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Case Report

A rare case of adult ileo-ileal intussusception secondary to an ileal lipoma

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ABSTRACT

Intussusception is a common surgical problem among pediatric age group, but the same cannot be said in their adult counterparts. While the disease process is similar in both age groups, the etiopathology and hence the management of this condition differs significantly. In this report, we present a case of an adult female with an ileo-ileal intussusception secondary to a small bowel lipoma, followed by a discussion on the difference of clinical features and management between adults and pediatrics.

Keywords: Intussusception, Small bowel lipoma, General surgery, Small bowel neoplasm, Benign gastrointestinal tumor

INTRODUCTION

Intussusception, while common among the pediatric age group, is a rare occurrence among the adults.[2] It is estimated that only 5% of all cases of intussusception occurs beyond childhood, and as opposed to children, most cases of intussusception in adults have a pathological lead point. We report a case of an intussusception in an 18-year-old adult lady, whose condition was picked up as an incidental finding from an outpatient ultrasound. This case highlights that unlike in children, who commonly present with typical symptoms of abdominal pain, red currant jelly stools and palpable sausage shaped lump in the abdomen, adults tend to have nonspecific symptoms and oftentimes, the diagnosis can be missed.

CASE REPORT

An 18 years old female patient with no known medical illness presented with vomiting and passing out loose stool for 9 days and poor oral intake for 1 week. On arrival to triage, her vital signs was stable and blood investigations did not show any significant abnormalities. She was then admitted under medical team and treated for viral acute gastroenteritis. After hydration for several days, along with prescription of analgesia, her symptoms resolved. She was then discharged with an outpatient ultrasound abdomen appointment to look for presence of intra-abdominal collection.

Ultrasound abdomen noted presence of target sign at left lumbar region suggestive of colo-colic intussusception involving a long segment of large bowel loop from distal descending colon until splenic flexure with thickened wall measuring 1.2 cm. She was subsequently called for an inpatient surgical referral by radiology team, and on surgical assessment, a palpable lump was felt around the periumbilical region, which is mobile and non-tender. She was subsequently planned for a CT abdomen and Pelvis (Figure 1 and 2), which reported a long segment invagination of the proximal segment of ileum, together with mesenteric vessels and mesenteric fat into the distal ileum giving target appearance in axial sections. These

features are suggestive of an ileo-ileal intussusception, and from the CT it was also noted a non-enhancing fat containing lesion at distal part of intussuscepted measuring 1.8×2.5 cm, suggestive of intramural lipoma.

Figure 1: Axial section of CT abdomen and pelvis demonstrating intussusception.

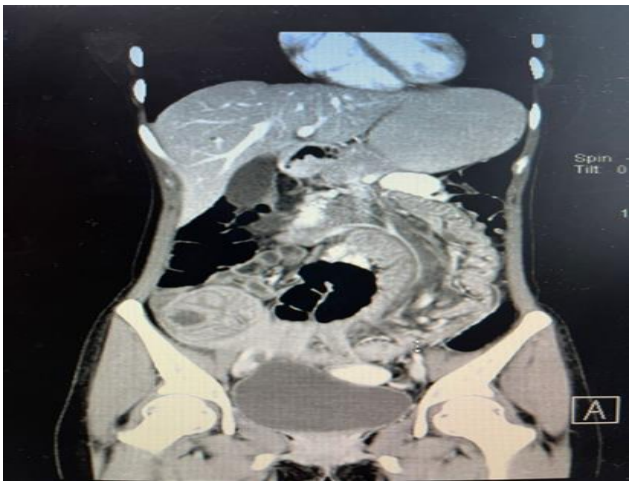

Figure 2: Coronal section of CT abdomen and pelvis demonstrating intussusception.

Based on the CT finding, a decision was made for laparotomy, reduction of intussusception and resection of involved small bowel. Intra-operatively, the small bowel appears dilated, but healthy, an ileo-ileal intussusception was noted approximately 80 cm from the duodenojejunal junction (Figure 3). A distinct mass was palpable within the intussuscepted segment, and multiple enlarged lymph nodes were palpable within the vicinity. The intussuscepted segment was reduced with gentle traction and compression, and a wedge resection was performed, removing approximately 5 cm length in total of small bowel, along with the lesion. After removal, the specimen was bivalved, revealing a 2×2 cm small polyp (Figure 4 and 5). Primary anastomosis was performed using hand sewn technique for the disconnected segments of small bowel, and adjacent enlarged lymph nodes were also removed and sent for histopathological analysis.

