Case Report

Adult Colonic Intussusception Caused by Mucinous Adenocarcinoma: Report of a Case

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Key Words
Colon cancer;
Adult intussusception

Adult colonic intussusception occurs infrequently and differs from childhood intussusception in its presentation, etiology, and treatment. Diagnosis can be challenging and may be delayed because of longstanding, intermittent, and non-specific symptoms. Most cases are diagnosed at emergency laparotomy. With more frequent use of computed tomography in the evaluation of patients with abdominal pain, the condition can be diagnosed more reliably. The effective management remains controversial. Treatment entails simple bowel resection in most cases. Reduction of the intussusception before resection is controversial, but there is a shift against this, especially in colonic cases. We present a case of a seventy-three-year-old healthy man who presented with a ten day history of recurrent generalized abdominal pain and obstructive symptoms. We present the classical CT appearance of intussusception, a classic target lesion, suggesting colonic intussusception (Descending-colon to Sigmoid-colon image), alongside intra-operative visual images highlighting this rare and extensive segment of D-colon intussuscepting to the proximal S-colon. Anterior resection (standard operation for S-colon cancer) was performed. Pathology showed a large mucinous adenocarcinoma with moderate differentiation sitting at the advancing tip of the intussuscepted fragments and hence acting as the lead point. Post-operatively, our patient has done well and there were no issues of concern.
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A seventy three year old healthy man presented with a ten days history of generalized abdominal pain. He had not opened his bowels properly for ten days without flatus but had episodes of vomiting for five days and gradually abdominal distension developed. He had no other obvious clinical symptoms. His past medical history included several episodes of intermittent recurrent abdominal pain in the last 4 months for which he was not investigated. Otherwise, no major operation history or underlying disease was noted. Physical examination demonstrated he was clinically very dehydrated and had tachycardia. The remaining observations were within normal range. He had generalized abdominal distension and tenderness without rebound or percussion tenderness. No mass, organomegaly or hernias were palpable. He had decreased bowel sounds. Rectal examination identified normal anal tone, empty rectum, no mass or blood present. Cardiovascular and respiratory examinations were unremarkable. Chest X-ray revealed no free gas

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under the diaphragm, and the lungs appeared clear. Plain radiographs of the abdomen (Fig. 1) showed gas-filled loops of bowel. Blood tests were within normal limits. Computed tomography (Fig. 2) with oral contrast demonstrated, long-segmental wall thickness of sigmoid colon with a classic target lesion, suggesting colonic intussusception (descending colon to sigmoid colon). At laparotomy, findings were of grossly distended transverse-descending-sigmoid colon (Fig. 3). There was a cut-off point in the proximal sigmoid colon, with the distal sigmoid colon collapsed. A segment of descending colon had intussuscepted into the sigmoid colon (Fig. 4). We were unable to reduce the intussuscepted segment and a huge intra-lumen mass was palpable. The end of the intussuscepted segment was found to be pending necrotic. Anterior resection was then performed. The rest of the laparotomy was

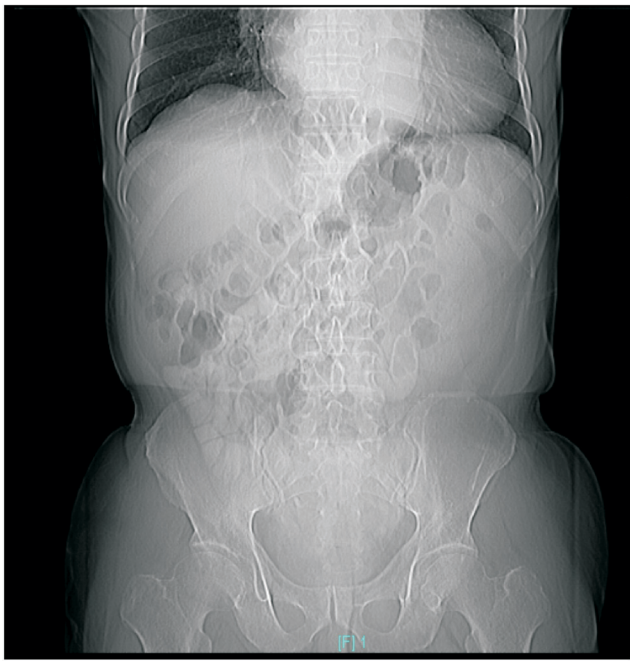

Fig. 1. KUB shows gas filled loops of bowel.

