

Secondary intussusception due to caecal tumor; A case report and review of the literature

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Date Submitted: 4/8/2015

Date Accepted: 6/10/2015

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Abstract

Acute intussusceptions in adults is a rare condition. In children, intussusceptions is often idiopathic in nature, while in adults, a cause is identified in up to 90% of cases. Malignant tumors are reported to be the cause of colon intussusceptions in 65% to 87% of cases. The caecum and sigmoid colon can be regarded as mobile organs which are affected more by intussusceptions than the descending colon due to its attachment to the retroperitoneum. Symptoms at presentation are usually nonspecific. Computed tomography is considered to be the most reliable investigation in making a preoperative diagnosis. A 60-year-old man presented with a two months history of recurrent attacks of severe colicky abdominal pain. A caecal tumor was diagnosed by CT-scan of the abdomen. The intussusception was diagnosed by barium enema. The patient was managed surgically. The presentation, diagnosis and treatment are discussed with review of the literature

Key words; Adult, colon, intussusceptions, caecal carcinoma

INTRODUCTION

Intussusception was first reported in 1674 by Barbet of Amsterdam and further presented in a detailed report in 1789 by John Hunter¹. In adults, intussusceptions is rare and represent less than 5% of all cases of intussusceptions² and 1-5% of patients with intestinal obstruction.³

The classification of intussusceptions has four categories (i) Entero-enteric, ii) colo-colonic, iii) ileo-colonic and iv) ileo-cecal⁴, depending on the leading point.

In adults, 90% of intussusceptions occur in the small or large bowel and, the remaining 10% involve the stomach or a surgically created stoma.⁵ The most common site is the small bowel.⁶ Colonic intussusceptions accounts for approximately 20% of the cases in the intestine³. In children, intussusception is often idiopathic in nature, while in adults, a cause is identified in up to 90% of cases.⁷ Malignant tumors are reported to be the cause of colon intussusceptions in 65% to 87% of all adult cases^{8,9}. We are presenting here a case of an old man with a malignant tumor in the

caecum presenting as ileo-caeco-colic intussusceptions. His clinical presentation and management is discussed.

Case report

A 60-year-old man presented with a two months history of recurrent attacks of severe colicky abdominal pain. He was managed conservatively in the emergency department on many occasions and was free of pain within few hours. During this period, he feels slightly weak with loss of appetite otherwise he has no complaints in between the attacks. He has no vomiting, no change of bowel habit and no bleeding per rectum. He did not notice a loss in his weight. He has normal results of ultrasound of the abdomen and plain x-rays of the chest and abdomen in the previous attacks. O/E. He looks well with no pain, no pallor and no jaundice. Abdominal examination reveals soft abdomen with no guarding or tenderness. No palpable mass was elicited.

Initial investigations reveals normal results apart from a Hb of 9.5gr/dl. The patient was admitted to the surgical ward for investigations and evaluation. An abdominal and pelvic CT-scan (Native with oral and I.V. contrast) demonstrated a well defined enhancing

mass in the right colon of 5x8cm in size with regional wall thickness of 1cm. suggesting a colonic tumor.(Figure 1A & B). The patient was scheduled for barium enema and colonoscopy. During his stay, he had mild attacks of abdominal pain for which no medication was needed.

In the mean time, a barium enema was done and showed a large polypoid filling defect in the hepatic flexure in favor of large colon tumor with feature of intussusception. (Figure 2). During his stay, he had an acute attack of generalized severe colicky abdominal pain and repeated vomiting. An emergency exploration was arranged with the finding of intussusception of a large mass in the cecum into the ascending colon. (Figure 3 & 4). Right hemicolectomy was done with removal of the draining lymph nodes without reducing the intussusceptions. He has an uneventful post-operative period and was discharged on the fifth post-operative day. The histopathology report shows a malignant tumor composed of well differentiated glandular structure invading the muscularis propria with mucin lakes. The picture is consistent with an invasive well differentiated mucinous adenocarcinoma with five lymph nodes free of tumor (Duke's B). Follow up for three years was normal.

DISCUSSION

Our patient presented with a malignant tumor in the caecum which was the leading point of an intussusception. This can be categorized as ileo-caeco-colic type. The caecum and sigmoid colon can be regarded as mobile organs which are affected more by intussusceptions¹⁰, While it is uncommon in the descending colon due to it being retroperitoneal¹¹. In a study by Goh *et al*,⁹ the ileo-ceco-coic type was the second common after the ileo-colic type.