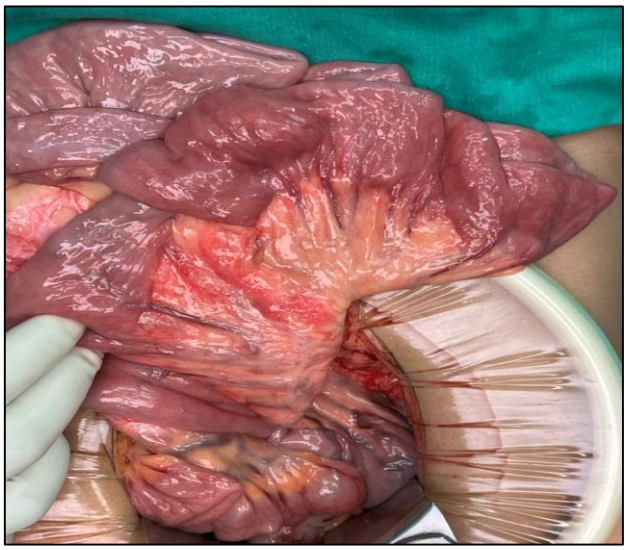

Figure 3: Intra-operative photo of ileo-ileal intussusception.

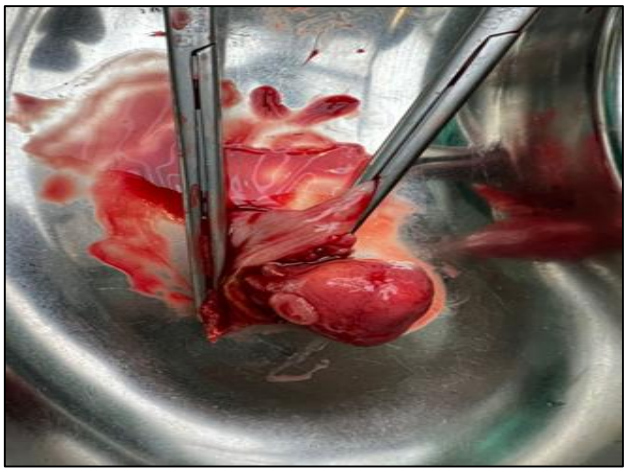

Figure 4: Specimen of wedge resection demonstrating ileal lipoma.

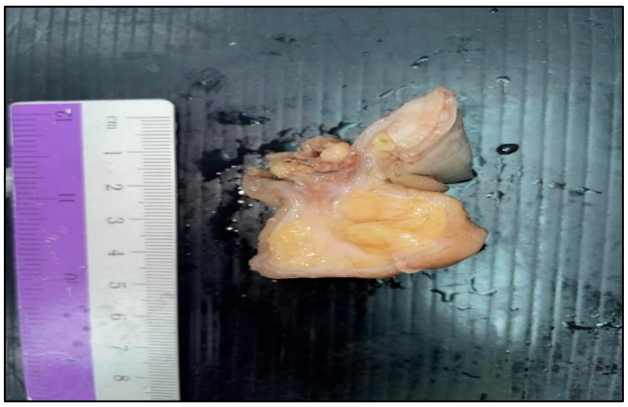

Figure 5: Cut section of specimen prior to histopathological examination.

Histopathological analysis of the tumor revealed benign mesenchymal tumor composed of lobules of mature adipocytes with intervening fibrous tissue, without any features of cellular atypia or dysplasia. Both the macroscopic and microscopic description of the tumor are in keeping with a submucosal lipoma. The lymph nodes sampled intra-operatively revealed reactive lymphoid hyperplasia, with no granuloma or malignancy seen.

Post operatively, patient recovered well, and was discharged on post op day 3. Six weeks post operatively, she was seen in the outpatient department. Her wounds have healed well, and no longer complained of abdominal pain or loose stool. She was subsequently discharged from our care.

DISCUSSION

Intussusception describes a disease process whereby a segment of a bowel telescopes into an adjacent segment of bowel.[1] While intussusception comprises one of the most common cause of intestinal obstruction in the pediatric age group, its occurrence among the adult population is rarely seen.[2] Epidemiological studies estimated that only 5% of intussusception occurs beyond childhood and its etiology, clinical features, diagnosis and management differs significantly from its pediatric counterpart.

Intussusception can be divided based on its location of occurrence, and its etiology. From an anatomic point of differentiation, Intussusception can be divided into: ileo-ileal, also known as entero-enteric, whereby a portion of small bowel telescopes into another segment of small bowel, ileo-colic, involving the terminal ileum and ascending colon, and colo-colic, whereby the disease process is only limited to the large intestine. Large scale studies have identified that amongst adults, ileo-ileal intussusception constitutes approximately 38% of all types of intussusceptions.[2] On the contrary, another literature studying adult intussusception detected through imaging modalities have found that the ileo-ileal type makes up approximately 88% of all types of intussusceptions.[3] This disparity reflects on the possibility that many cases of ileo-ileal intussusception are transient, self-resolving, and while detected on imaging, may not be clinically apparent.[3]

