

RETROGRADE DUODENOJEJUNAL INTUSSUSCEPTION CAUSED BY DUODENAL POLYP – A RARE CASE REPORT

General Surgery

Dr Anuradha Chaudhary	Associate Professor, Department of General Surgery, Gandhi Medical College and Associated Hamidia Hospital, Bhopal, India.
Dr Kunal Vaidya*	Resident, Department of General Surgery, Gandhi Medical College and Associated Hamidia Hospital, Bhopal, India. *Corresponding Author
Dr Devendra Chaudhary	Associate Professor, Department of General Surgery, Gandhi Medical College and Associated Hamidia Hospital, Bhopal, India.
Dr Yashpal Ramole	Professor, Department of General Surgery, Gandhi Medical College and Associated Hamidia Hospital, Bhopal, India.
Dr Arvind Rai	Professor, Department of General Surgery, Gandhi Medical College and Associated Hamidia Hospital, Bhopal, India.

ABSTRACT

Background - Retrograde Duodenojejunal intussusception is a relatively rare event entity as duodenum assumes a fixed, retroperitoneal position during embryological intestinal rotation and usually results from the presence of a benign adenomas like duodenal polyp. We are reporting a rare case report of Duodenojejunal intussusception in a 56 years old female belongs to a low socioeconomic status. Ultrasound abdomen revealed a oval hyperechoic lesion 14×8mm suggestive of duodenal polyp causing duodenojejunal intussusception. CECT Abdomen revealed distal duodenal loop intussusceptum is seen pulled into proximal jejunal loop intussusceptions; No luminal obstruction but segmental asymmetric circumferential enhanced mural thickening seen involving distal duodenum and proximal jejunum more suggestive towards duodenojejunal Intussusception. After thorough explanation and Consent, the patient underwent an exploratory laparotomy with resection of duodenal polyp. Histopathology of the specimen demonstrates benign hyperplastic duodenal polyp.

KEYWORDS

Intussusception, duodenojejunal, polyp

INTRODUCTION

Retrograde Duodenojejunal intussusception is a relatively rare event except in cases of malrotation abnormality which permits wide range of mobility of duodenum and usually results from the presence of a benign adenomas like duodenal polyp. Distal duodenojejunal and gastroduodenal intussusceptions have been reported in the literature but are uncommon. Symptoms usually mislead to other conditions. Intussusception can be potentially life-threatening condition [1].

Retrograde intussusception represents about 1% of all types of intussusception. Antiperistaltic invagination of a distal segment of bowel lead point through a more proximal segment of bowel. It is thought to be caused by altered peristalsis in a focal area leading to dysregulated contractions causing retrograde intussusception.

Intussusception is defined as the telescoping of a proximal segment of bowel with its mesenteric fold within the lumen of an adjacent segment [2]. Sixty percent of large bowel and thirty percent of small bowel intussusceptions have a malignant tumor as the lead point [3,4]. Despite in children intussusception is usually idiopathic, in adults an organic etiology is identified in more than 90% of cases [4]. The preoperative diagnosis of intussusception still very difficult due to the variability of the clinical presentation. Thus, the use of investigations including, ultrasound, and computed tomography can be helpful to establish the diagnosis.

Case Report

A 56-year-old female presented in the emergency of Gandhi Medical College & Hamidia Hospital, Bhopal (M.P.) with Complaints of intermittent abdominal pain associated with vomiting just after 1-2 hrs after meals since last 1 year. Non passage of flatus and motion since 8 days with no significant past and family history. On examination abdomen was soft no tenderness guarding or rigidity and no lump palpable. Her routine blood Investigations were within normal limits except pre-operatively hypoalbuminemia and hypokalemia. The abdominal X-ray erect abdomen was normal and ultrasound abdomen revealed a oval hyperechoic lesion 14×8mm suggestive of duodenal polyp causing duodenojejunal intussusception (figure-1). The patient underwent CECT Abdomen which revealed distal duodenal loop intussusceptum is seen pulled into proximal jejunal loop intussusceptions; No luminal obstruction but segmental asymmetric circumferential enhanced mural thickening seen involving distal

