



## Case Report

Journal Homepage: <http://crp.tums.ac.ir>

# Colorectal Intussusception Due to Tubulovillous Adenoma in the Sigmoidorectal Junction: A Case Report



Seyed Hadi Mirhashemi , Mobin Nakhaei , Manoochehr Ebrahimian\*

Department of General Surgery, Loghman Hakim Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran.



**Citation** Mirhashemi SH, Nakhaei M, Ebrahimian M. Colorectal Intussusception Due to Tubulovillous Adenoma in the Sigmoidorectal Junction: A Case Report. Case Reports in Clinical Practice. 2021; 6(5):181-184.

**Running Title** Colorectal Intussusception Due to Tubulovillous Adenoma

**Article info:****Received:** 01 Sep 2021**Revised:** 21 Sep 2021**Accepted:** 11 Oct 2021**Keywords:**

Intussusception; Colorectal neoplasms; Adult; Transanal endoscopic surgery

**ABSTRACT**

Adult intussusception is a rare disease with various clinical presentations and can cause grave surgical problems. The condition is associated with malignant and benign leading points in adults, unlike in children who mostly experience the latter. The colonic intussusception type can be more malignant than the enteric type, especially in distal parts of the colon. Sigmoidorectal intussusception is less common in adults; it usually presents as bowel obstruction or lower gastrointestinal bleeding. We reported a case of a middle-aged woman with sigmoidorectal intussusception who was treated by transrectal endoscopic surgery.

**Introduction**

Intussusception is a disease commonly found in children; however, it has been frequently reported in adults. Unlike in children, symptoms being benign and usually presenting as vague periodic abdominal pain, intussusception can present itself in various manifestations, such as nausea, vomiting, abdominal pain, occult gastrointestinal bleeding,

diarrhea, fever, and weight loss in adults. Intussusception, also called an invagination, can be the etiology of several surgical problems, such as bowel obstruction, peritonitis, and gastrointestinal bleeding. It can occur in the entire gastrointestinal tract; however, in children, it is more common in ileocecal. Furthermore, in adults, colonic intussusception is more common than the enteric type [1]. The colonic class can be divided into ileocecal-colic, colocolic, and sigmoidorectal subtypes. The most common presentation of the colonic type is bowel

**\* Corresponding Author:****Manoochehr Ebrahimian, MD.****Address:** Department of General Surgery, Loghman Hakim Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran.**E-mail:** [manoochehrehbrahimian@gmail.com](mailto:manoochehrehbrahimian@gmail.com)

obstruction. Unlike children, intussusception in adults usually requires surgical treatment due to high malignancy rates reported [2]. This paper presents the case of a 41-year-old woman with a diagnosis of sigmoidorectal intussusception. Our experience in diagnosing and managing the disease in the case is reviewed and analyzed.

## Case Presentation

A cigarette-smoking 41-year-old woman with a complaint of vague abdominal pain was admitted to the emergency department. The pain was described as crampy and felt in the lower abdomen, especially in the hypogastric region. She reported episodes of diarrhea with bloody stool. She did not report fever, nausea, or vomiting and had no underlying diseases. Digital rectal examination was normal. In abdominal examination, there was mild tenderness in the Left Lower Quadrant (LLQ). Laboratory data presented a decreased hemoglobin level (6.4 g/dL) and low mean corpuscular volume (69 fL). Plain abdominal x-rays showed excess colonic air (Figure 1-B). In ultrasonography, a gut-like structure was detected adjacent to the uterus body posteriorly (Figure 1-A). Due to abdominal tenderness and low Hb levels, we performed Computed Tomography (CT) to evaluate intra-abdominal organs. CT demonstrated air bubble (Pneumatosis Intestinalis) in the wall of rectum, Perirectal fluid, and recto-sigmoidal invagination (Figure 2). Endoscopic treatment to reduce the intussusception was unsuccessful. Therefore, the patient was taken to the operating room and the intussusception site was reduced manually with a gentle air pressure, and with the aid of rigid proctosigmoidoscopy.

