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A clinicopathologic analysis of intussusception among Pakistani adults

Viqar Aslam
Associate Professor General Surgery, Lady Reading Hospital, Peshawar

Ali Gohar Khan
Associate Professor General Surgery, Fauji Foundation Hospital, Peshawar Cantt
Corresponding author email: draligohar84@gmail.com

Irfan Ahmad
Senior Registrar General Surgery, Nishtar Hospital Multan

Khizer Abbas
Senior Registrar Surgery, Bakhtawar Amin Medical College, Multan

Ayesha Choudary
Senior Registrar General Surgery, Services Hospital, Lahore

Syed Aamer Hussain
Specialist Registrar General Surgery department, Ayub Teaching Hospital, Abbottabad

***Abstract*---**The intussusception adults are rare and almost always as a result of secondary condition. The aim of this study is to review the adult intussusception's presentation, diagnosis, and pathophysiology was the goal of this study. Methods: This retrospective analysis study was held in the surgical department of Lady Reading Hospital, Peshawar from April 2022 to September 2022. This study included 24 cases of intussusception in patients >18 years of age. Results: 24 cases of intussusception among adult were reported. The mean age was 49.2 years on average (range 20-75 years). All patients' initial complaints in this study was pain accompanied by abdominal distension (37.5%), Vomiting (79.2%) and currant-jelly stools (33.3%) were other symptoms.12 patients (50%) had a palpable lump, while 8 patients (33.33%) had tenderness and generalized guarding was seen in 6(25%) of patients. Eleven patients (45.8%) had an acute intestinal obstruction on admission. The range of symptoms' lengths was 20 hours to 10 months, with a median of five days. The laparotomies were done in 19 patients. Five patients; two with ileoileal intussusception and three with ileocolic, were scheduled for surgery,

but over the course of a few hours, their lump disappeared with symptoms improvement. Malignant pathologies were found in Six cases (25%) and benign pathologies in nine cases (37.5%). The big bowel contained all cancerous growths. Conclusions: The intussusception in adults is a rare condition, and malignancy is approximately the cause in 1/3rd of patients. The most recommended course of treatment is surgery, with or without primary intussusception reduction; the latter can lead to a more constrained bowel resection.

***Keywords*---**bowel obstruction, adult intussusception, ileoileocolic, lead point.

Introduction

The segmental telescoping of the digestive tract into a distal one is known as intussusception. Although intestinal intussusception is a frequent condition in children, it is a rare disorder in people over the age of 18[1-2]. Just 1% of intestinal obstructions are caused by adult intussusception, which accounts for 5-8.2% of all intussusception instances. Adult intussusceptions are most frequently (70–90%) brought on by an unidentified lead lesion[3-4]. Surgery is the only option for treating adult intussusception. Reduction before resection has, however, always been debatable.

It is thought that adult intussusception is uncommon. Recent studies have revealed that the frequency of adult intussusception presentations to one or more institutions in a nation over time is incredibly low[5-6]. The likelihood of cancer leads the authors to think of undergoing a laparotomy and resecting the intussusception[7]. There are arguments for and against primary resection without reduction as well as for preliminary intussusception reduction before resection. Theoretical arguments against bowel reduction include the following: 1) Venous embolization and intraluminal seeding of cancerous cells in the vicinity of ulcerated mucosa; 2) potential perforation during manipulation; and 3) augmented anastomotic complications risk in the presence of an inflamed and edematous bowel[8-9]. Given the increased prevalence of malignancy in intussusception can be challenging to diagnose during surgery, writers have suggested resection primarily without reduction wherever possible[10-11]. The current investigation examines our knowledge of this uncommon clinical entity and makes an effort to condense its clinical characteristics, presentation, and etiology.

Methods

This retrospective analysis study was held in the surgical department of Lady Reading Hospital, Peshawar from April 2022 to September 2022. This study included 24 cases of intussusception in patients >18 years of age. The aetiology, location, diagnostic tests, clinical signs, treatment, diagnosis, follow-up, and complications were all reviewed, along with the demographic information. To ascertain the location of the affected segment, the appropriate course of treatment

(conservative or surgical) as well as the lesion type, the operative, pathologic and preoperative records were all evaluated. The ethical committee's approval was obtained.

Using contrast-enhanced abdominal CT scan with the characteristic target or sausage sign, bowel wall edoema, bowel-within-bowel appearance in more than one image without or with a lead point and bowel obstruction, inclusion of mesenteric vessels or fat, fat stranding, and mesenteroscopic findings, intussusception was preoperatively diagnosed. According to pathological lead points and location, intussusception was divided into 3 groups: (1) ileoileal (restricted to the small intestine), (2) ileocolic (terminal ileum prolapse of the through the ileocecal valve within the ascending colon/ caecum), and (3) colo-colic (comprising the large intestine); and (2) malignant, idiopathic or benign.

Results

In our study, there were 24 participants. There were 14 females (58.3%) and 10 males (41.7%), with a little female predominance. In this series, the youngest patient was 19 years old and the oldest patient was 75 years old (mean 49.2 years). All patients' initial complaints in this study was pain accompanied by abdominal distension (37.5%), Vomiting (79.2%) and currant-jelly stools (33.3%) were other symptoms (Table 1).

