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Case Report

Giant ileocolic intussusception in an adult induced by a double ileal lipoma: a case report with pathologic correlation

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ABSTRACT

Intussusception in adults is rare, accounting for less than 5% of all cases. Unlike the childhood variant, adult intussusception is often associated with a small bowel lesion acting as the “lead point.” We herein report an uncommon case of giant intussusception secondary to 2 separate lipomatous lesions located in the ileum, in an adult admitted to our hospital for acute severe abdominal pain.

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Case report

A 30-year-old man with no notable medical history presented with a 12-hour intense abdominal pain associated with nausea and vomiting. The patient also complained for intermittent abdominal pain and constipation the last 3 days. On physical examination, his abdomen was moderately distended with localized tenderness in the right iliac fossa and retraction of the right lower quadrant. Laboratory findings revealed raised white blood cell count (15,000).

Subsequently, a computed tomography (CT) was performed. Oral contrast was administered and intravenous contrast was given using an automated pump. Data were acquired in 1.25-mm helical slices. On axial scans, a target-shaped configuration, thought to represent a small bowel loop containing 2 separate round fat density lesions, consistent with lipomas, was identified at the level of the right flank and mid abdomen (Fig. 1). The next slice, caudally, revealed a

bilobed doughnut-shaped configuration with invaginating mesenteric fat on both sides and mesenteric vessels in the proximal one, resembling the intussusceptum bowel segment (Fig. 2). Multiplanar reconstruction was performed. By applying coronal reconstruction, we appreciated the full course of the intussusception which was measured approximately 19 cm (Figs. 3 and 4). A sagittal reconstruction displayed the “pseudokidney” appearance with mesenteric vessels coursing within the central invaginated low-density mesenteric fat (Fig. 5).

The patient underwent an urgent exploratory laparotomy which revealed an ileocolic intussusception. Conversion to open surgery revealed double ileal lipoma, and a right hemicolectomy was performed. Macroscopic assessment of the resected specimen exposed the invagination of the distal ileum through the ileocecal valve into the cecum (Fig. 6). Ischemic changes were noted on the gross specimen (Fig. 7). Histopathologic examination reported 2 ileal lipomas 3 and 2

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Fig. 1 – Proximal axial CT slice demonstrating 2 intraluminal fat-density lesions (asterisks) in a doughnut-shaped bowel loop.

cm, respectively, located submucosally, whereas the smaller one appeared to be engulfed in distorted mucosa (Figs. 8 and 9). The patient had a rapid recovery, with complete resolution of his symptoms.

Discussion

Adult intussusception, as mentioned previously, is a rather rare condition responsible for only 5% of all intussusceptions and 1% of all small bowel obstructions [1]. It is described as the spontaneous telescoping of a proximal segment of bowel (intussusceptum) into the lumen of the adjacent distal segment (intussuscepiens) [2]. In contrast to children, most adult intussusceptions have an organic cause [3,4]. It is usually stimulated by an intraluminal bowel tumor, commonly located near the ileocecal valve that alters normal bowel peristalsis and acts as the lead point of intussusceptum [5].



Fig. 2 – Distal axial CT slice. The linear densities representing the mesentery vessels differentiate the intussusceptum mesentery fat (short arrow) from the ileal lipoma (long arrow).



Fig. 3 – Coronal CT reconstruction with maximum intensity projection algorithm demonstrates a 19-cm-long sausage-shaped configuration (black circle).



Fig. 4 – Coronal CT reconstruction. Mesenteric vessels (yellow arrow) and mesenteric fat (orange arrows) are recognized within the sausage-shaped bowel. Notice the intussusceptum small bowel loop (white arrow)



Fig. 5 – Sagittal CT reconstruction. The pseudokidney longitudinal appearance containing the intussusceptum segment of bowel (white arrow), the mesenteric fat and vessels (orange arrows), and an intraluminal lipomatous lesion (red asterisk).

Moreover, small bowel tumors account for only 2%-3% of all gastrointestinal tumors and benign tumors account for 30% of all of them [6]. Intestinal lipomas, representing the second

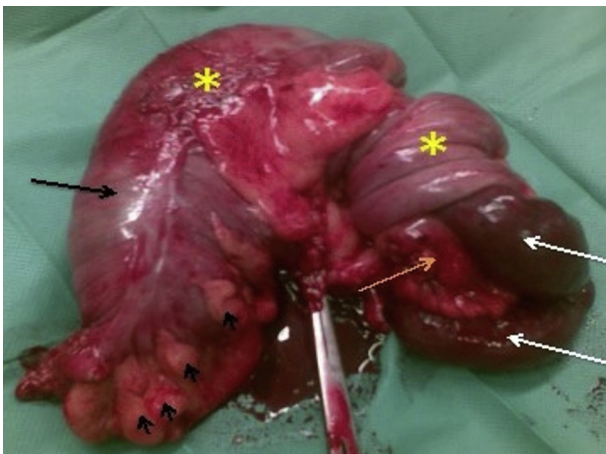


Fig. 6 – Gross specimen showing the intussusceptum bowel part containing small bowel loops (white arrows) and mesentery (orange arrow) invaginating into the intussusceptum bowel segment (yellow asterisks). Notice the epiploic appendages (short black arrows) of the resected cecum (long black arrow).