During proctosigmoidoscopy, we came across a polypoid mass-like 4 cm lesion at the recto-sigmoidal junction as a leading point to intussusception which was resected successfully with Ligasure™ electrocautery (Figure 3). Pathological examination reported a pedunculated tubulovillous adenoma showing focal high-grade dysplasia and free margins. Twelve days after surgery, the endoscopic evaluation showed two other polyps that were resected successfully through endoscopy. Pathology reported low-grade dysplasia. Spiral thoracoabdominal CT with intravenous and oral contrast was performed, but no metastasis or tumor was detected. Therefore, the patient recovered and was discharged. She was advised to undergo annual follow-up colonoscopies.

## Discussion

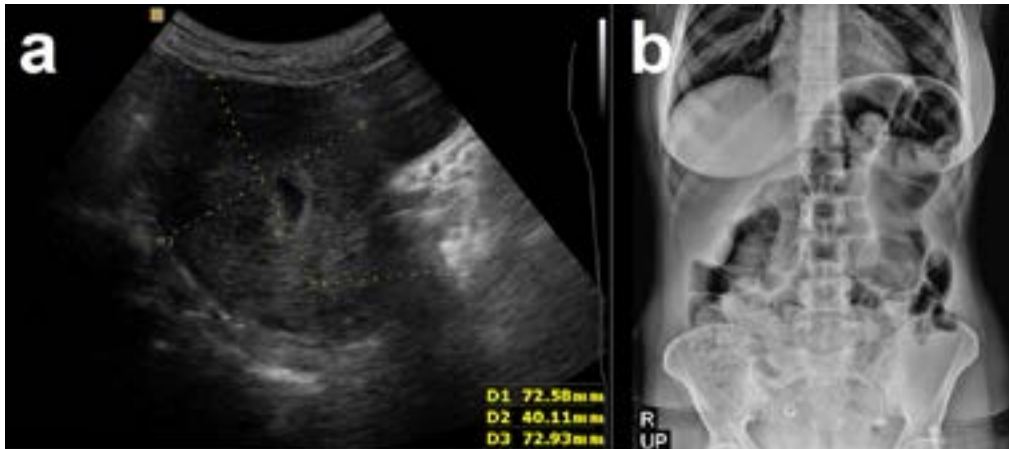
Intussusception is a rare condition in which the proximal section of the bowel (intussusceptum) moves to-

ward the distal part (intussusciens). In addition to the bowel, it can occur in almost every segment of the gastrointestinal tract, such as the gastroesophageal junction and duodenum [3, 4]. Intussusception can occur where one segment of the gastrointestinal tract is attached to the adjacent organs and the other is relatively free to move. Therefore, it is possible to be found in retroperitoneal organs, such as the duodenum and colon. Furthermore, in some pathological conditions, like tumors, the involved bowel segment, i.e., invaded by the tumor, loses its movability. It can play a triggering role in developing a “Lead point” [2]. Although intussusception is usually primary and can be reduced radiologically in children, lead points are the most common causes of intussusception in adults.

Because of its rarity, there is no precise estimation of the incidence and prevalence of intussusception. However, it seems that it can approximately be found in only 1% of adult patients with bowel obstructions and in 95% of the times occurred in children rather than adults. Furthermore, adult demographics have indicated no predominance for each gender so far. Weilbaeher et al. conducted a retrospective study on 160 patients suffering from adult intussusception. Out of 143 patients who stated their sex, 77 cases were female; thus, no dominance of any gender among these patients were seen [2]. However, other retrospective studies reported that men, on average, have slightly more chances of being affected [1, 5]. Intussusception can mimic various clinical problems and results in multiple symptoms, unlike typical periodic abdominal pain in children. Nausea, emesis, abdominal pain, melena, weight loss, fever, constipation, and diarrhea are symptoms described for the disease. Intussusception can be considered the etiology of problems like bowel obstruction and gastrointestinal bleeding [1, 2].

