CASE REPORT

# Retrograde jejunal intussusception after total gastrectomy: A case report and literature review

GS Huang, Y Jin[1]

Department of General Surgery, Wuyi Frist People's Hospital, Jinhua, [1]Department of General Surgery, School of Medicine, Sir Run Run Shaw Hospital, Zhejiang University, Hangzhou, China

## Abstract

Retrograde jejunal intussusception is a rare disease. A 60-year-old female patient was hospitalized due to vomiting for 2 days, with a history of radical gastrectomy plus esophagus jejunum Rouxs-en-Y. On examination, there was a palpable wax-like mass on the left-hand side underneath the umbilicus. Computerized tomography scan showed a proximal jejunal intussusception. During surgery, the distal jejunum was found set into the proximal jejunum for a length of 30 cm, and bowel necrosis was also observed. The necrotic tube was resected and anastomosis was performed. Four days after the surgery, gastrointestinal function resumed. After a 10-month follow-up, the patient had no discomfort.

**Key words:** Retrograde jejunal intussusception, Rouxs-en-Y surgery, total gastrectomy

**Date of Acceptance:** 02-Nov-2015

## Introduction

Retrograde intussusception is a rare disease and most of its cases are secondary to other conditions.[1] Due to the lack of specific clinical manifestations, it was particularly difficult to diagnose.[2,3] Computerized tomography (CT) scan has provided a great value for detection of retrograde intussusception, which is normally further confirmed at surgery. There are only few reports on retrograde intussusception.[2-10] Moreover, to our knowledge, this is the fourth paper to describe retrograde intussusception after radical total gastrectomy and esophagus jejunum Rouxs-en-Y reconstruction.

**Address for correspondence:**
Dr. Y Jin,
No. 3, QingChun East Road, Hangzhou, Zhejiang, China.
E-mail: william99@126.com

| Access this article online | |
|---|---|
| Quick Response Code: | **Website**: www.njcponline.com |
| | **DOI**: 10.4103/1119-3077.179284 |
| | |

## Case Report

A 60-year-old female patient was hospitalized due to vomiting for 2 days. The patient had a history of right oophorosalpingectomy for ovarian cancer 8 years ago, and radical gastrectomy plus esophagus jejunum Rouxs-en-Y surgery for gastric cancer 5 years ago. The patient reported no stomach discomfort following those surgeries. The examination showed that the abdomen was soft with mild tenderness in the upper abdomen; there was a palpable wax-like mass of about 4–5 cm in diameter on the left-hand side underneath the umbilicus with smooth surface, mild flexibility, and light tenderness upon pressure; it was not associated with other positive signs. In-hospital abdominal CT showed intussusception (proximal jejunal intussusception, Figure 1). The diagnosis was "intussusception with emergency laparotomy recommended."



**How to cite this article:** Huang GS, Jin Y. Retrograde jejunal intussusception after total gastrectomy: A case report and literature review. Niger J Clin Pract 2016;19:411-3.

**Table 1: Summary of reports on retrograde intussusception**

| Author | Year | Country | Surgical procedures | Type of intussusception |
|---|---|---|---|---|
| Kasotakis and Sudan[3] | 2009 | USA | RYGBP* | J-J retrograde intussusception† |
| Sachdev *et al*.[8] | 2010 | India | Gastro-jejunostomy | J-G retrograde intussusceptions‡ |
| Pande *et al*.[9] | 2012 | UK | RYGBP* | J-J retrograde intussusception† |
| Yoneda *et al*.[10] | 2008 | Japan | Total gastrectomy | J-J retrograde intussusception† |
| Sahoo *et al*.[7] | 2013 | India | Billroth II gastrectomy | J-J retrograde intussusception† |
| Gopal *et al*.[6] | 2014 | India | Billroth II gastrectomy and Braun's jejunojejunostomy | J-G retrograde intussusceptions‡ |

*RYGBP=Roux-en-Y gastric bypass procedure, †J-J retrograde intussusception=jejuno-jejuno retrograde intussusception, ‡J-G retrograde intussusception=jejuno-gastric retrograde intussusception

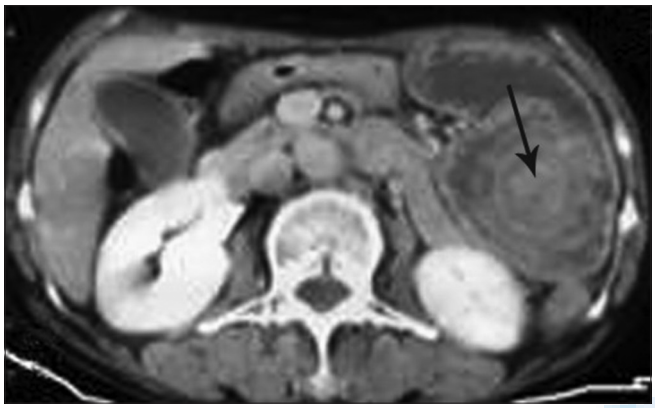

**Figure 1**: Computed tomography image of retrograde jejunal intussusception: Distal jejunal intussusception (black arrow)

