wjpmr, 2020,6(6), 237-239

SJIF Impact Factor: 5.922

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Case Report

ISSN 2455-3301

WJPMR

INTUSSUSCEPTION DUE TO CAECAL ADENOCARCINOMA - A CASE REPORT AND REVIEW OF THE LITERATURE

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Article Received on 08/04/2020 **Article Revised on 29/04/2020** **Article Accepted on 19/05/2020**

ABSTRACT

Adult intussusception occurs infrequently and differs from childhood intussusception in its presentation, aetiology and treatment. Diagnosis can be delayed because of its longstanding, intermittent, and non - specific symptoms and most cases are diagnosed at emergency laparotomy. With more frequent use of computed tomography (CT) in the evaluation of patients with abdominal pain, the condition can be diagnosed more reliably. Treatment involves 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. Surgery is the mainstay of treatment in adult intussusception. This paper discusses the clinical presentation, investigations and management of an adult patient with intussusception of the caecum, and ascending colon into the transverse colon secondary to a caecal adenocarcinoma.

KEYWORDS: Caecal adenocarcinoma, bowel obstruction, intussusception.

INTRODUCTION

Intussusception is the telescoping of one segment of the gastrointestinal tract into an adjacent segment. It is a major cause of intestinal obstruction in children, but it is relatively uncommon in adults. The diagnosis in adults is usually made at laparotomy, as most patients present as an emergency with intestinal obstruction.

In non - emergency patients the diagnosis can be a challenge as symptoms are often non - specific. Clinical signs and investigations are frequently non - specific in adult intussusception. Surgery is the usual treatment in most cases of adult intussusception, and the operative management can be challenging.

We present a case of an adult patient who presented with a large bowel obstruction secondary to intussusception of the small bowel, caecum and ascending colon into the transverse colon. The patient proceeded to a laparoscopic right hemicolectomy and pathology demonstrated a caecal adenocarcinoma.

The investigation and management of adult intussusception are discussed and a review of the literature of this rare condition is undertaken.

CASE REPORT

A 64yr old lady presented to her GP with a one-month history of loose stools and colicky pain in her lower abdomen. She was mildly tender in her right iliac fossa. Admission bloods were normal, in particular inflammatory markers - haemoglobin, MCV and MCH were within normal ranges. The patient had underwent a bowel cancer screening test and her QFIT score was > 400µg Hb/g. A colonoscopy was organised and this demonstrated a 30mm necrotic tumour in the proximal transverse colon, which was the lead point of an intussusception (Figure 1). The patient was admitted for a CT scan on the same day, and this demonstrated thickening of the bowel from the distal ileum to the transverse colon (up to 1.5cm single wall thickness within the caecum), pericolic fat stranding and free fluid in the right para-colic gutter. Resolution of the intussusception was noted and no mass or obstruction was evident. The patient was discharged home with a plan for a repeat CT scan in 6 weeks. Colonic biopsy demonstrated low - grade dysplasia in keeping with an adenoma with stromal inflammatory change, but no evidence of high-grade dysplasia or malignancy. The repeat CT scan 6 weeks later confirmed a non-obstructing ileo-transverse intussusception and found multiple prominent lymph nodes in the ileocolic chain, but no mass was evident (Figure 2). Five days later, the patient underwent a repeat colonoscopy and this demonstrated a 40mm malignant-appearing caecal tumour beneath the ileo-caecal valve and a separate, likely adenomatous, 18mm caecal polyp (Figure 3). Biopsies of the caecal tumour demonstrated an ulcerating moderately - differentiated adenocarcinoma.