Intussusception in adults can be categorized into colonic or enteric types, but there is not much data to confirm which type is more common. However, it seems that the colonic is reported as much as the enteric type. Out of the 160 cases of the above study, 76 had the enteric type. The risk of malignancy is higher in the colonic type (54% vs. 24%) [2]. In a massive study of 665 cases, Donhauser and Kelly reported that 33% of colonic intussusceptions were accompanied by malignancies [6]. Roper et al. (1958) suggested that the risk of malignancy in patients older than 50 years of age is much higher than younger individuals [7].

The Sigmoidorectal subtype is a less common form among colonic patients and is more malignant than the other colonic types [6-8]. It seems that abdominal



**Figure 1.** Plain abdominal x-rays



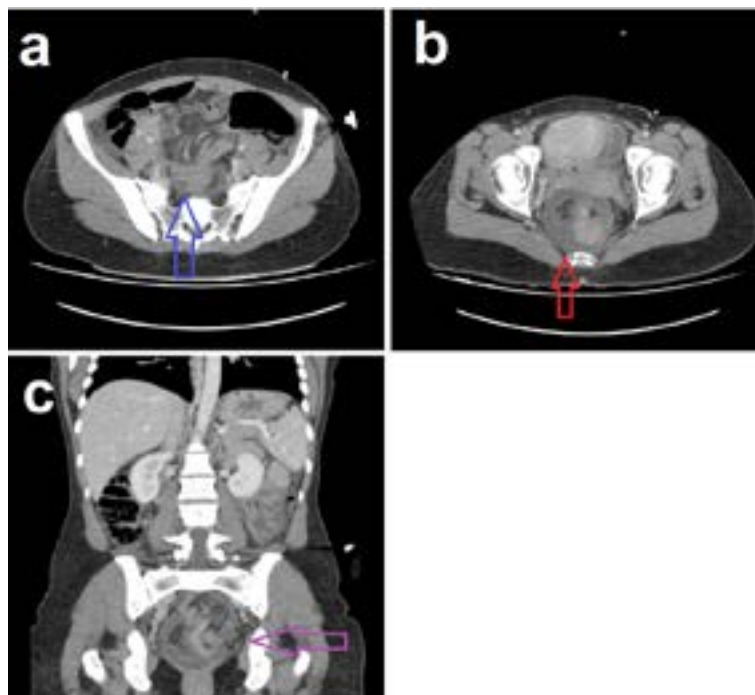
A: Ultrasonography; B: Upright plain abdomen x-ray

A gut-like structure with a dimension of 70x70 mm was observed in the posterior wall of the uterus; b shows excess gas in the colon.

pain and lower gastrointestinal bleeding are more common manifestations in those who suffer from the Sigmoidorectal type [9-12].

Due to the high risk of malignancy, it is imperative to resect the mass in patients as almost all the cases with the Sigmoidorectal type were resected [6, 7, 11, 12].

The mass can be resected by transrectal route, laparotomy, or laparoscopy. One case of successful laparoscopic resection of sigmoidorectal intussusception has been reported in an 87-year-old woman [13]. In our case, we reduced the intussusception by the transrectal route and excised the mass with the same method. However,



**Figure 2.** Computed Tomography



A and B: Axial; C: A coronal view of CT

Blue arrow indicates retro-rectal fat stranding located posteriorly to the intussusception site at the sacrum level. The red arrow shows the same condition at the level of coccyx. Purple arrows indicate a circle-like lesion that demonstrates an invagination site.



**Figure 3.** Proctosigmoidoscopy

A: Polypoid lesion found during proctoscopy; B: The lesion delivered outside the anus; C: Specimen resected successfully.

a further evaluation indicated no signs of malignancy inside the abdomen and no suspicious lung or liver lesions.