In the pediatric age group, up to 95% of intussusception are considered to be idiopathic, but recent literatures have shown that a significant number of these cases occur following a viral infection, that led to hypertrophy of Peyer's patches.[2] In contrast to this, in the adult population, 66% of intussusception are caused by neoplastic lesions, and up to 60% of these lesions are found to be malignant, adenocarcinoma being the most common.[4] Other less common causes of adult intussusception includes benign tumors, including lipoma, benign polyps and mesenteric lymph nodes.[5] Lipomas are benign tumors originating from the mesenchyme and consists of adipose tissues. These constitute approximately 10% of all benign gastrointestinal tumors, and 5% of all tumors found within the gastrointestinal tract.[6] Lipomas are generally more commonly found within the colon compared to small intestines, with up to 3 out of 4 cases occurring in the large intestine.[6]

As compared to children, who commonly present with typical features of abdominal pain, red currant jelly stool and a palpable abdominal mass, this triad are seldom seen in the adult population.[5] Adults suffering from intussusception tends to present with non-specific symptoms, making the diagnosis of this condition difficult, until complications such as intestinal obstruction or ischemia arises, which prompts further investigation.[6] Some patients may be asymptomatic, while others may present with episodic abdominal pain, nausea, vomiting, diarrhea, and a small percentage of these patients may develop per rectal bleeding, melena or even weight loss.[2,7] In an attempt to categorize symptoms based on its etiology, some case series demonstrated that intussusception involving the small bowel tend to be associated with abdominal pain, nausea, vomiting, and tend to have a longer mean duration of symptoms.[2] On the other hand, large bowel intussusception typically presents in a more acute setting, and is more likely to present with gastrointestinal bleeding.[2,8] In our case, the patient presented with abdominal pain, loose stools and vomiting, which led to an initial misdiagnosis of acute gastro-enteritis.

There are many imaging modalities that can be used to confirm the diagnosis of intussusception in adults, including ultrasound, CT scan and MRI, of which, CT scan is considered to be the gold standard. Ultrasonography can be a useful initial imaging modality, and is cheaper and easier to perform. However, it is operator dependent and may not be able to identify any pathological lead point causing the intussusception.[2] CT scan can help delineate the three main structures making up the intussusception: the intussuscepted (entering inner layer), returning middle layer and the intussusceptions (outer layer or sheath).[2] CT reports typically describe target sign or pseudo-kidney sign around the area involved, and can also delineate possible causes forming the lead points.[5] On top of that, it can also provide information regarding complications such as bowel ischemia, whereby presence of free fluid and pneumatosis intestinalis can be visualized.[7] Where bowel obstruction is not present, endoscopic methods including colonoscopy, digital balloon endoscopy, capsule endoscopy and barium studies can be utilized for the diagnosis of possible etiologies, including gastrointestinal lipoma.[6] Typical endoscopic description for lipomas are smooth, yellowish surface, and "naked fat sign".[6] In our report, the suspicion of intussusception first arose during a scheduled outpatient ultrasound, which picked up a target sign at the left lumbar region. This was then

followed up with a CT scan, which confirmed an ileo-ileal intussusception, with a small bowel lipoma. The initial misinterpretation of a colo-colic intussusception on the ultrasound goes to show that ultrasound is operator dependent, and that the usage of CT scan is advantageous, not only in being able to properly delineate the anatomy, but also provide vital information to the exact etiopathology of the intussusception.

While the mainstay management for intussusception includes non-operative management such as hydrostatic reduction, surgical intervention is necessary in all cases of adult intussusception, as they are almost always associated with a pathological lead point, therefore in non-operative management, risk of recurrence is very high.[5,9] On top of that, malignancy is fairly common in the adult age group, and cannot be ruled out without histopathological examination.[10] The surgical approach on adult intussusception depends on the location of the intussusception. In small bowel intussusception, as in our case, segmental bowel resection with or without prior reduction is the main approach.[6] While endoscopic modalities have been described in literature, it is less favorable due to higher risk of complications including bleeding and perforation.[5] A simple wedge resection was performed in our patient, as the lesion appears benign without exhibiting suspicious features, and this was later confirmed on histopathological examination.

CONCLUSION

This case highlights a rare surgical condition among adults that can often times be misdiagnosed. In view of the way intussusception commonly present among the adult population, its diagnosis can often be missed. In cases in which intussusception is suspected, ultrasonography of the abdomen can be a cheap and simple initial investigation, but, as demonstrated in this case, it is operator dependent and may not provide adequate pre op information. CT scan remains the gold standard for delineation of the intussuscepted segment, and may provide addition information on the pathological lead point, which could help guide pre-operative planning. As most cases in adults involve a pathological lead point, mainstay treatment for intussusception in this age group remains segmental resection, and while endoscopic approach has been described, laparotomy remains the favorable choice of surgery.

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