

# Adult Intussusception: Managed By Reduction-Resection; A Case Report

S Olakolu, C Lloyd, G Day, P Wellington

## Citation

S Olakolu, C Lloyd, G Day, P Wellington. *Adult Intussusception: Managed By Reduction-Resection; A Case Report*. The Internet Journal of Third World Medicine. 2012 Volume 10 Number 1.

## Abstract

Adult intussusception is a relatively rare condition that requires surgical intervention. It accounts for 1% of patients with bowel obstruction and 5-10% of all intussusceptions. Colo-colonic intussusception is the most common type in adult. Idiopathic intussusception occurs less often in colon than in small bowel (about 10%). There is no universal agreement upon the correct treatment of adult intussusception. Most recent studies advocate en-bloc resection as up to 50% of both colonic and enteric intussusceptions cases are associated with malignancy. However, a view is held to reduce the intussusception at the operation as much as safely possible followed by limited resection in order to preserve certain bowel length.

## INTRODUCTION

Adult intussusception is a rare disease without classical symptoms<sup>1</sup>. It can either be primary or secondary to intestinal pathology with the colo-colic variety being the most common in adults.<sup>1,2</sup> Most often, the symptoms are consistent with bowel obstruction and are subacute or chronic<sup>2</sup>. Diagnosis can be delayed because of its longstanding, intermittent, and non-specific symptoms and most cases are diagnosed at emergency laparotomy<sup>3</sup>. We report a case of adult intussusception of idiopathic etiology as no specific lesion was identified on histology in relation to the lead point. Patient presented with chronic intestinal obstruction and was successfully treated by colonic reduction-resection.

## CASE PRESENTATION

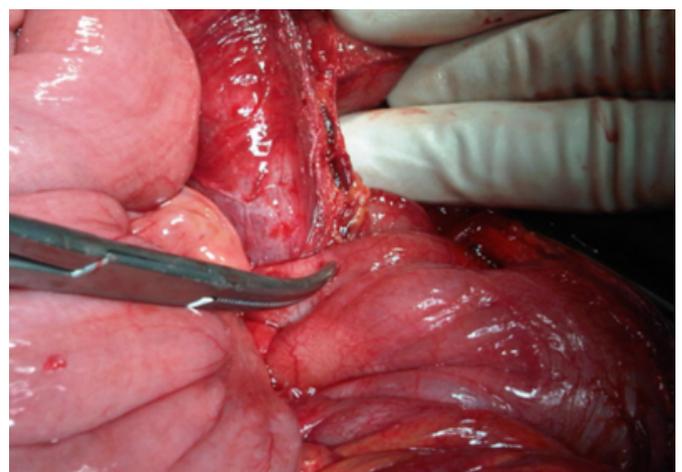
A 46-year-old male presented to the surgical unit of Mandeville Regional Hospital, Mandeville, with a-year history of recurrent abdominal pain, alteration in bowel habit, rectal bleeding, and weight loss (about 12kg) since onset of symptoms. The recent abdominal pain, which was of 3-day duration, was severe with vomiting and diaphoresis. He had no associated co-morbidity. On examination, he was in severe painful distress. Vital signs were normal. There was tenderness to left lower quadrant without rebound or guarding. On digital rectal examination, there was a mass at about 5cm from the anal verge and minimal bright red blood on contact finger. Laboratory investigations revealed Hb of 10.9g% and WBCC of  $9.2 \times 10^9$  /L. Liver function test, urea

and electrolytes, and PT, PTT and INR were within normal values. Abdominal x-ray (erect and supine) showed dilated transverse colon, no air in left colon or sigmoid, and air fluid level likely due to large bowel obstruction. Abdomino-pelvic ultrasound showed marked edema of the descending, sigmoid colon and rectum. Decision was made to do emergency laparotomy based on severe abdominal pain on a background picture of complete intestinal obstruction.

