Fig. 2). High pressure enema and manual compression of the ileocecal area under the fluoroscope failed to reduce the intussusception.

His abdominal cramps were still intermittent and required medication, but his symptoms and signs did not deteriorate. About 15 hours after hospitalization, he spontaneously passed stools with gases and thereafter his symptoms subsided.

Abdominal plain roentgenogram no longer revealed air-fluid levels. Barium enema was performed again on the next morning, 20 hours after admission, and showed a smooth reflux of barium and air into the terminal ileum, and finally a hemispherical polypoid mass was demonstrated clearly about 25cm proximally to the ileocecal valve (Fig. 3).

Twenty-five hours after admission, laparotomy was made with 8 cm long right pararectal incision in the RLQ. Operative findings showed a dimple, about 1.5 cm in diameter, of the serosal wall in the terminal ileum, 25 cm proximally to the ileocecal valve (Fig. 4), where the hard tumor was palpated. The subserosal linear hemorrhage was noted near the distal side to the tumor with reactive swelling of lymph nodes in the contiguous mesentery. To avoid unnecessary excessive surgery, peroperative endoscopy was performed and showed a protuberant lesion which was suggestive of a malignant tumor (Fig. 5). A 10 cm ileal segment was resected, including the relevant adjacent mesentery with end-to-end anastomosis.

The postoperative course was uneventful and the patient has been alive and well.

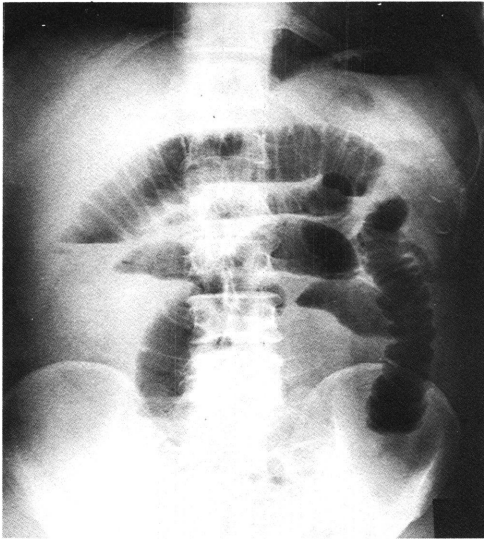


Fig. 1. The abdominal plain x-ray on admission.

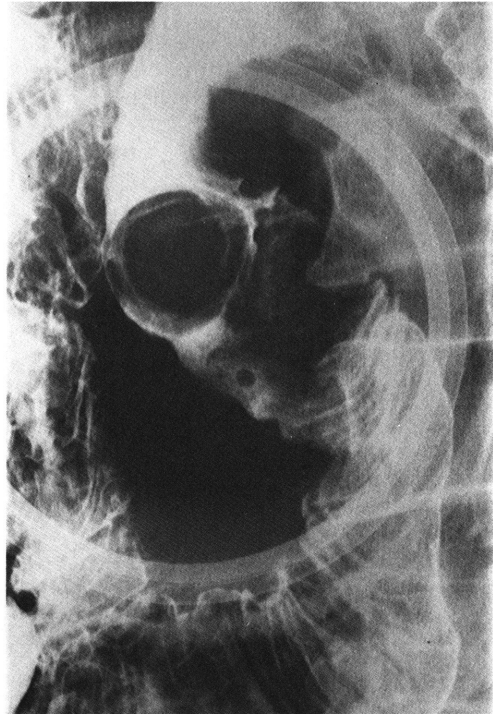


Fig. 3. The second barium enema taken after spontaneous reduction of the intussusception showing a mass in the terminal ileum.

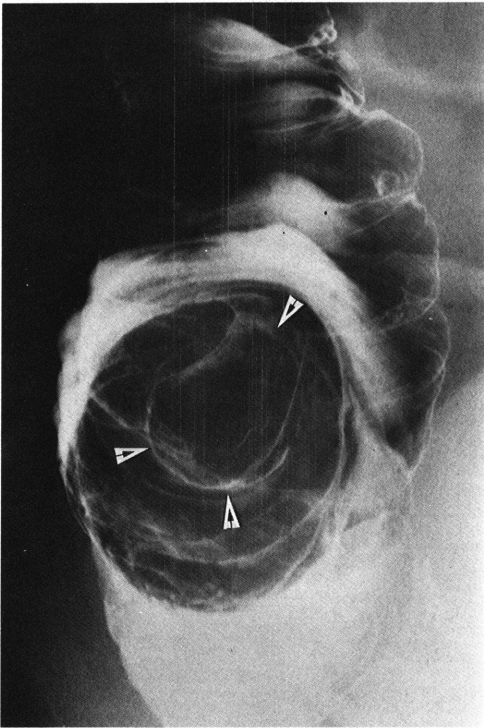


Fig. 2. The first barium enema after admission. Arrows indicate the tumor as a leading point.



Fig. 4. A dimple and subserosal hemorrhage of the terminal ileum.