duodenum and proximal jejunum more suggestive towards duodenojejunal Intussusception (figure-2). Upper GI endoscopy was done and duodenal polyps were found in the 2nd part of duodenum (figure-3). After thorough explanation and Consent, the patient underwent an exploratory laparotomy in which the distal (3rd and 4th) parts of duodenum and proximal jejunum were found to be pulled into the 2nd part of duodenum causing reverse duodenojejunal intussusception which was reduced and pedunculated polypoid mass was palpated inside the 2nd part of duodenum. Distal Gastrostomy was done and 3 wide based polypoid mass found to be arising from the 2nd part of duodenum wall were moved into the distal stomach was intramurally excised and muscosal sutured using vicryl 3 0 RB. Stomach was sutured with vicryl 2 0 RB by simple continuous suturing and 32 fr drain was placed in the pelvic cavity. (figure-4,5). Postoperatively patient was extubated and biopsy was sent for histopathology and was found to be Benign Hyperplastic Polyp with hyperplastic mucosal epithelium with moderate chronic inflammatory changes with no evidence of dysplasia/ metaplasia (figure-6). Patient was hypokalemic for 2 days Postoperatively and was corrected. Incentive spirometry and chest physiotherapy was done both Pre and Post operatively. TPN & Albumin was transfused postoperatively on 4th and 5th day. Wound was healthy with no discharge. Patient was discharged on 8th Post operative day with stable vitals.

DISCUSSION

The exact mechanism which precipitates intussusception is still not known. Occasionally, a lead point such as a polyp, tumor, Meckel diverticulum, or appendiceal stump can be identified which are usually discovered intraoperatively [5-7]. In a small percentage of adult intussusceptions, no cause can be found [5]. Due to a significant risk of associated malignancy, which approximates 65% [8,9], radiologic decompression is not addressed preoperatively in adults. Therefore, 70 to 90% of adult cases of intussusception require definite treatment, of which surgical resection is, most often, the treatment of choice [10].

Adult intussusception represents 5% of all cases of intussusception and accounts for only 1%-5% of intestinal obstructions in adults [4].

Intussusception is also difficult to diagnose in adults as the typical crampy abdominal pain, diarrhea and 'red current jelly' stools are not the presenting symptoms.

Abdominal computed tomography (CT) is currently considered as the

most sensitive radiologic method to confirm intussusception, with a reported diagnostic accuracy of 58%-100%[4,11-15].

The treatment of duodenojejunal intussusception is surgical with the extent of surgical procedure depending on the extent of duodenal pathology and the characteristics of the tumor leading to the intussusception. [6] It can vary from reduction of intussusception with local excision of the responsible tumor to resection of whole or part of duodenum with enteral anastomosis. In our case, we had to perform gastrotomy the intramural excision of the duodenal hyperplastic adenomas and closure of the gastrotomy for the treatment.

CONCLUSION

Intussusception if it occurs in adults is associated with pathological conditions like polyps, malignant tumour or enteric duplication cysts in majority of the cases. Surgical excision of the involved bowel segment is usually indicated in adults as it is associated with pathological lead point. In reverse duodenojejunal intussusception only pathology is treated by resecting pathology not the bowel segment as resection of duodenum is not easy or feasible. Idiopathic intussusception is rare in adults especially that resulting in perforation. Hence high index of suspicion and clinical observation is warranted to clinch the diagnosis for appropriate treatment. Screening for various other associated malignancies like Ca Breast, Genital organs and GIT malignancy also equally important after effectively treating intussusception.

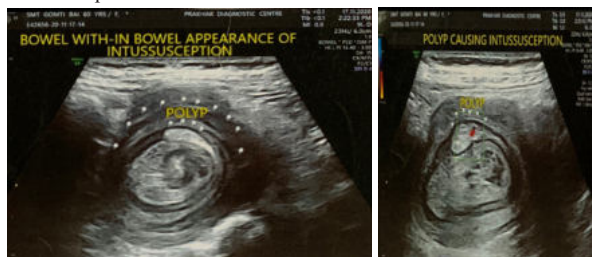


Fig 1- depicting Ultrasound Findings of Duodenojejunal intussusception due to polyp

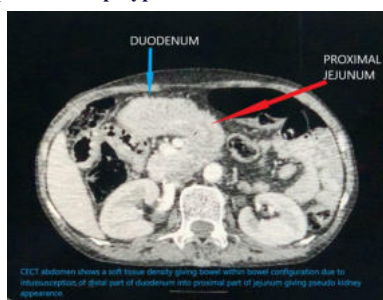


Fig. 2- CECT abdomen showing Duodenojejunal intussusception



Fig. 3 – Upper GI endoscopy showing duodenal polyp at 2nd part of duodenum



Fig 4- Depicting intraop images demonstrating duodenal polyp causing duodenojejunal intussusception and intramurally closure after resection of polyp