## FINDINGS

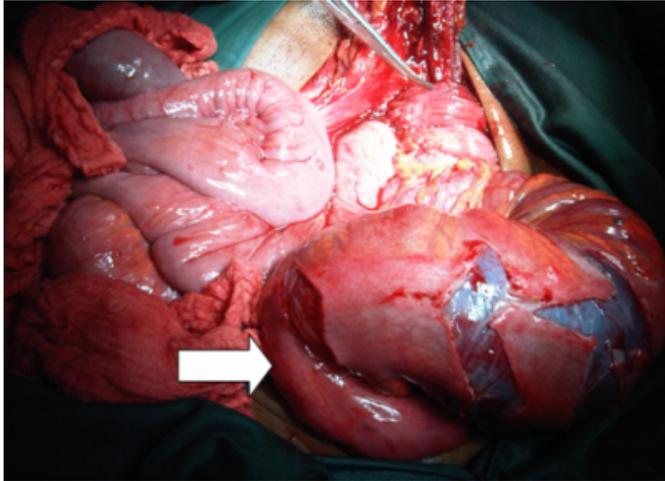
### Figure 1

Figure 1: showing intussusception before manipulation



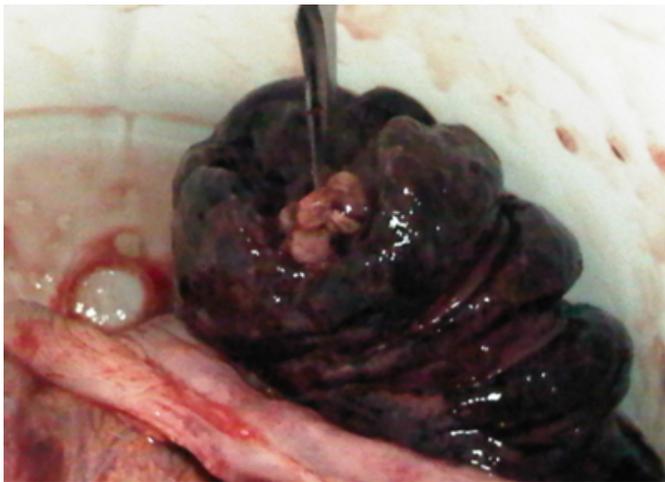
**Figure 2**

Figure 2: showing successful reduction to sigmoid colon



**Figure 3**

Figure 3: showing leading point, and gangrene of intussusceptum



Histology findings; ischemic necrosis of the mucosa with edema and vascular congestion, serosal reaction characterized by fibrosis and mesothelial hyperplasia, and no specific lesion was identified in relation to the lead point.

## DISCUSSION

Intussusception of the bowel is defined as the telescoping of an intussusceptum within the lumen of intussusciptiens<sup>4</sup>. Intussusception was first reported in the seventeenth century by Barbet of Amsterdam. John Hunter gave a detailed report of this condition and Sir Jonathan Hutchinson performs the first successful operation on a child in 1871<sup>2,5</sup>. Unlike in children, intussusception is an uncommon surgical presentation in adults<sup>1,2</sup>. The classical triad of cramping abdominal pain, bloody diarrhea and palpable tender mass

seen in children are hardly encountered in the adult population<sup>2,6</sup>. The clinical presentation in adults may include a palpable mass, nausea and vomiting, abdominal colic, change in bowel habit and occult blood per rectum<sup>4</sup>. A palpable abdominal mass was the missing clinical feature in this patient. Intussusception in adults also differs from childhood intussusception in its etiology, and treatment<sup>2</sup>.

Adult intussusception represents 1% of all bowel obstructions and 5% of all intussusceptions in the Western world, but up to 40% of intussusceptions in tropical Africa<sup>1,2</sup>. Most often, intussusception presents in adults with symptoms that are consistent with bowel obstruction and are subacute or chronic<sup>2,7</sup>. In adults, total obstruction is rare which may account for its chronic symptomatology, while in children, strangulation and gangrene are inevitable features. This case was unique in that the patient, even though was an adult, presented with features of complete intestinal obstruction and gangrene of the intussusceptum.