The patient underwent an urgent laparoscopic right hemicolectomy with complete mesocolic excision. Intra-operatively, the terminal ilium was intussuscepting beyond the hepatic flexure, along with an oedematous ileo-colic pedicle. Mobilisation of the hepatic flexure and lateral-to-medial mobilisation of the right colon improved anatomical orientation of the root of the mesentery and facilitated dissection. An anti-peristaltic side-to-side ileo-transverse colonic anastomosis was constructed. The patient made an unremarkable recovery and was discharged home on day-3 post-operatively. Histopathology confirmed a completely resected 65mm caecal pT3 N0 adenocarcinoma, indrawing of the caecal pole and chronic inflammation extending throughout the mucosa, submucosa and muscularis propria of the specimen.

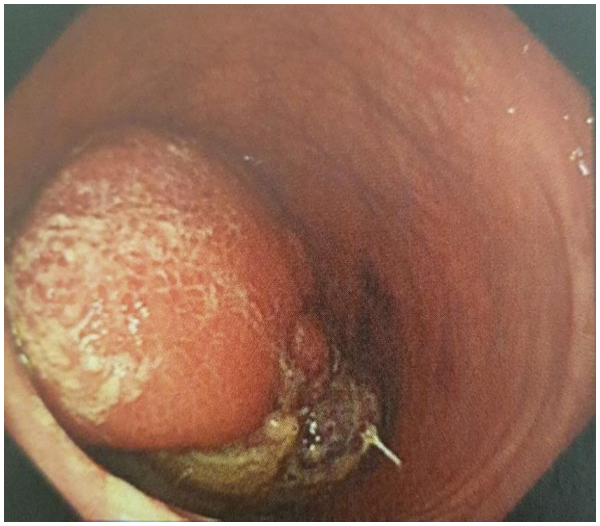

Figure 1: Colonoscopy in the mid-transverse colon demonstrating intussusception and a 30mm necrotic tumour.

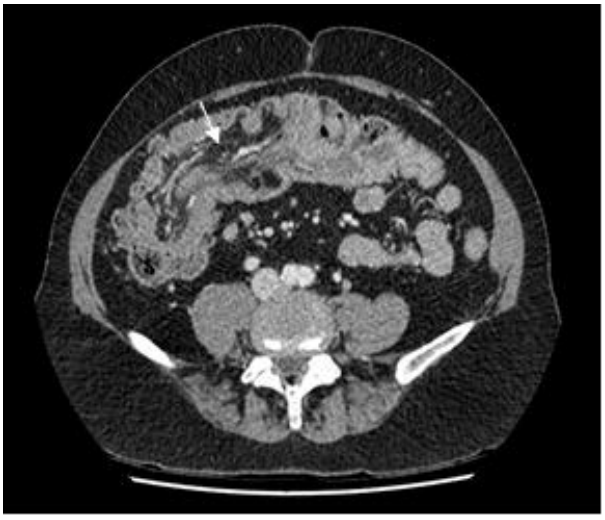

Figure 2: CT abdomen and pelvis demonstrating extensive intussusception of the distal ileum, caecum and ascending colon within the mid transverse colon (white arrow).

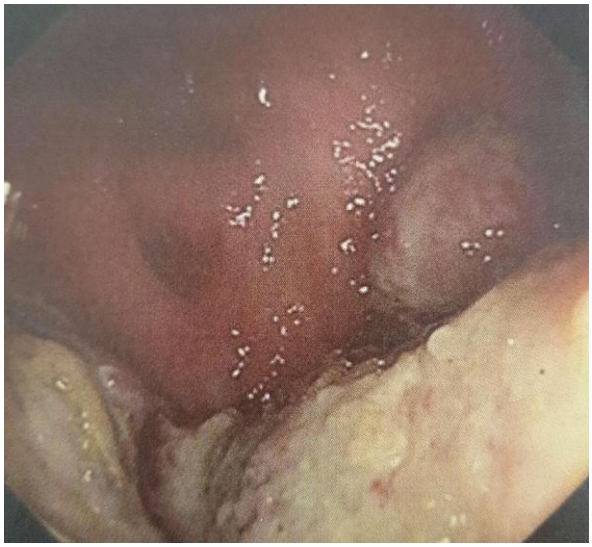

Figure 3: Colonoscopy demonstrating a 40mm malignant tumour beneath the ileo-caecal valve.