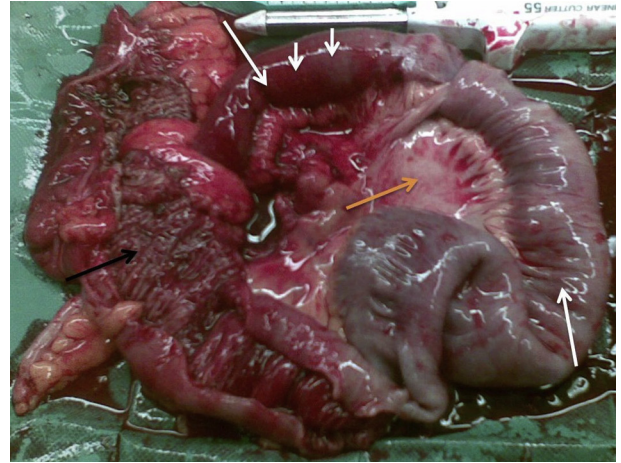


Fig. 7 – Resected intussusceptum cecum (black arrow) cut open to show the intussusceptum containing mesentery (orange arrow) and ileal loops (long white arrows). Notice the vascular changes in part of the intussusceptum small bowel (short white arrows).

most common benign tumor group, are slow-growing mesenchymal tumors arising from adipose connective tissue within the intestinal submucosa. Although they are typically asymptomatic, large lipomas may cause symptoms such as obstruction, bleeding, and sometimes by forming the leading edge may cause intussusception, as in our case. Unfortunately, the clinical presentation is very nonspecific which makes this a challenging condition to diagnose [7].

An amount of different radiologic methods has been used for diagnosis of intussusception, including primarily plain film, ultrasonography, and CT scan. Abdominal x-ray is almost always the first diagnostic tool providing information about the site of possible small bowel obstruction. Abdominal ultrasound has been described as an adequate technique to assess suspected intussusception [8]. However, it is operator dependent and sometimes insufficient, especially in cases of bowel obstruction with the presence of gas-filled loops.

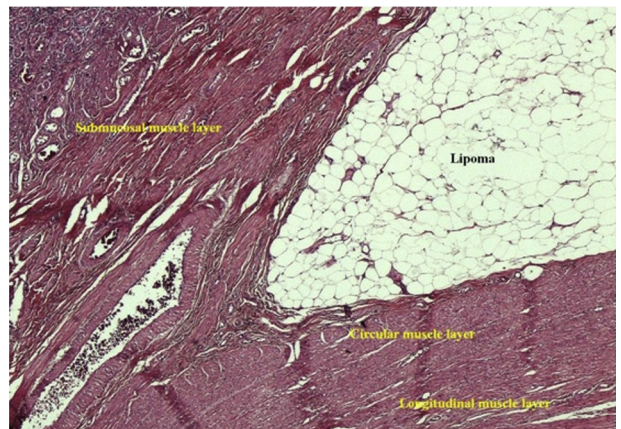


Fig. 8 – Hematoxylin and eosin stain (4× magnification) of first lipoma surrounded by normal mucosa.

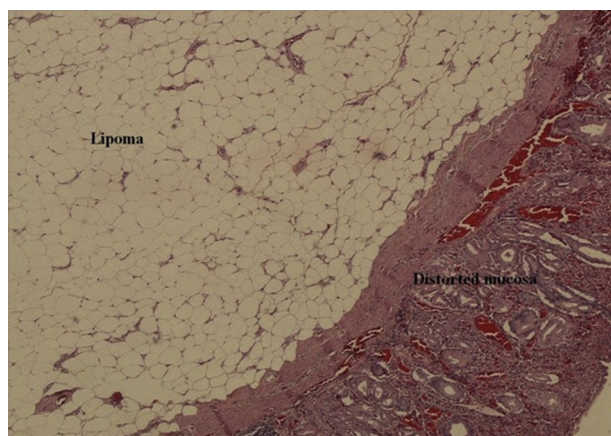


Fig. 9 – Hematoxylin and eosin stain (4× magnification) of second lipoma surrounded by distorted mucosa.

Recently, with the wide spread of multidetector scanners, CT plays a key role in the evaluation of nonspecific abdominal pain and particularly in cases of suspected intussusception [9,10]. The CT findings are virtually pathognomonic including a typical bowel-within-bowel configuration with or without contained fat and mesenteric vessels. It may appear as a “target” or a “doughnut” mass when the CT beam is vertical to the longitudinal axis or as a “sausage-shaped” mass when the beam is parallel to its longitudinal axis [11].

In addition, Lvoff et al [12] have revealed that adult intussusception detected with CT is frequently self-limiting and that many cases can be managed conservatively. The results of this study demonstrated that intussusception length was the sole independent predictive factor of clinical outcome. Only patients with an intussusception longer than 3.5 cm required surgical intervention as the patient in the presented case. Moreover, reviewing the literature, we discovered only one case of similarly extended ileocolic intussusception (20 cm) due to ileal lipoma [13]. However, this is possibly the

first case reporting a giant ileocolic intussusception produced by 2 neighboring ileal lipomas, in combination with the histopathologic findings of the resected specimen.

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