

## **Intussusception in an Adult: An Unusual Presentation of Small Bowel Obstruction**

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### **Abstract**

A 20 years old patient was admitted with severe abdominal pain, acute in onset. Abdominal examination revealed severe tenderness in epigastric and RIF. Blood tests showed Neutrophilic Leukocytosis. CT scan revealed small bowel intussusception with twisting of the bowel loops suggestive of closed loop obstruction. She underwent diagnostic laparoscopy + laparotomy with an intraoperative findings of jejuno-jejunum intussusception with an intraluminal polyp as a lead point and limited small bowel resection was attempted with side-to-side anastomosis. Post-operatively, the patient remained tachycardic, and developed fever with greenish vomiting. CT scan was done which showed Mesentric Haematoma with ?Ischaemia, she was reoperated and 1.5 m of gangrenous jejunum was found and was resected. Postoperatively the patient remained vitally stable, her pulse rate came down to normal.

Patient was discharged on D6 post-reopen laparotomy, was followed up in OPD with no complications. Her histopathology report of the polyp reported as a juvenile polyp.

**Keywords:** *Intussusception; Small Bowel Obstruction*

### **Introduction**

Intussusception is quite uncommon in adults compared to the paediatric age group where it is one of the commonest cause of intestinal obstruction in toddlers and infants. Its incidence is 1.5 - 4 cases per 1000 live births [1].

In adults it has been estimated to be seen in 1 - 5% of all adult intestinal obstruction [2].

This paper discusses one of the presentations of adult intussusception, in a previously healthy young adult.

### **Case Presentation**

A 20 years old patient with no significant medical background was admitted with severe epigastric pain, acute in onset, associated with continuous vomiting but no h/o fever or change in bowel habit.

Examination showed the patient to be tachycardic and dehydrated. She had tenderness in the epigastric area and RIF, but no peritoneal signs and no distension. Investigations showed Neutrophilic leukocytosis (WBC:  $23 \times 10^9/L$ , N:  $17.9 \times 10^9/L$ ).

Her CRP was 0.7 mg/L. Her RFTs were normal.

Abdomen Ultrasonography was done initially and it showed intussusception (Figure 1), and CT abdomen was done (Figure 2 and 3) which confirmed the diagnosis and reported as:

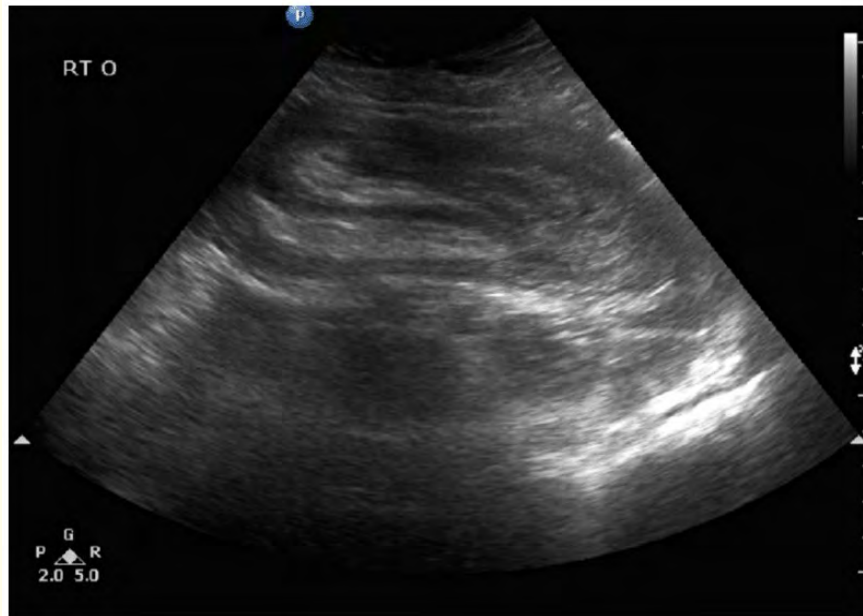


Figure 1: Showing the sausage shaped sign.