DISCUSSION

Intussusception is defined as the prolapse of one part of the intestine into the lumen of the adjoining distal part. The first report of intussusception was in 1674 by Barbette of Amsterdam [1] and in 1871 Sir Jonathan Hutchinson was the first to successfully operate on a child with intussusception.[2] It is a major cause of intestinal obstruction in children, but it is relatively uncommon in adults. Adult intussusception accounts for only 1% of all bowel obstructions and 5% of all intussusceptions.[3] Most general surgeons will never manage an adult patient with colonic intussusception during their careers, and in many cases this condition will be undiagnosed prior to laparotomy.[4]

Although intussusception has a low prevalence, it is essential that surgeons are aware of the possibility of this pathology as a delay in diagnosis could result in potentially serious complications such as bowel necrosis, perforation and rarely death.[5] In the patient presented in this study the intussusception of the terminal ileum, caecum and ascending colon into the proximal transverse colon was secondary to a caecal adenocarcinoma, but on reviewing the literature intussusception has also been associated with benign and idiopathic causes.[6] Intussusception has also been noted in patients with coeliac disease, abdominal trauma, and during the post-operative period.[7]

The presenting symptoms in adult patients with intussusceptions are non-specific and often long standing. Most series report pain as the most common symptom, being present in 71% to 90% of patients, with vomiting and bleeding from the rectum as the next most common symptoms.[5] The most important characteristic of pain is its periodic, intermittent nature, which makes the diagnosis elusive and accounts for the delay in reaching a diagnosis, with only half the cases being diagnosed before operation.[5] Abdominal mass is noted

in 24% to 42% of cases.[5] A study by Lindor et al. that investigated the presenting symptoms, management and outcomes of 148 adult patients with intussusception demonstrated that abdominal pain is the most common presenting symptom with this condition.[8]

Ultrasonography has been used to evaluate suspected intussusception and findings include the target and doughnut signs on the transverse view and the pseudo - kidney sign on the longitudinal view.[9] Recent papers report that CT is the most accurate and sensitive imaging modality for diagnosing intussusception and in the case presented CT clearly demonstrated the intussusception of the caecum into the transverse colon. The characteristic CT findings of intussusception include an early target mass with enveloped, eccentrically located areas of low density.[10] Barium enema may also be used to diagnose intussusception and characteristically a cup - shaped filling defect with a spiral or coil - spring appearance is demonstrated.[5]

Upon review of the literature surgical resection is the management of choice for this condition. It is recommended that in the presence of inflamed, ischaemic or friable bowel wall not to attempt operative reduction, but to proceed directly to resection.[11] Even when a benign polyp is suspected before surgery, careful reduction is advised to avoid perforating the strangulated bowel prior to surgery.[5]

Laparoscopic surgery is now widely used for the resection of benign and malignant gastrointestinal tumors; however, its application for intussusception is still controversial. [12] The usefulness of laparoscopic surgery in emergency situations, particularly for non - decompressed intestinal obstruction, remains controversial because adequate intraperitoneal visualization is virtually impossible in such cases.

CONCLUSION

Intussusception in adults is a relatively uncommon condition. Adult intussusception accounts for only 1% of all bowel obstructions and 5% of all intussusceptions.[3] Although intussusception has a low prevalence, it is essential that surgeons are aware of the possibility of this pathology as a delay in diagnosis could result in potentially serious complications such as bowel necrosis, perforation and rarely death.[5]

Diagnosis of intussusception can be difficult as symptoms are often non - specific. It is therefore important to have a high index of suspicion for this condition. The most useful investigation is abdominal CT scan. Treatment requires resection of the involved bowel without attempted reduction in colonic lesions especially where the bowel is non-viable or when malignancy is suspected.

Grant
None.

CONFLICTS OF INTEREST

We the authors of this case report have no conflicts of interest to declare.

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