## Conclusion

Adult intussusception is essential and should be evaluated precisely to find the main leading point. The Sigmoidorectal type is less common than other colonic types, and the risk of malignancy can be higher. Therefore, it is mandatory to consider surgical resection in these cases.

## Ethical Considerations

### Compliance with ethical guidelines

All ethical principles are considered in this article. The participants were informed of the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information and were free to leave the study whenever they wished, and if desired, the research results would be available to them. Written consent has been obtained from the subjects. principles of the Helsinki Convention were also observed.

### Funding

This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

### Conflict of interest

The authors declared no conflict of interest.

## References

- [1] Azar T, Berger DL. Adult intussusception. *Annals of Surgery*. 1997; 226(2):134-8. [DOI:10.1097/0000658-199708000-00003] [PMID] [PMCID]
- [2] Weilbaecher D, Bolin JA, Hearn D, Ogden 2nd W. Intussusception in adults. Review of 160 cases. *American Journal of Surgery*. 1971; 121(5):531-5. [DOI:10.1016/0002-9610(71)90133-4] [PMID]
- [3] David S, Barkin JS. Retrograde gastroesophageal intussusception. *American Journal of Gastroenterology*. 1992; 87(1):132-4: <https://web.s.ebscohost.com/abstract?%3d16018246>
- [4] Rieth KG, Abbott GF, Gray G. Duodenal intussusception secondary to Brunner's gland hamartoma. *Gastrointestinal Radiology*. 1977; 2(1):13-6. [DOI:10.1007/BF02256458] [PMID]
- [5] Begos DG, Sandor A, Modlin IM. The diagnosis and management of adult intussusception. *The American Journal of Surgery*. 1997; 173(2):88-94. [DOI:10.1016/S0002-9610(96)00419-9]
- [6] Donhauser JL, Kelly EC. Intussusception in the adult. *The American Journal of Surgery*. 1950; 79(5):673-7. [DOI:10.1016/0002-9610(50)90333-3]
- [7] Sanders GB, Hagan WH, Kinnaird DW. Adult intussusception and carcinoma of the colon. *Annals of Surgery*. 1958; 147(6):796-804. [PMID] [PMCID]
- [8] Brayton D, Norris WJ. Intussusception in adults. *The American Journal of Surgery*. 1954; 88(1):32-43. [DOI:10.1016/0002-9610(54)90328-1]
- [9] Saigusa S, Ohi M, Imaoka H, Shimura T, Inoue Y, Kusunoki M. Intussusception of rectosigmoid colon cancer mimicking a pedunculated tumor. *Case Reports in Surgery*. 2014; 2014:696403. [DOI:10.1155/2014/696403] [PMID] [PMCID]
- [10] Lianos GD, Drosou P, Souvatzoglou R, Vangelis G, Mitsis M, Lekkas E. Colorectal intussusception due to rectosigmoid junction cancer: A unique surgical challenge? *Journal of Gastrointestinal Cancer*. 2020; 51(2):639-42. [DOI:10.1007/s12029-019-00326-6] [PMID]
- [11] Sasatomi T, Oriishi T, Nakano R, Nozoe Y, Tanaka T, Horiuchi H, et al. Adult colonic intussusception: A case report. *The Kurume Medical Journal*. 2001; 48(2):189-92. [DOI:10.2739/kurumemedj.48.189] [PMID]
- [12] Watanabe T, Terai S, Haba Y, Hirano K, Yamasaki Y, Tsukada T, et al. [Laparoscopic surgery for an intussusception caused by rectosigmoid colon cancer after pre-operative reduction by transanal insertion of a circular sizer - A case report (Japanese)]. *Cancer & Chemotherapy*. 2017; 44(12):1123-5. [PMID]
- [13] shikawa A, Higuchi I, Akiyama Y, Tanigawa T, Hasuie Y. [Laparoscopic surgery for adult intussusception due to rectal cancer - A case report (Japanese)]. *Cancer & Chemotherapy*. 2015; 42(12):2294-6. [PMID]