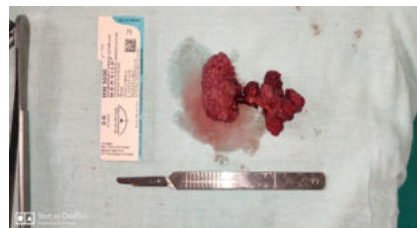


Fig 5 – Showing post op specimen image of excised duodenal polyp

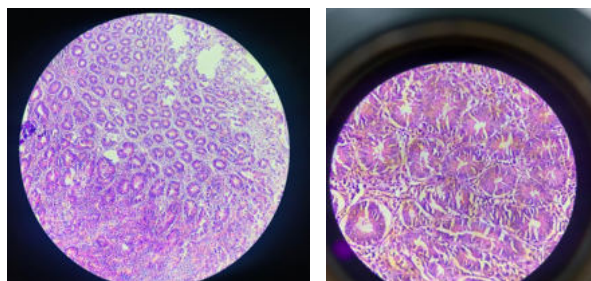


Fig.6– Microscopic Sections showing histopathology of benign duodenal hyperplastic polyp with hyperplastic mucosal epithelium with moderate chronic inflammatory changes with no evidence of dysplasia/ metaplasia

Funding: No funding sources

Conflict of interest: No conflict of interest

Ethical approval: Not required

REFERENCES

1. P. Marsicovetere, S. Ivatury, B. White, and S. Holubar, "Intestinal intussusception: etiology, diagnosis, and treatment," *Clinics in Colon and Rectal Surgery*, vol. 30, no. 1, pp. 030–039, 2016.
2. Marinis A, Yiallourou A, Samanides L, et al. Intussusception of the bowel in adults: a review. *World Journal of Gastroenterology*. 2009;15(4):407–411.
3. Renzulli P, Candinas D. Idiopathic small-bowel intussusception in an adult. *CMAJ* 2010;182:E148.
4. Yakan S, Caliskan C, Makay O, et al. Intussusception in adults: clinical characteristics, diagnosis and operative strategies. *World J Gastroenterol* 2009;15:19859.
5. Weibaecher D, Bolin JA, Hearn D, Ogden W 2nd. Intussusception in adults. Review of 160 cases. *Am J Surg* 1971; 121: 531-535
6. Stubenbord WT, Thorbjarnarson B. Intussusception in adults. *Ann Surg* 1970; 172: 306-310
7. Akcay MN, Polat M, Cadirci M, Gencer B. Tumor-induced ileo-ileal invagination in adults. *Am Surg* 1994; 60: 980-981
8. Nagorney DM, Sarr MG, McIlrath DC. Surgical management of intussusception in the adult. *Ann Surg* 1981; 193: 230-236
9. Haas EM, Etter EL, Ellis S, Taylor TV. Adult intussusception. *Am J Surg* 2003; 186: 75-76
10. Begos DG, Sandor A, Modlin IM. The diagnosis and management of adult intussusception. *Am J Surg* 1997; 173: 88-94
11. Erbil Y, Eminoglu L, Calis A, Berber E. Ileocolic invagination in adult due to caecal carcinoma. *Acta Chir Belg* 1997; 97: 190-191
12. Farrokh D, Saadaoui H, Hainaux B. [Contribution of imaging in intestinal intussusception in the adult. Apropos of a case of ileocolic intussusception secondary to cecal lipoma] *Ann Radiol (Paris)* 1996; 39: 213-216
13. Gayer G, Apter S, Hofmann C, Nass S, Amitai M, Zissin R, Hertz M. Intussusception in adults: CT diagnosis. *Clin Radiol* 1998; 53: 53-57
14. Bar-Ziv J, Solomon A. Computed tomography in adult intussusception. *Gastrointest Radiol* 1991; 16: 264-266
15. Tan KY, Tan SM, Tan AG, Chen CY, Chng HC, Hoe MN. Adult intussusception: experience in Singapore. *ANZ J Surg* 2003; 73: 1044-1047
16. Jeon SJ, Yoon SE, Lee YH, Yoon KH, Kim EA, Juhng SK. Acute pancreatitis secondary to duodenojejunal intussusception in Peutz-Jegher syndrome. *Clin Radiol* 2007;62:88-91.