Our patient presented with recurrent attacks of abdominal colics without the full features of intestinal obstruction. This can be regarded as sub-acute and intermittent nature of presentation. The wide diameter of the right colon in comparison with the left colon might have a role in this presentation. During his stay for a planned operation, an acute attack occurred in the hospital which needed an emergency operation.

In a study by Wang, he found that most of his patients present with subacute (24.4%) or chronic (51.2%) symptoms and only 9.8% had the triad of abdominal pain, palpable abdominal mass and bloody stool.¹² Sato¹³ described adult intussusceptions presentation to be as an acute or chronic (persistent or intermittent) in addition to being sometimes 'silent'. The delay in diagnosis in our patient was due to the nonspecific symptoms at presentation. The presenting symptoms

included recurrent attacks of abdominal pain which resolved after few hours on conservative management. The absence of other symptoms contributes to the delay in the investigations and diagnosis. Most series report pain as the commonest symptom, being present in 71% to 90% of patients.¹⁴ In our patient, an abdominal mass could not be elicited on palpation. It is reported in the literature that an abdominal mass is noted in 24% to 42% of cases.¹⁵

The majority of cases in adults have a chronic presentation, consistent with partial obstruction¹⁶, and sometimes is established only on exploration.⁶

In our case, Both plain x-ray and ultrasound were not conclusive. *Huang* reported a diagnostic yield of 32% for the ultrasound¹⁷ The CT-scan did diagnose the caecal tumor. No definite findings of *intussusception* were present and this can be explained by the occurrence of recurrent attacks of intussusceptions with spontaneous rectification. At this time, a decision of elective surgery was planned.

In our patient, barium enema revealed the sign of intussusception ('cup-shaped' filling defect), This might be explained by the coincidence of the investigation with the attack of intussusception. This had directed our decision to operate urgently. Barium enema examination may be useful in patients with colo-colic or ileo-colic intussusception, during which a "cup-shaped" filling defect or "spiral" or "coil-spring" appearances are characteristically demonstrated⁶. A preoperative diagnostic accuracy of 41% is reported for barium enema¹⁷.

In the literature, computed tomography is considered to be the most reliable investigation in making a preoperative diagnosis, especially in those patients with non-specific abdominal pain.¹⁸

A diagnostic accuracy of 58%-100% has been reported.^{19,20}

Intra-operative findings confirm the presence of ileo-ceco-colic intussusception due to a cecal mass. Right hemicolectomy with the excision of its mesentery with the draining lymph nodes was done, depending on the high suspicion of the mass being a malignant tumor as his CT scan suggested. No trial of reduction was done. Most surgeons accept that adult intussusception requires surgical intervention without attempting reduction of the bowel due to the high incidence of malignancy and the possibility of perforation and metastasis.^{21, 22} Laparoscopic approach of adult intussusception, due to benign and malignant lesions of the small and large bowel has used successfully in selected cases.^{23,24}

Conclusion:

We presented a rare case of secondary intussusception due to caecal tumor. Old patients present with non specific symptoms mainly attacks of abdominal pain needs investigation to exclude large bowel tumor and possible intussusception.

