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Adult intestinal intussusception – A report of 2 cases and literature review

Case Report

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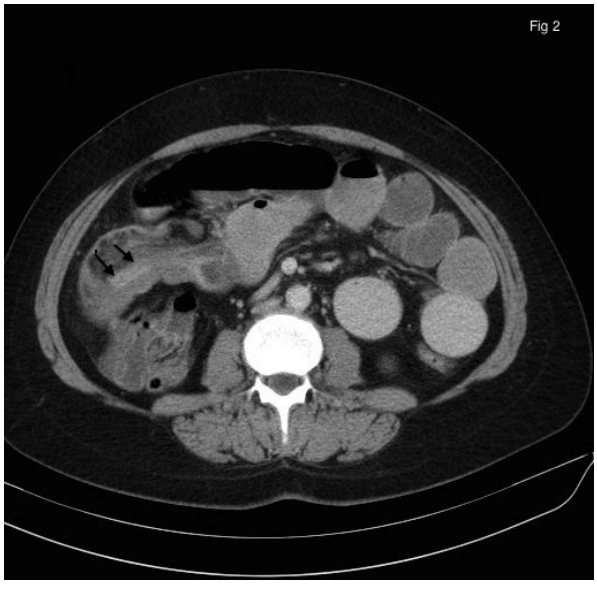
Abstract: Every five years or so a case of adult small bowel intussusception secondary to pathologies such as inflammatory fibroid polyp (IFP) appears in English literature. Likewise rare cases of adult colonic intussusception due to a tumour have been reported including, more recently, their successful management by laparoscopic approach. We describe two such cases, one each of small bowel and large bowel intussusception, due to IFP and caecal tumour respectively and discuss their management. We also suggest role of combined laparoscopy/endoscopy in selected cases of colonic resections.

Keywords: *Adult intussusception • Small bowel • Colon*

1. Case 1 – Intussusception due to IFP

A 41 year old woman presented as an emergency with a week long history of post prandial colicky abdominal pain, bilious vomiting and loose motions. In the previous 4 months she was investigated by her General Practitioner (GP) for abdominal pain. A gastroscopy was normal as was an ultrasound scan, apart from small uterine fibroids. On admission, an abdominal X-ray showed dilated small bowel loops and paucity of colonic gas. An abdominal computed tomography (CT) scan showed small bowel obstruction due to intussusception with no obvious lead point (Figure 1). A mini laparotomy showed intussuscepting terminal ileal loop with a palpable polypoid lead point. A limited small bowel resection was performed. The post operative recovery was unremarkable. Histology showed a 3 cm polypoid lesion with features consistent with an inflammatory fibroid polyp.

Figure 1. CT scan: Small Bowel Intussusception. Black arrow showing intussuscepting small bowel and proximal obstruction.



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2. Case 2- Itussusception due to caecal tumour

A 58 year old woman was referred to the colorectal clinic with few month history of intestinal colic, loose notions and weight loss. On examination there was an ill defined mass in the upper abdomen. Colonoscopy showed a substantial hepatic flexure polyp (Figure 2) biopsy of which confirmed adenocarcinoma. CT showed ileocolic intussusception with a large tumour as lead point almost to the splenic flexure (Figure 3). These findings were confirmed during laparoscopic right hemicolectomy (Figure 4). The post operative recovery was unremarkable. Histology showed adenocarcinoma (pT3NoMo) with early vascular invasion.

Figure 2. Colonoscopic photograph showing a large polypoidal lesion (black arrow) leading the intussuscepting segment (white arrows).