Table-I shows the patients signs and symptoms

Symptoms		n (%)
1	Vomiting	19 (79.2)
2	Abdominal pain	24 (100)
3	Chronic constipation	11 (45.8)
4	Abdominal distension	9 (37.5)
5	Currant-jelly stools	8 (33.3)
Signs		
1	Lump	12 (50)
2	Tenderness	8 (33.33)
3	Localized guarding	9 (37.5)
4	Increased bowel sounds	11 (45.8)
5	Fever	3 (12.5)
6	Generalized guarding	6 (25)

12 patients (50%) had a palpable lump, while 8 patients (33.33%) had tenderness and generalized guarding was seen in 6(25%) of patients. Eleven patients (45.8%) had an acute intestinal obstruction on admission. The remaining patients displayed more chronic symptoms over a few weeks to months. The range of symptoms' lengths was 20 hours to 10 months, with a median of five days.

Plain abdomen x-rays were taken upon admission for all patients. Two (11.11%) patients, experienced pneumoperitoneum with no prior history of ultrasounds performed on them. In the remaining 16 individuals, ultrasonography was performed, and 11 patients (65.66%) had intussusception confirmed. All patients'

intussusception is confirmed by CECT. The laparotomies were done in 19 patients. Five patients; two with ileoileal intussusception and three with ileocolic, were scheduled for surgery, but over the course of a few hours, their lump disappeared with symptoms improvement. They had barium meal and colonoscopy to detect the lesion, but the tests came back normal, and when they were followed up on, they had no symptoms. They belong to the conservative category and have the diagnosis of idiopathic intussusception. Among 19 patients, 15 patients underwent intraoperative reduction. Resection was carried out in the remaining four cases following lesion reduction and evaluation.

Colocolic intussusception affected five patients, who received primary resections without first undergoing reduction. Necrosis and bowel perforation were discovered around the neck of the intussusceptum in two of the patients who underwent peritonitis surgery and ileostomy was done among one of them. Two patients underwent an appendectomy due to a very movable cecum and fixed with the parietal wall. The ileocecal junction was the lead point in the patient who had no evident disease. Reduction and adhesiolysis were used to treat the postoperative intussusception case, and this was satisfactory. No hospital mortality or 30-day mortality occurred.

Table-II shows the pathology, classification and location of intussusception

Site	Pathology	Classification	n	Total
	Leiomyoma	Benign	2	
1 Ileoileal	Inflammation and necrosis	Idiopathic	2	10(41.7%)
	Postoperative adhesions	Benign	1	
	Submucous lipoma	Benign	1	
	Conservatively improved	Idiopathic	3	
	Inflammatory fibroid polyps	Benign	1	
2 Ileocolic	Ileocolic junction	Idiopathic	1	
	Mobile cecum	Benign	1	9 (37.5%)
	Non-Hodgkin's lymphoma	Malignant	1	
	Adenocarcinoma caecum	Malignant	2	
	Capillary hemangioma	Benign	1	
	Inflammation and ulceration	Idiopathic	1	
	Conservatively improved	Idiopathic	2	
3 Colocolic	Lymph node hyperplasia	Benign	2	
	Adenocarcinoma colon	Malignant	3	5 (20.8%)

Nine patients' intussusceptions (37.5%) occurred in the Ileocolic area. Malignant pathologies were found in Six cases (25%) and benign pathologies in nine cases (37.5%). The ileocolic junction intussusception was seen in one NHL of the caecum and two cases of adenocarcinoma of the caecum.

Discussion

Twenty-four cases over five-year period were compared in volume to these findings. In our study, there was a little gender disparity with a mean age of about 49.2. 12 patients (50%) had a palpable lump, while 8 patients (33.33%) had tenderness and generalized guarding was seen in 6(25%) of patients. The patients' initial symptoms were related to abdominal pain. Due to their delayed admission to our hospital, six patients with intussusception came with peritonitis. Few sources have mentioned such a presentation. Studies on diseases in adult intussusceptions have shown a variety of findings[12-13]. Nine patients' intussusceptions (37.5%) occurred in the Ileocolic area. Malignant pathologies were found in Six cases (25%) and benign pathologies in nine cases (37.5%). The ileocolic junction intussusception was seen in one NHL of the caecum and two cases of adenocarcinoma of the caecum. Comparing this to other studies, the incidence is slightly high[14-15]. Just 7% of the cases in Azar et al study has idiopathic cause, compared to 7 to 56% in other studies. We did not find any small intestinal malignant tumours in our review, in contrast to this other study[16-17]. Adult intussusception has always been subject to debate regarding the best course of treatment. Laparotomy and assessment are the standard forms of treatment[18]. Five of our patients in our series, however, spontaneously reduced and improved without requiring surgical intervention. Although the choice to forgo surgery may have been destructive, we took care to rule out any potential pathology with colonoscopy and barium meal follow-up, which allowed us to come to the conclusion that these patients had benign transitory intussusceptions[19-20]. However, a lot of other authors have disputed this idea, choosing resection without a reduction only in specific instances. One of our patients had an inflammatory polyp that, if removed without reduction, would have necessitated an unnecessarily large resection for an otherwise benign condition known as ileoileocolic intussusception[20]. In this study, we used a precise resection approach with immediate colocolic intussusceptions resection because of augmented risk of cancer and other cases done with reduction to reduce physiologic changes that are frequently seen in patients who present with peritonitis and obstruction and to preserve the maximum bowel length. This procedure is crucial in lowering our patients' morbidity and mortality while also reducing the risk of malignant cells spreading when colocolic intussusception was treated[21-22]. The meta-analysis and systematic study of intussusception among adults by Hong et al also supports this finding[23-24].

Conclusion

The intussusception in adults is a rare condition, and malignancy is approximately the cause in 1/3rd of patients. The most recommended course of treatment is surgery, with or without primary intussusception reduction; the latter can lead to a more constrained bowel resection.

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