



## Intussusception in Adults: Rare but Grievous Disease

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### Abstract

Intussusception is rare in adults. In this age group, symptoms are often misleading, and malignancy stands out as an important etiology, unless proven otherwise. Therefore, surgery remains the treatment of choice. We report two cases of adult intussusception, which presented as sub-acute intestinal obstruction. Both cases had intussusception on CT Abdomen. Both patients underwent surgical intervention. In first case, ileal loop along with mesenteric fat and lymph node was seen in intussusception. In second case colonic mass with lymph node involvement was seen. Hemicolectomy was done in both the patients.

### Introduction

Intussusception is common in infants and children. In adults it is rare. Colonic intussusceptions account for 1% of intestinal obstructions in adults [1]. We present our experience of treating two cases of adult colonic intussusception along with review of literature.

### Case Series

#### Case 1

A sixty-year-old female patient presented with abdominal pain, vomiting and fullness of abdomen. She gave history of similar attack one and half month before. She was found to have anemia and leukocytosis with Total Leukocyte Count of 17000/cm. Considering diagnosis of sub-acute intestinal obstruction, she was investigated. On USG there was suspicion of Ileo-colic intussusception, hence a CT abdomen was done, which confirmed the diagnosis of Ileo-colic intussusception leading to sub-acute intestinal obstruction. However, no mass was detected. On exploration Ileo-colic intussusception was extending up to transverse colon (Figure 1). Intussusception was partially reducible, and a large mesenteric node was seen inside the intussusceptum. Right hemicolectomy was performed with end-to-end Ileo-transverse anastomosis. On cutting open the specimen a proliferative lesion was seen in the cecum (Figure 2). Histopathology revealed adenocarcinoma of cecum (Figure 3). Patient made uneventful recovery.

#### Case 2

Eighty-one-year-old man presented with complaints of abdominal pain, loss of appetite. He was investigated with CECT Abdomen. It revealed a colo-colic intussusception with a mass lesion in ascending colon as a lead point (Figure 4). Enlarged lymph nodes were noted in adjacent mesocolon. Since the lumen was compromised on CT scan, patient was operated upon. On exploration there was colo-colic intussusception with large colonic mass as a lead point. There were

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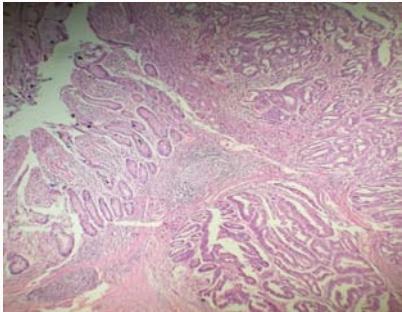
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Figure 1: Showing Ileo-colic intussusceptions.



**Figure 2:** Showing proliferative lesion in cecum.



**Figure 3:** Histopathology H&E, 10x × 10x showing lining mucosa and underneath tumor mass arranged in glandular and papillary pattern, moderately differentiated adenocarcinoma grade II.



**Figure 5:** Showing proliferative lesion in ascending colon.



**Figure 4:** Showing Colo-colic intussusception.

large mesenteric lymph nodes. Right hemicolectomy was done with end-to-end Ileo-colic anastomosis. On cutting open, the specimen revealed a proliferative lesion in proximal ascending colon (Figure 5). Histopathology revealed adenocarcinoma of colon grade II. Patient had severe hypoproteinemia post-operatively but responded well to supportive treatment and made uneventful recovery afterwards.

## Discussion

Intussusception was first described by Barbette in 1674 [2]. It is defined as the telescoping of a proximal segment of the Gastrointestinal (GI) tract, called intussusceptum, into the lumen of the adjacent distal segment of the GI tract, called intussuscipiens. One of the segments is free and the other is freely moving. The commonest age group for intussusception is from 6 to 18 months of age. In pediatric population its occurrence is usually idiopathic (~90%) and may be treated conservatively by endoscopic or radiological reduction [1]. Intussusception is rare in adults. Less than 5% cases of intussusception occur in adults. In about 80% to 90% adult patients, the underlying cause of intussusception is benign or malignant neoplasm [3-5]. The

classical clinical trial of intussusception is abdominal pain, blood in stool and lump in abdomen. In adults, the patient commonly present with chronic abdominal pain, symptoms of sub-acute intestinal obstruction such as vomiting, constipation and abdominal pain. This makes the clinical diagnosis of intussusception in adults difficult. Various causative factors leading to intussusception in adults are malignant and benign tumors, Meckel's diverticulum, foreign bodies, inflammatory lesions, lymphoid hyperplasia, and sometimes post operative adhesions [6]. In adult colonic intussusception primary adenocarcinoma is the commonest underlying malignant lesion [4,5]. Ten percent of adult cases may present with no demonstrable cause of intussusception and are considered to have idiopathic intussusception [7]. Dean et al. [8] in 1956 classified intussusception in adult as per the location *viz.* Enteric (43%), Colo-colic (22%) and Ileo-cecal (21%). Diagnosis of intussusception in adults is often based on imaging as in majority of patients the clinical findings are inconclusive. Abdominal sonography which has revolutionized the diagnosis of gastrointestinal pathologies is found to be useful in these cases too. Ultrasonography shows typical features like "Target" or "Donut sign" on transverse view while on longitudinal view "Pseudo-kidney" or "Hayfork" sign is seen [8]. However, gas fluid filled intestinal loops and obesity are the major limiting factors for USG [9]. In a meta-analysis of recent studies by Abralena et al. [10] in 2013, abdominal CT was observed to be the most sensitive modality in the diagnosis of intussusception with diagnostic accuracy of 83%. The characteristic features on CT scan include an inhomogeneous "target" or "sausage" shaped soft tissue mass with a layering effect and mesenteric vessels within the bowel lumen [11]. However, possibilities of breathing artifacts in ill patients and exposure to ionizing radiation have been found to be the major drawbacks of CT Abdomen [9]. Considering the high probability of underlying benign or malignant tumor as the etiology in majority of adult patients, surgery is the treatment modality of choice in adults. Azar reported that, for right-sided colonic intussusceptions, resection and primary anastomosis can be performed even in unprepared bowels, while for left-sided or retrosigmoid cases, resection with construction of a colostomy and a Hartmann's pouch with re-anastomosis at a second stage is considered safer, especially in the emergency setting [5]. Both our patients were elderly and had history of abdominal pain for few weeks. They presented with sub-acute obstruction and needed surgery on priority. The typical presentation of intussusception was

absent in both the cases and the diagnosis could be established on imaging modalities. In first case, there was no obvious cause for intussusception on imaging but considering the patient's age and standard treatment protocol, surgery was performed. In second case presentation in acute stage with obstruction, left surgery as the only option even though advanced malignant lesion imaging showed advanced malignant lesion. In both cases, right hemicolectomy was done. Both the patients made good recovery except severe hypoproteinemia in case no 2 which required additional supportive care.

## Conclusion

Intussusception is common in pediatric age group and its incidence in adults is rare. The clinical presentation in adult patients is often vague hence diagnosis requires help of imaging modalities like USG and CT Abdomen. In view of the possibility of underlying malignant lesion, surgery is the treatment of choice in adults.

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