Intussusceptions have been classified according to location: enteric, ileocolic, ileocecal, and colonic<sup>1,2</sup>. Colo-colic intussusception is the most common type in adults<sup>2,3,8</sup>. The large bowel intussusception is more likely to have a malignant etiology (50-60%)<sup>1,2,9</sup>. Adenocarcinoma and lymphoma are the most common underlying malignant lesions in the colon. Lipoma, leiomyoma, adenomatous polyp, endometriosis (appendiceal) and previous anastomosis, which are benign lesions, constitute about 30%. Idiopathic intussusception occurs less often (< 10%)<sup>2,10</sup>. Whereas the intussusception itself has a very good prognosis<sup>11</sup>, the decisive prognostic factor is expected to be the nature of the lesion leading to the process<sup>12</sup>. The etiology in this patient was idiopathic, even though what appeared to be a polyp-like lesion was grossly seen at the lead point. This assumption was based on the fact that no lesion was identified histologically at the lead point.

Preoperative diagnosis of intussusception is reported to be in a range of 40-80%<sup>13</sup>. The commonest symptom being pain is present in 71% to 90% of patients<sup>2</sup>. The most important characteristic of such pain is its periodic, intermittent and non-specific nature, which makes the diagnosis obscure and accounts for delay in diagnosis<sup>2,3</sup>. Most cases are diagnosed at emergency laparotomy<sup>3</sup>. The abdominal pain was a prominent feature in this patient's presentation. The pain was of an acute on chronic pattern; it was severe enough in this patient, due to complete intestinal obstruction and gangrene, for urgent laparotomy. Imaging plays a vital role

in the preoperative diagnosis of intussusception; useful imaging includes CT scan, barium studies, abdominal ultrasound, plain film, angiography, and radionuclide studies<sup>1,2</sup>. CT scan is the most sensitive imaging modality in intussusception as it has its pathognomonic features<sup>14</sup>. This patient however presented with indication for laparotomy that a delay for investigation like CT scan could not be justified, particularly in our setting where hospital-based CT scan is not available.

The type of intervention depends on the patient's medical history and intraoperative findings<sup>1,2</sup>. There is no universal agreement upon the correct treatment<sup>10</sup>. Most recent studies advocate en-bloc resection as up to 50% of both colonic and enteric intussusceptions cases are associated with malignancy<sup>2</sup> in addition to the point that the chronicity may not allow successful pneumatic or hydrostatic reduction due to cross-scarring between the intussusceptum and the intussusciptens<sup>10,15-18</sup>. En-bloc resection recommendation was mainly to prevent tumour embolisation and seeding<sup>15,16,18</sup>. Mohammad et al<sup>15</sup> recommended primary resection without reduction in those more than 60 years of age due to a higher risk of malignancy. A view however is held to reduce the intussusception at the operation as much as safely possible followed by appropriate limited resection as this may preserve bowel length<sup>10</sup>. In situation whereby resected area would be massive and patient is below 60 years of age, a reduction-resection approach is an option to be considered on the basis of survival and future quality of life<sup>15,16</sup>. A successful reduction-resection of the intussusception was achieved in this patient with bowel preservation to the sigmoid colon, instead of a low anterior resection.

### SUMMARY

Adult intussusception is a rare cause of persistent or intermittent chronic abdominal pain. Diagnosis is difficult secondary to the varying presentations hence most cases are diagnosed at emergency laparotomy. There is no universal agreement upon the correct treatment however a reduction-resection would preserve bowel length when possible.