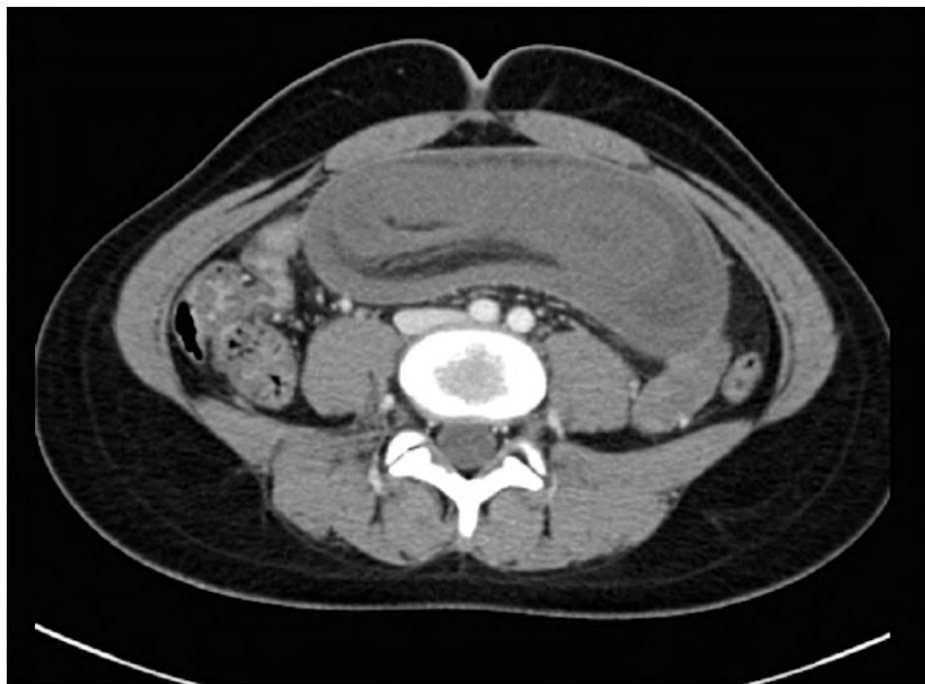


Figure 2



**Figure 3**

“Small bowel intussusception with twisting of the bowel loops suggestive of closed loop obstruction associated with thickening of the intussuscepted bowel wall with decreased perfusion”.

Patient was taken to OT and was found to have twisting of the proximal small bowel with congested wall of the proximal jejunum and a jejuno-jejunal intussusception due to a polyp found at 50 cm from the DJ junction, there was no signs of gangrenous bowel, she underwent initially laparoscopic release of adhesions and attempted de-twisting, but due to technical difficulties it was converted to laparotomy. It was opted to go ahead with limited resection only as the bowel although congested was showing no signs of gangrene, and after warm saline and administration of 100% of oxygen, the bowel was pink in colour, and good mesenteric pulsation was present. and then laparotomy for small bowel resection (20 cm) with side to side anastomosis.

Post-laparotomy patient remained tachycardic. She started vomiting on D6 postop patient after taking sips of water only, on D7 she started vomiting large amount of greenish vomitus. ABG and lactate were done and reported as normal.

D6 post-op patient was taken for another CT scan and it reported as:

“Significant amount of intra-abdominal air, intraperitoneal free fluid more than expected for day 6 post op. Evidence of small bowel obstruction with 2 transitional point at the ileal loop. Under-enhancement of the ileal loop on the left side of the abdomen, worrying of ischaemia. Features suggestive of mesenteric haematoma”.

Since the patient remained afebrile and was complaining only of mild abdominal pain it was decided to continue her conservative management, as she was clinically stable with only tachycardia.

On D8 postop, the patient started spiking fever, with the highest 38.2 C. CBC was done and showed neutrophilic leukocytosis. Patient was taken to OT for a reopen laparotomy where it was found that 1.5 m of the jejunum was gangrenous, along with haemorrhagic fluid. The anastomotic site was intact. So resection of 1.5 m of jejunum was done.

Postop patient remained vitally stable, her pulse rate came down to 80-90 bpm. She improved drastically.

Patient was discharged on D6 post-reopen laparotomy. During her 15 days hospital stay patient developed bilateral moderate pleural effusion and wound infection. Histopathology report of the polyp reported as a juvenile polyp. The patient was followed up until 2 months postoperatively and she was doing well. No complaints of abdominal pain. Her wound has healed.

### Discussion

Intussusception in its original sense means, 'absorption'; it is derived from modern Latin intussusceptio(n-), from Latin intus 'within' + susceptio(n-) (from suscipere 'take up') [3].

It was first reported in 1674 by Barbet of Amsterdam [4]. It is a surgical emergency, defined by invagination/telescoping of the proximal bowel (the intussusceptum) into the distal bowel (the intussusception) [5].

Intussusception is much more common in the Paediatrics age group. It is quite uncommon in adults and only few general surgeons see few cases or even one during their surgical career [6]. As a result adult intussusception can be easily missed, and undiagnosed cases result in significant morbidity, hence recognizing the condition earlier is quite important for clinicians [7].

The most common locations are at the junctions between freely moving segments and retroperitoneally or adhesively fixed segments [8].