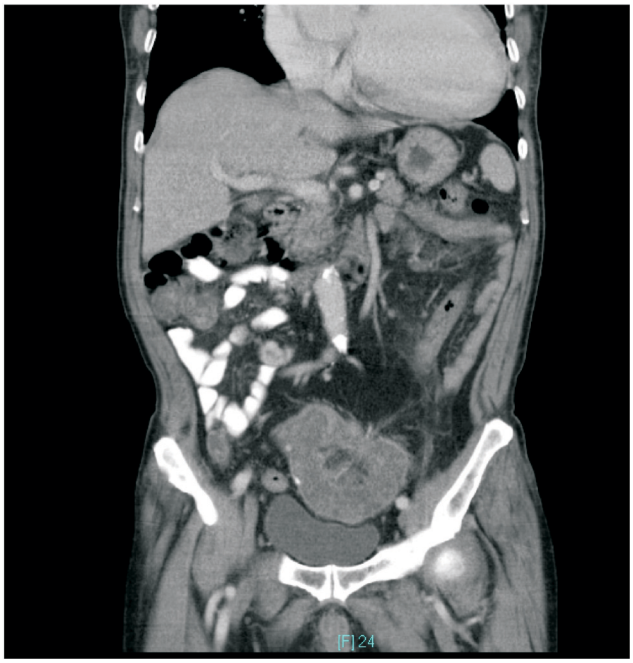

Fig. 2. CT image shows a classic double-ring, target lesion, suggesting colonic intussusception.

Fig. 3. Intraoperative finding: grossly distended T-D-S colon and entry point of the intussuscepted descending-colon.

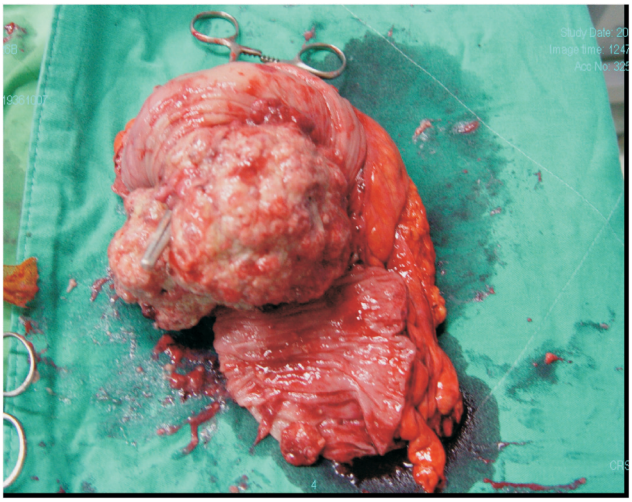

Fig. 4. Specimen finding: a huge S-colon tumor, 10 × 10 × 2.6 cm in size with distal D-colon intussuscepted.

normal. The patient made a gradual recovery and was discharged twelve days after the operation. The specimen disclosed a huge tumor over sigmoid colon, 10 × 10 × 2.6 cm in size with distal descending colon intussuscepted (Fig. 5). Pathology showed mucinous adenocarcinoma, with moderate differentiation, sitting at the advancing tip of the intussuscepted fragments, and hence acting as the leading point. All lymph-nodes were free of neoplasia. After discharge, the patient was noted to be doing very well. He was eating better and putting weight back on. There have been no subsequent re-admissions.

