

Case Report

Adult Intussusception Caused by Long Intestinal Tube: A Case Report

Shin Sasaki* and Emi Terai

Department of Surgery, Omori Red Cross Hospital, Japan

*Corresponding author: Shin Sasaki, Department of Surgery, Omori Red Cross Hospital, 4-30-1, Chuo, Ota-ku, Tokyo, 143-8527, Japan, Tel: 81337753111; Fax: 81337760004; Email: s-sasaki@omori.jrc.or.jp

Received: August 19, 2014; Accepted: September 06, 2014; Published: September 12, 2014

Abstract

We report herein in the case of a 92-year-old male who presented abdominal pain. Because he had several histories of adhesive ileus, and clinical and radiological examinations made a diagnosis of recurrent adhesive ileus, a long intestinal tube was instantly inserted. However, severe abdominal pain and several vomiting emerged on the 7th hospital day, and a computed tomography (CT) scan demonstrated an intussusception of small intestine. An emergency operation was performed and nearly 60 cm of small intestine was resected due to severe ischemia. We should keep in mind that a long intestinal tube can cause intussusception even though the frequency is low, and should perform examinations to treat immediately and properly in case of intussusceptions.

Keywords: Intussusception; Small intestine; Long intestinal tube; Ileus

Case Presentation

A 92-years-old man was transferred to our hospital with a chief complaint of abdominal pain. There were a previous history of a right hemicolectomy and an unknown operation for the treatment of colon cancer at ages 80 and 85, respectively. After the operation, he had several histories of adhesive ileus, which was successfully treated by a long intestinal tube. This time, an adhesive ileus was diagnosed by clinical and radiological examinations, and a long tube was instantly inserted. On the 7th hospital day, severe abdominal pain and several vomiting emerged. Furthermore, on the 9th hospital day, a serous bloody discharge was passed through the tube. An abdominal computed tomography (CT) scan showed an appearance of the target mass which was overriding of the third duodenal part to proximal jejunum and an abnormal accumulation of fluid were seen around the liver (Figure 1). Furthermore, contrast radiography of the intestine using gastrografin via the long tube was applied, and Coiled spring sign was demonstrated (Figure 2). When the tube was slightly pulled out, a severe stenosis in the upper jejunum

was revealed. Consequently, an intussusception of small intestine caused by a long intestinal tube was diagnosed and an emergency operation was performed. Operative findings were consistent with the preoperative diagnosis. A fleshy sausage-like tubular intestinal mass, 20 cm in length, with severe ischemia was found and nearly 60 cm of small intestine was resected (Figure 3). Postoperatively, the patient had an intensive care, and discharged from the hospital on the 25th postoperative day.

Discussion/Conclusion

Intussusception which is the telescoping of one segment of the gastrointestinal tract into an adjacent one is rare in adults [1], and the frequency of intussusception in adult is estimated around only five percent of all intussusceptions [2]. Also, in 80-90% of cases in adult intussusceptions, the etiology is an underlying pathologic process, with around 65% due to neoplastic lesions including benign or malignant neoplasms, and 15-25% due to non-neoplastic processes. The remaining about 10% of cases is due to idiopathic or primary intussusceptions [3]. The inserting long intestinal tube is one of causes in idiopathic cases and recently many cases of adult intussusception associated with a long intestinal tube were reported [4-6]. The exact



Figure 1: An abdominal computed tomography (CT) showed an appearance of the target mass and a concentric multilayer's-appearance (arrow) which were overriding of the third duodenal part to proximal jejunum and a little abdominal dropsy has accumulated around the liver. (A) Axial view (B) Colonal view.

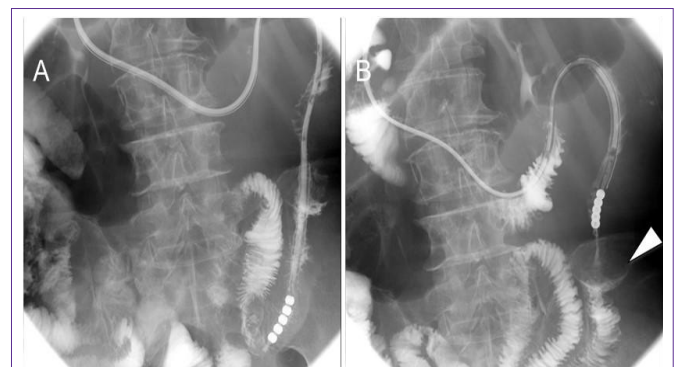


Figure 2: Contrast radiography of the intestine demonstrated Coiled spring sign (arrow) and a severe stenosis in the upper jejunum. The tip of long tube locates distal to the lesion (A) and intra-stenotic lesion (B).