It is reported that the majority of adults have a preceding history of intermittent abdominal pain and vomiting for upto 1 month [9].

The most common presenting symptoms in adults are crampy abdominal pain (71%), nausea and vomiting (68%), abdominal distention (45%), and tenderness (60%) consistent with partial obstruction [10].

Unlike in children, 90% of adult cases have a lead point, and only 10% are reported to be idiopathic [11].

Less common aetiologies that have been reported include postoperative factors such as; adhesions, suture line, intestinal tubes [11].

It has been reported that most intussusception occurs in the small bowel, and it's usually benign, while the majority of lead points in the large bowel are malignant.

In one study Zubaidi, *et al.* a retrospective study done at two major hospitals in Winnipeg, Canada during the years 1989 - 2000, 22 cases of adult intussusception was identified with 14 cases being enteric, 2 ileocolic and 6 colonic. Out of those only 3 were found to be idiopathic [12]. It is argued that in patients with large bowel intussusception resection without attempting reduction should be done because of the high chance of malignancy, however exception to that rule is the case of a sigmoid-rectal intussusceptions, in which reduction prior to resection might save the patient from undergoing an abdomino-perineal resection.

Using a web search-engine, 13 case reports were identified and summarized in table 1, it showed that the majority of cases were in the small bowel, with benign leading points. 2 cases were surprisingly reported as an idiopathic in adults, one being in the small bowel and one in the large bowel.

No.	Study	Year	Age	Presenting Complaint	Site	Surgery	Benign/Malignant	HPE
1	Haas., <i>et al.</i>	2003	51 y F	Acute epigastric pain + Vomiting	Jejuno-jejunal Intussusception	Small bowel segmental resection	Benign	Infarction. Hemorrhage, and edema
3	S Yalamarthi., <i>et al.</i>	2005	42 y M	3 days h/o melena + IDA	Ileo-ileal Intussusception	Small bowel segmental resection	Benign	Meckel's diverticulum with a traumatic ulcer.
4	S Yalamarthi., <i>et al.</i>	2005	71 y F	Chronic intermittent colicky pain + coffee ground vomiting	Mid-Small Bowel Intussusception	Small bowel segmental resection	Benign	Tubulovillous adenoma
5	S Yalamarthi., <i>et al.</i>	2005	48 y M	3 years h/o heart burn	Duodeno-duodenal Intussusception	Duodenotomy	Benign	Lipoma
6	S Yalamarthi., <i>et al.</i>	2005	84 y F	Chronic non-specific recurrent abdominal pain	Colo-colic intussusception Caecum was found to be the intussusception, as the caecum could not be reduced out of the rectum.	Resection with end to end anastomosis was fashioned between the ileum and the transverse colon. after opening the anterior rectal wall and resecting the intusseptum	Benign	Large villous adenoma of the caecum
7	P Renzulli., <i>et al.</i>	2010	30 y F	Intense left sided abdominal pain	Jejuno-jejunal intussusception	Manual reduction	Idiopathic	None
8	N Howard., <i>et al.</i>	2011	49 y F	3 weeks h/o diarrhea + acute	Colo-colonic intussusception at the splenic flexure	Left Hemicolectomy	Benign	Lipoma
9	M Amoruso., <i>et al.</i>	2012	46 y F	Acute RIF pain + vomiting	Colo-colic intussusception of the caecum	Right Hemicolectomy	Idiopathic	None
10	E Asti., <i>et al.</i>	2013	50 y F	1 weeks h/o left flank pain	Colo-colic intussusception	Segmental left colon resection	Benign	Lipoma
11	Khalid Habib., <i>et al.</i>	2014	41 y F	1 weeks h/o colicky abdominal pain	Ileo-ilie intussusception	Small bowel segmental resection	Benign	Inflammatory Fibroid Polyp
12	Khalid Habib., <i>et al.</i>	2014	58 y F	Chronic h/o intestinal colic	Ileocolic intussusception with a large tumour as lead point at the splenic flexure	Right Hemicolectomy	Malignant	Adenocarcinoma caecal tumour
13	Mohammed., <i>et al.</i>	2015	35 y F	Chronic abdominal pain	Colo-colon intussusception of the sigmoid colon	Segmental sigmoidectomy	Benign	Lipoma

## Conclusion

1. Intussusception is uncommon in adults, and can be quite a challenge for surgeons.
2. Clinical presentation in adults varies from acute to intermittent to chronic [13]. Not all cases in adults would present as an acute-onset intestinal obstruction [2].
3. The extent of bowel resection depends on the surgeons expertise and his clinical assessment.

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