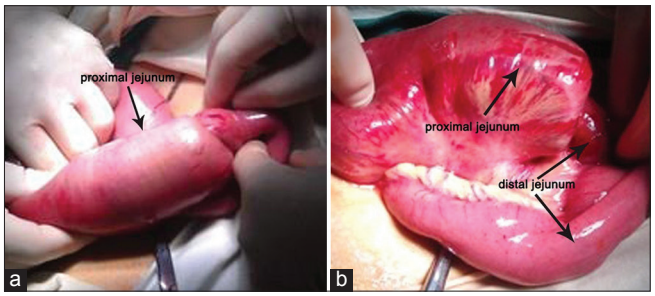


**Figure 2**: The distal jejunum set into the proximal jejunum and expansion of afferent loop (a) for above view (b) for lateral view

During surgery, massive abdominal adhesions were found in the epigastrium, along with clearly visible intestinal anastomosis, afferent loop expansion [Figure 2], and serious expansion of the esophagus jejunostomy. There was no abdominal adhesion in the hypogastrium, and the jejunum and ileum were clear. The distal jejunum was set into the proximal jejunum for a length of 30 cm, at 50 cm away from the distal end of the intestinal anastomosis site [Figure 2]. Bowel necrosis was observed at the intussusception section after restoration. The necrotic tube was resected and anastomosis was performed. Four days after surgery, gastrointestinal function resumed, the patient started to eat, and was then discharged. Pathological tests concluded that the jejunum had congestion and edema associated with inflammatory necrosis exudate, which was consistent with necrotic retrograde jejunal intussusception. After 10-month follow-up, the patient had no discomfort.

## Discussion

Intussusception is commonly seen in children, who account for 90–95% of all cases.[1] Adult intussusception is rare and mostly secondary to pathology. Currently, there are only few reports, describing sporadic intussusception cases after Rouxs-en-Y gastric reconstruction. As far as, we know [Table 1], this is the fourth article describing jejunum retrograde intussusception after radical total gastrectomy.[2-9] The mechanisms underlying retrograde intussusception are still not completely understood. The possible reasons in this case are suggested as follow: (1) Strong jejunal motility, especially after meals, resulting in peristaltic waves transmitted to the output valve being significantly stronger than those transmitted to the distal jejunum. (2) The space for the mesojejunum beng becomes too small after surgery, resulting in tension of the mesojejunum, and compensatory expansion of the proximal jejunum below the anastomosis site. (3) Disorder in neural regulation that might have led to inconsistent rhythm of jejuna motility.

Due to the lack of specific clinical manifestations, intussusception is particularly difficult to diagnose. Palpable masses, active bowel sounds, and some other symptoms can be detected by abdominal examination. CT scan is of great significance in the diagnosis. In this case, the CT image showed that a small amount of air was present in the gap between the proximal in-folding part and the cannula sheath and that the middle and distal part of this gap were significantly enlarged, accompanied with pneumatosis and effusion. These are the important signs of retrograde intussusception of small intestine. Adult intussusception does not spontaneously heal, and patients should undergo operation once diagnosed.

### Financial support and sponsorship
Nil.

### Conflicts of interest
There are no conflicts of interest.

## References


1. Reijnen HA, Joosten HJ, de Boer HH. Diagnosis and treatment of adult intussusception. Am J Surg 1989;158:25-8.
2. Goverman J, Greenwald M, Gellman L, Gadaleta D. Antiperistaltic (retrograde) intussusception after Roux-en-Y gastric bypass. Am Surg 2004;70:67-70.
3. Kasotakis G, Sudan R. Retrograde intussusception after Roux-en-Y gastric bypass for morbid obesity. Obes Surg 2009;19:381-4.
4. Pauli EM, Haluck RS. Antiperistaltic (retrograde) intussusception after laparoscopic Roux-en-Y gastric bypass procedure. Surg Obes Relat Dis 2008;4:567-8.
5. Hocking MP, McCoy DM, Vogel SB, Kaude JV, Sninsky CA. Antiperistaltic and isoperistaltic intussusception associated with abnormal motility after Roux-en-Y gastric bypass: A case report. Surgery 1991;110:109-12.
6. Gopal R, Elamurugan TP, Hage S, Muthukumarassamy R, Kate V. Retrograde jejunogastric intussusception following Braun's jejunojejunostomy. World J Clin Cases 2014;2:24-6.
7. Sahoo MR, Bhaskar V, Mohapatra V. Retrograde jejunogastric intussusception with jejunojejunal intussusception (double telescoping). BMJ Case Rep 2013;2013. pii: Bcr2013008850.
8. Sachdev BS, Malhotra P, Sukanya B, Prasad L, Kapoor D. Post gastro-jejunostomy acute retrograde jejuno-gastric intussusception. Trop Gastroenterol 2010;31:329-32.
9. Pande R, Fraser I, Harmston C. Emergency presentation of retrograde intussusception as a late complication of gastric bypass. Ann R Coll Surg Engl 2012;94:e116-7.
10. Yoneda A, Kamohara Y, Taniguchi K, Maeda J, Akashi A, Inoue K, *et al.* Retrograde jejuno-jejunal intussusception after total gastrectomy. Case Rep Gastroenterol 2008;2:272-8.