Discussion

The first report of intussusception was made in 1674 by Barbette of Amsterdam.[1] Intussusception or "introsusception" as it was called then was further detailed in 1789 by John Hunter.[2] In 1871 Sir Jonathan Hutchinson was the first to successfully operate on a child with intussusception.[3]

Intussusception is the commonest cause of bowel obstruction in children aged five months to three years, and accounts for up to 25% of abdominal emergencies in children up to five years old. In contrast, it appears rarely in adults, accounting for 5-10% of all cases of intussusception and less than 1% of patients with intestinal obstruction.[4] Many surgeons may never see a single case of intussusception, and it may not be considered in the differential diagnosis of recurrent intermittent abdominal pain or acute intestinal obstruction. The diagnosis in adults is usually made at emergent laparotomy, as most patients present as an emergency with intestinal obstruction. In non-emergency patients, the diagnosis can be challenging as symptoms include intermittent abdominal pain that often settles comparatively quickly.[5] The bowel may simply telescope on itself (non-pathological lead point), or some pathology may be the focus of the invagination (pathological lead point) such as in our case. There is a pathological lead point in 90% of adult cases and mostly involve only the small bowel or are ileocolonic.[6] The cause is identified in up to 90% of cases and includes malignancy in 54-69% (primary neoplasms,[7] e.g. carcinoma, lymphomas and lipomas or metastatic neoplasms),[8] and Meckel's diverticulum in 2%.[9] The common intussusceptions have been classified into four categories according to the site of origin and they are: enteric, ileocolic, ileocaecal, and colonic.[10] Enteric and colonic cases are those that are confined to the small and large intestine respectively. While ileocolic intussusceptions are those with prolapse of the ileum into the colon through the ileocaecal valve, ileocaecal intussusceptions occur when the ileocaecal valve acts as the lead point. However, in clinical practice, it is difficult to differentiate between ileocolic and ileocaecal intussusceptions. The presenting symptoms in adult patients with intussusceptions are often non-specific and often long-standing. Most series report pain as the commonest symptom, being present in 71% to 90% of patients, with vomiting and bleeding from the rectum as the next most common symptoms.[11] The most important characteristic of pain is its periodic, intermittent nature, which makes the diagnosis elusive and accounts for the delay in making the diagnosis, with only half the cases being diagnosed before operation.[11] In contrast, children present usually with sudden onset colicky abdominal pain, early vomiting, palpable sausage shaped mass (often in the right upper quadrant), with later bloody red current jelly stools. Investigations include abdominal X-rays which may show a soft tissue mass or obstructive image. Ultrasound may show a doughnut sign when imaged transversely. Barium enema can be useful in identifying filling defects in intussusception. The classic CT finding is the 'double-ring' bowel within bowel appearance.[12] This was present in the CT performed for our patient. With more frequent use of computed tomography in the evaluation of patients with abdominal pain, the condition can be diagnosed more reliably and CT has been noted to be the modality of choice.[13] Colonoscopy is the another method to reduce the intussusception, but this depends on the site and it appears to be better at detecting a neoplastic mass as the leading point.[14] In children, air enema has achieved a high success rate for reduction.[15] Intra-operative reduction before resection remains controversial and there are concerns that this can lead to seeding of malignant cells.[16] In stark contrast to the childhood form, the adult form of intussusception almost always re-

quires surgery.[8,15] One recommendation is that all intussusceptions involving the large bowel should be resected as there is an almost 60% risk of malignancy where as small bowel intussusceptions should be managed by reduction initially as the risk of a neoplastic lesion is much less.[14] The prognosis of adult intussusception after surgery is good except for malignant intussusception.[16]

Conclusion

Here we have reported an uncommon case of adult colonic intussusception caused by mucinous adenocarcinoma. Diagnosis can be challenging and may be delayed because of longstanding, intermittent, and non-specific symptoms. Aggressive operation is usually needed to relieve the clinical symptoms.

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病例報告

黏液性大腸腺癌引起的成人型大腸腸套疊

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一位 73 歲的健康男性主訴有不規則的腹部陣痛，而且發現疼痛處位於左腹部。病人有噁心嘔吐伴隨腹漲的現象。所有生化檢查評估顯示正常，但是腹部電腦斷層資料指出在左下腹有明顯的大團塊。在剖腹手術後我們發現一個具有腫瘤的大腸腸套疊。腫瘤位於乙狀結腸並且套疊住了一部分的降結腸，因此左半結腸被切除以便分析。組織病理學檢查顯示為黏液性大腸腺癌。

綜合以上的資料顯示，我們發現一個少見的因惡性黏液性大腸腺癌所引起的成人型大腸腸套疊案例。

關鍵詞　大腸癌、成人腸套疊。