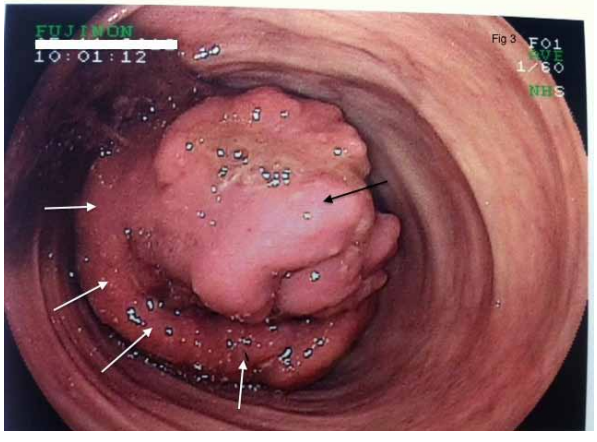


Figure 3. CT scan: Large Bowel Intussusception White arrow showing the lead point (caecal tumour). Black arrow showing intussuscepting colon.

3. Discussion

Compared to paediatric non-lead point intussusception, adult cases frequently have a lead point ahead of intestinal invagination. In one review of adult intussusception, 45% involved large and 55% small intestine [1].

In adult small bowel intussusception, the lead point is benign in 80% of cases [2]. IFP is one of them, has definite female preponderance, is nearly always solitary and is present in the submucosal plane. In two case series [3,4], metastatic melanoma was the most commonly identified malignant lead point in cases involving the small bowel.

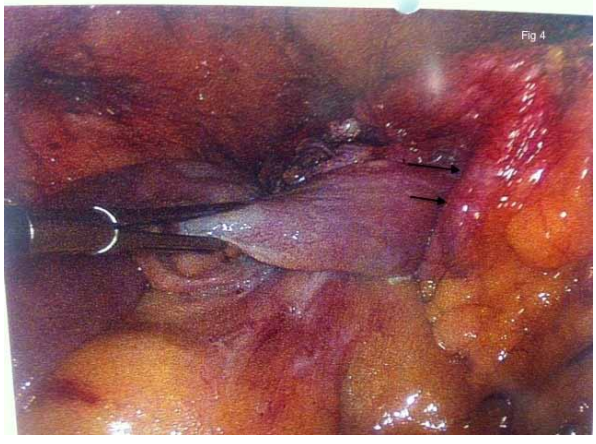
In adult large bowel intussusception, the pathology is malignant in more than 50% of cases. The most common benign lesion causing colonic intussusception is lipoma. Intussuscepting caecal lesions may travel as far distally as the splenic flexure and, in one reported case, through the anus.

With the advent of gastric bypass surgery for obesity, another variant of small bowel intussusception has come to light in the form of retrograde jejuno-junal telescoping. In one large case series [3], the incidence was 31% with female preponderance and no lead point.

Clinical presentation is usually chronic, intermittent abdominal pain and distension often followed at some stage by acute obstruction. In cases of small bowel this accounts for up to 1% of adult intestinal obstructions [5].

Currently CT scan is deemed the most appropriate investigation. It may show a well defined, intraluminal mass accompanied by a target sign, or a sausage shaped mass, depending on the axial projection, which comprises of invaginating or telescoping lead point, twisted mesentry (intussusceptum), surrounded by thick walled distended bowel (intussuscipiens) [6]. Differentiation of the lead point from non specific intestinal

Figure 4. Per operative photograph. Black arrows showing the point of invagination. Black arrow showing intussuscepting colon.



wall thickening is easier in colonic intussusception due to greater calibre of the colon and perhaps larger size of the lesion. The increasing use of abdominal CT scan has led to frequent detection of transient intussusceptions with no underlying disease. This emphasises the importance of sound clinical judgement as well as close collaboration with a radiologist with special interest in abdominal imaging. Role of Magnetic Resonance Imaging has been explored; the images being of same quality as CT and are not effected by retained orally administered contrast medium [7]. Other investigations include ultrasound scan and enteroscopy.