Figure 3: Operative findings: Jejunal-jejunal intussusception. A fleshy sausage-like tubular intestinal mass 20 cm in length with necrosis.

mechanism of this type of intussusception is still unknown. However, an intestinal long tube is clearly a foreign body, and can affect bowel peristaltic activities causing intestinal intussusceptions [7].

Because most of adult intussusception is difficult to make an early diagnosis, combined examinations including abdominal CT scan, ultrasonography, and contrast radiography of the intestine are usually applied. Especially abdominal CT is the most useful method to diagnose intussusception [8-10]. The typical appearance is a target-like or sausage-shaped mass on the axial projection. Nowadays, high resolution CT is widely used and a diagnostic value of CT has been more advanced. Abdominal ultrasonography is also a useful method. By ultrasonography, intussuscepted intestine is recognized as a target-like, or pseudo-kidney sign [10,11]. Ultrasonography can confirm the viability of affected intestines through their movement. Contrast radiography of intestine demonstrates intussusception as Coiled spring sign in a typical case; however, this sign can be seen only in the case of ascending intussusception. The diagnostic sensitivity of contrast radiography for intestinal intussusception is estimated around 17% [12]. In our case, CT and contrast radiography using gastrografin were applied. CT demonstrated a typical appearance of the target mass suggesting intestinal intussusception, and by contrast radiography, Coiled spring sign appeared. Our case presented a type of descending intussusception, but Coiled spring sign was seen because the tube located distal to the site of intussusception. If the tube

located proximal to the lesion, we can find only a stenosis. If possible, it is to be desired that contrast radiography is performed from both proximal and distal to the lesion to obtain more information.

Retrospectively, we should have performed examinations earlier considering the possibility of intussusception when severe abdominal pain and several vomiting emerged. In that case, partial resection of small intestine could be avoided.

In conclusion, we should keep in mind that a long intestinal tube can cause intussusception even though the frequency is low, and should perform examinations to treat immediately and properly in case of intussusceptions.

References

1. Gayer G, Zissin R, Apter S, Papa M, Hertz M. Pictorial review: adult intussusception--a CT diagnosis. *Br J Radiol.* 2002; 75: 185-190.
2. Brayton D, Norris WJ. Intussusception in adults. *Am J Surg.* 1954; 88: 32-43.
3. Begos DG, Sandor A, Modlin IM. The diagnosis and management of adult intussusception. *Am J Surg.* 1997; 173: 88-94.
4. Sarr MG, Nagorney DM, McIlrath DC. Postoperative intussusception in the adult: a previously unrecognized entity? *Arch Surg.* 1981; 116: 144-148.
5. Marinis A, Yiallourou A, Samanides L, Dafnios N, Anastasopoulos G, Vassiliou I, et al. Intussusception of the bowel in adults: a review. *World J Gastroenterol.* 2009; 15: 407-411.
6. Furuya Y, Wakahara T, Akimoto H, Long CM, Yanagie H, Yasuhara H, et al. A case of postoperative recurrent intussusception associated with indwelling bowel tube. *World J Gastrointest Surg.* 2010; 2: 85-88.
7. Holcomb GW 3rd, Ross AJ 3rd, O'Neill JA Jr. Postoperative intussusception: increasing frequency or increasing awareness? *South Med J.* 1991; 84: 1334-1339.
8. Kim YH, Blake MA, Harisinghani MG, Archer-Arroyo K, Hahn PF, Pitman MB, et al. Adult intestinal intussusception: CT appearances and identification of a causative lead point. *Radiographics.* 2006; 26: 733-744.
9. Bar-Ziv J, Solomon A. Computed tomography in adult intussusception. *Gastrointest Radiol.* 1991; 16: 264-266.
10. Parienty RA, Lepreux JF, Gruson B. Sonographic and CT features of ileocolic intussusception. *AJR Am J Roentgenol.* 1981; 136: 608-610.
11. Seider R, Darazsova B. Ultrasound diagnosis in intussusception of the bowel. A case report. *S Afr Med J.* 1987; 72: 151-152.
12. Zubaidi A, Al-Saif F, Silverman R. Adult intussusception: a retrospective review. *Dis Colon Rectum.* 2006; 49: 1546-1551.