Gross findings of the surgical specimen, laid open along the mesentery, showed a 10 cm long ileal segment with a protuberant mass, measuring $2.1 \times 2.3 \times 1.2$ cm, opposite to the mesenteric side (Fig. 6). The mucosal surface of the distal half of the resected ileum to the tumor was reddish and thickened throughout, showing a distinct contrast to an apparently intact proximal half to the tumor. Two transverse shallow erosions partly covered with barium were seen on the mucosal surface nearby, distally to the tumor. These erosions corresponded to the subserosal hemorrhage observed from the serosal surface.

Histologic findings revealed a malignant lymphoma, composed of sheets of large-size cells accompanied with scattering medium-size cells (Fig. 7). Malignant cells invaded the propria muscle layer, but not involve any mesenteric lymph nodes.

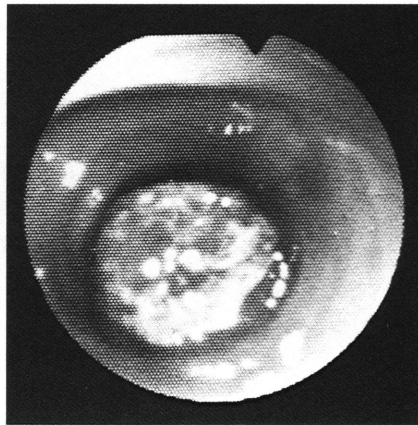


Fig. 5. Peroperative endoscopic findings suggestive of a malignant lesion.



Fig. 6. Resected segment of the ileum.

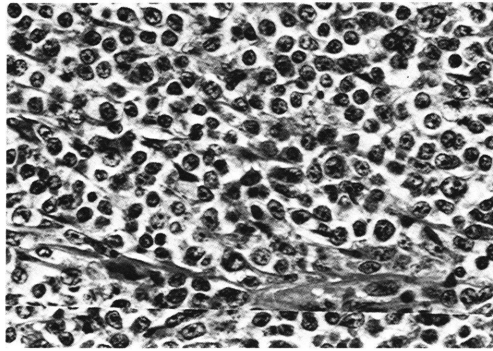


Fig. 7. Histologic findings (H-E stain).

DISCUSSION

In contradistinction to that in infants and young children, intussusception in adults is usually caused by a specific pathologic process such as tumor, diverticulum, inflammatory process or suture line. There is a high incidence of associated malignant lesions in adult intussusceptions. DONHAUSER and KELLY¹⁾ in their review of a large series of 655 adult patients with intussusception reported 121 cases of malignant tumors: 40 were localized in the ileum and 29 in the cecum, with carcinomas and sarcomas being relatively common; 4 cases of ileal lymphoblastoma were described. SMITH and GILLESPIE,²⁾ in a series of 34 adult patients with intussusception, reported only one case of ileocecal intussusception secondary to lymphosarcoma of the terminal ileum. In the series of KARACOSIS *et al.*,³⁾ out of 15 patients with intussusception associated with malignant lesions, only one case of lymphosarcoma of the cecum was encountered. TAKITA *et al.*⁴⁾ reviewed a series of 133 Japanese adult patients with intussusception, and reported 28 cases of malignant lymphoma. These reports suggest that, among the intestinal malignant lesions as a cause of intussusception, there is no high incidence of malignant lymphoma in adults.

Although several kinds of modalities may now be available, the standard means of diagnosing intussusception is barium enema. Diagnostic patterns are well recognized⁵⁾: narrowing of the lumen of the intussusception and retrograde opacification of the concentric ring between the intussusciens and the intussusceptum itself with or without a demonstrable leading mass.

On the ultrasonograms, double anechoic concentric rings surrounding a rough central echogenic area seen on transverse scans are pathognomonic of intussusception.⁶⁾ Corresponding to these findings, on longitudinal scans, parallel hypoechoic areas separated by hyperechoic stripes (described as 'hay-fork sign') can also be diagnostic of intussusception.⁷⁾

The CT appearance of intussusception includes a mass made up of several peripheral strata of dense tissue incompletely separated by thin fatty stripes along with a fatty mass in the center,⁸⁾ and the prominent fat stripe produced by the eccentric crescentic mesentery and the adjacent spicules of contrast medium peripheral to the intussusceptum.⁹⁾

Fiberoptic endoscopy is a useful tool in the diagnosis of intussusception.¹⁰⁾ Although it is not always necessary to perform endoscopy after the diagnosis of intussusception is established by barium enema, preoperative or peroperative endoscopy may be helpful in the differential diagnosis to determine whether the tumor is benign or malignant in order to avoid excessive or inadequate surgery. Because of the predominance of tumor as a cause of intussusception and the risk of perforation of the intestine with intraperitoneal spread of tumor during reduction of an intussusception. It has been recommended that intussusceptum and intussusciens be resected en bloc during laparotomy.¹¹⁾ But, we can not agree to this. Such an en bloc resection should not necessarily be done if the tumor is benign and both intussusceptum and intussusciens are in good condition to preserve.

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