Laparotomy and bowel resection is indicated in majority of cases presenting with obstruction. Simple reduction is not recommended due to the invariable presence of a lead point, which needs removal for treatment and histology. Varban et al presented a series of 64 cases of adult intussusception out of which 55 were in small bowel and 40% of which underwent negative exploration [3] ie. no small bowel pathology/lead point found. The group also carried out risk analysis and found history of previous malignancy, mass on CT and age over 60 to be associated with presence of a lead point in small bowel intussusceptions; this may have implications in optimising the incidence of bowel resection. Yakan et al reported 20 cases out of which 17 involved small bowel with 2 showing no demonstrable pathology [8]. Although resection may be performed after partial reduction, either by traction or hydrostatic means [9], this may result in inadvertent perforation. Intra operative colonoscopy may achieve a safe partial reduction under direct vision. In our case, the polypoidal lesion was noted at the level of hepatic flexure on pre-operative colonoscopy but a subsequent CT scan showed this to extend almost to the splenic flexure; this may help optimise the length of bowel resection.

With increasing confidence, laparoscopy will have a role in the management of elective cases. The high incidence of a malignant lead point emphasises the importance of performing an oncological resection when dealing with colonic cases. Control of vascular pedicle may be challenging due to torted intussuscepted mesentry [10]. Emergency laparoscopy is increasingly being used in selected cases of bowel obstruction but requires higher level of competence.

4. Conclusion

Adult intussusception causing bowel obstruction is uncommon.

CT scan provides definitive evidence of intussusception but may not show a small lead point. Surgery is the preferred treatment option; care is advised when dealing with distorted vascular pedicle. Intra operative colonoscopy may achieve partial reduction in elective cases and may help optimise the length of bowel resected. Laparoscopy is the preferred option in elective cases and may be useful in the emergency situations where a CT scan is not conclusive; this may actually prevent unnecessary small bowel resection in case of transient intussusceptions in the absence of bowel obstruction.

Author's decleration

KH was responsible for writing the paper, collecting the medical details and the images for publication and is guarantor of the paper. KH was responsible for the conception of the paper. KH performed the primary emergency and GJ performed the elective surgical procedure. Both authors have read the manuscript and agreed with its contents.

Reprint requests to: KH

Competing interests

None declared

References

[1] Ohta H, Komibuchi T, Ohta Y, Shizuki K. Gallium-67 scintigraphy in an adult intussusception caused by malignant lymphoma. Ann Nucl Med. 1993; 7(3): 79-181

[2] Chiang JM , Lin YS. Tumor spectrum of adult intussusception. J Surg Oncol 2008; 98:444-447

[3] Varban O, Ardestani A, Azagury DE, Kis B, Brooks DC, Tavakkoli A. Contemporary Management of Adult Intussusception: Who Needs a Resection? World J Surg 2013; 37:1872-1877

[4] Azar T, Berger DL.Adult intussusceptions. Ann Surg 1997; 226: 134-138

[5] Stewart D, Hughes M, Hope WW Laparoscopic-assisted small bowel resection for treatment of adult small bowel intussusception: a case report Cases Journal 2008; 1:432

[6] Adult Intestinal Intussusception: CT Appearances and Identification of a Causative Lead Point Kim YH, Blake MA, Harisinghani MG, Archer-Arroyo K,

Hahn PF, Pitman MB, Mueller PR , RadioGraphics 2006 ;26: 733-744

[7] Tamburrini S, Stilo A, Bertucci B, Baressi D. Adult colocolic intussusception : demonstrated by conventional MR techniques. Abdom Imaging 2004; 29: 42-44

[8] Yakan S, Caliskan C, Makay O, Denecli AG, Korkut MA Intussusception in adults: Clinical characteristics, diagnosis and operative strategies. World J Gastroenterol 2009; 15(16): 1985-1989

[9] Namikawa T, Okamoto K, Okabayashi T, Kumon M, Kobayashi M, Hanazaki K. Adult intussusception with cecal adenocarcinoma: Successful treatment by laparoscopy-assisted surgery following preoperative reduction. World J Gastrointest Surg. 2012 May 27; 4(5): 131–134

[10] Marsden N, Saklani AP, Davies M, Chandrasekaran TV, Khot U, J Beynon J. Laparoscopic Right Hemicolectomy for Ileocolic Intussusception Secondary to Caecal Neoplasm. Ann R Coll Surg Engl. 2009 November; 91(8): 676