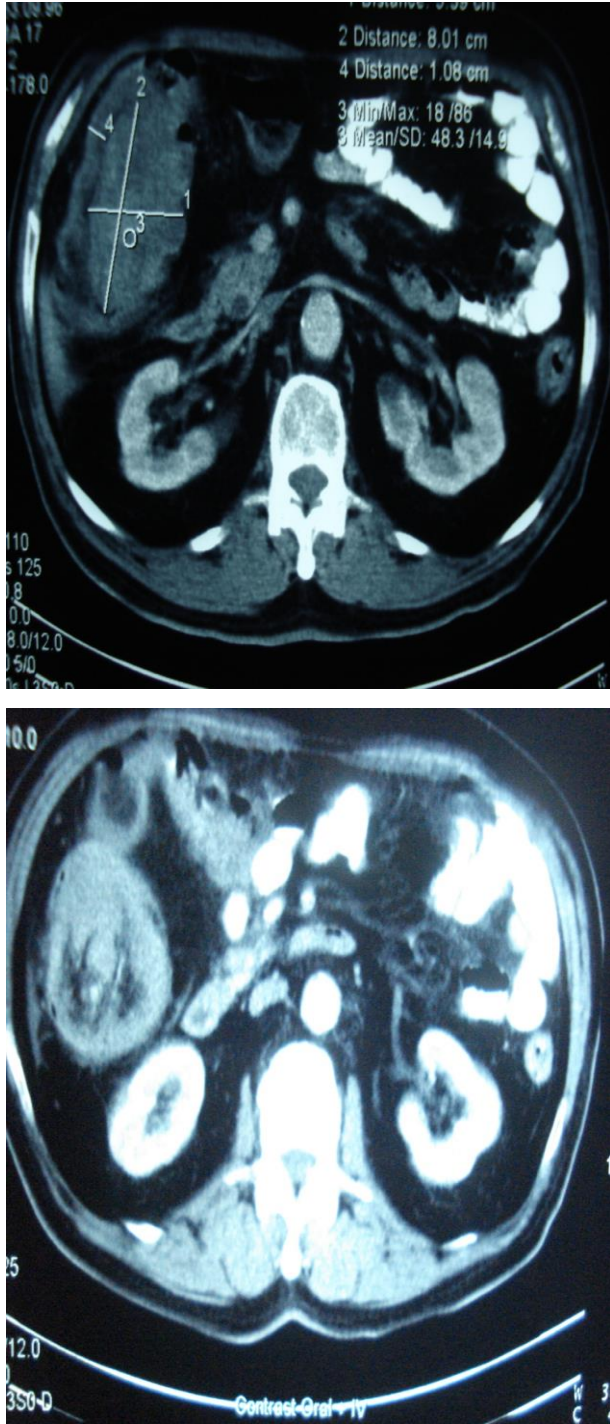


Fig.1 (A & B). An abdominal and pelvis CT-scan (with oral and I.V. contrast) demonstrates a well-defined enhancing mass in the right colon of 5x8cm in size with a regional wall thickness of 1cm. suggesting a colonic tumor.



Figure 2 Barium enema shows a large polypoid filling defect in the hepatic flexure in favor of a large colon tumor with features of intussusceptions

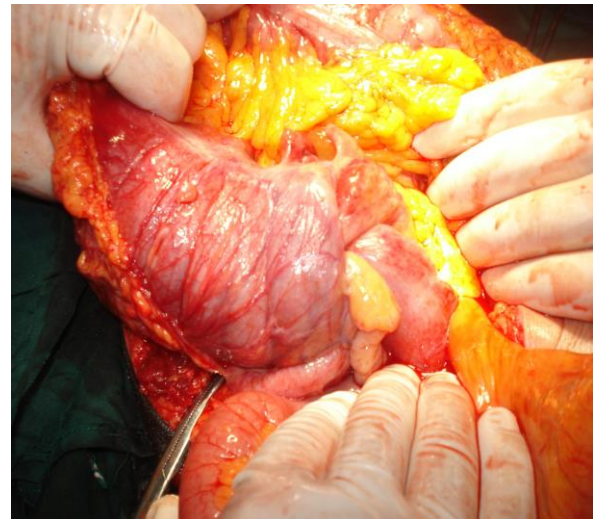


Figure 3 The operative findings show an ileo-ceco-colic intussusception

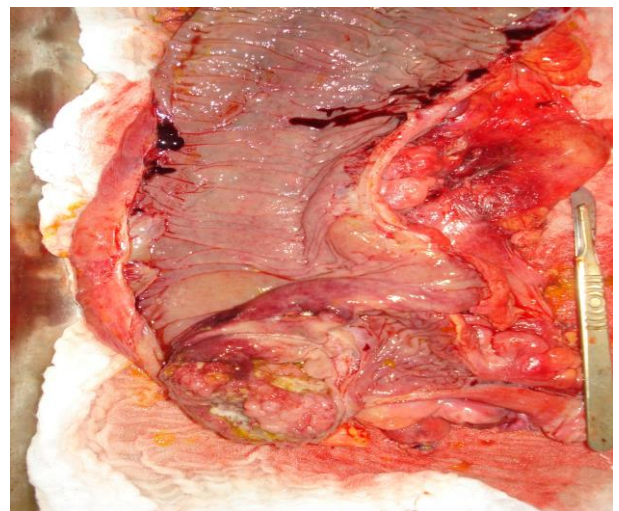


Figure 4 The surgical specimen showing the intussusception of a large mass in the caecum into the ascending colon

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