### References

1. Quah C, Rajasekaran V, Bryan R. Colonic Carcinoma in a Young Adult Presenting as an Intussusception. *The Internet Journal of Surgery*, 2009 Volume 18 Number 1
2. Al Suhaibani Y, Mohamed A, Bhat N, Abukhater M. Adult Intussusception, a Rare Cause of Intestinal Obstruction, Case Report and Literature Review. *The Internet Journal of Surgery*, 2010 Volume 24 Number 2
3. Yalamarthi S, Smith RC. Adult intussusception: case reports and review of literature. *Postgrad Med J*; 2005; 81(953): 174-7.
4. Gayer G, Apter S, Hofmann C, et al.: Intussusception in adults: CT diagnosis. *Clin Radiol*; 1998; 53: 53-57.
5. Zubaidi A, Al-Saif F, Silverman R. Adult Intussusceptions: A Retrospective Review. *Dis Colon Rectum*; 2006; 49: 1546-1551.
6. Marinis A, Yiallourou A, Samanides L, et al. Intussusception of the bowel in adults: a review. *World J Gastroenterol*; 2009; 15(4): 407-11.
7. Solazzo M, Chiodini S, Puccio F. Laparoscopic Surgery For Adult Bowel Intussusception: Report Of A Case. *The Internet Journal of Surgery*, 2005 Volume 6 Number 2
8. Tamburrini S, Stilo A, Bertucci B, Barresi D: Adult colocolic intussusception: demonstration by conventional MR techniques. *Abdom Imaging*; 2004; 29: 42-44.
9. Fujii Y, Taniguchi N, Itoh K: Intussusception induced by villous tumor of the colon: sonographic findings. *J Clin Ultrasound*; 2002; 30(1): 48-51.
10. Rathore MA, Andrabi SI, Mansha M. Adult intussusception--a surgical dilemma. *J Ayub Med Coll Abbottabad* 2006; 18 (3): 3-6.
11. Huang WS, Changchien CS, Lu SN; Adult intussusception, a 12-year experience with emphasis on etiology and analysis of risk factors. *Chang-Keng i Hsueh* 2000; 23 (5): 284-90.
12. Goh BK, Quah HM, Chow PK, Tan KY, Tay KH, Eu KW, Ooi LL, Wong WK: Predictive factors of malignancy in adults with intussusception. *World J Surg*; 2006; 30(7): 1300-4.
13. McCawley N, Collins CG, Barry M, McGuinness J, Leahy AL. Adult intussusception--need for en-bloc resection. *Ir J Med Sci*; 2006; 175(2): 74-6.
14. D'Silva KJ, Dwivedi AJ, Shetty A, Prakash S. An unusual presentation of colon cancer in a young individual. *Digestive Disease and Sciences*. 2005; 50: 1033-1035.
15. Muhammad N K, Avi A, Paul S. Ileocolic Intussusception - A rare cause of acute intestinal obstruction in adults; Case report and literature review. *World Journal of Emergency Surgery* 2008, 3:26 doi:10.1186/1749-7922-3-26.
16. Rongrong C, Haitao Z, Xinting S, Yilei M, Xin L, Yifan Y. Severe adult ileosigmoid intussusception prolapsing from the rectum: A case report. *Cases Journal* 2008, 1:198 doi:10.1186/1757-1626-1-198.
17. Kris P. C, Patrick H.D.C. Intussusception in adults. *Can J Surg*. 2007; 50(6): E13-E14.
18. Ning W, Xing-Yu C, Yu L, Jin L, Yuan-Hong X, Ren-Xuan G, Ke-Jian G. Adult intussusception: A retrospective review of 41 cases. *World J Gastroenterol*. 2009; 15(26): 3303-3308.

**Author Information**

**Seun S, Olakolu, FWACP**

General Surgery Department, Mandeville Regional Hospital

**Clive L, Lloyd, DM-General Surgery**

General Surgery Department, Mandeville Regional Hospital

**GN, Day, FRCS, DM- General Surgery**

General Surgery Department, Mandeville Regional Hospital

**Peter M, Wellington, FRCS, FACS**

General Surgery Department, Mandeville Regional Hospital