CASE REPORT

Intussusception: a Rare Complication After Feeding Jejunostomy; a Case Report

Shreyas Dholaria¹ · Kamal Kishor Lakhera¹ · Sanjeev Patni¹

Received: 14 June 2016 / Accepted: 1 December 2016 / Published online: 10 December 2016
© Indian Association of Surgical Oncology 2016

Abstract Feeding jejunostomy (FJ) is a commonly done surgical procedure for enteral nutrition. Intussusception is one of the rare complications of FJ. Clinical presentation may be similar to other causes of small bowel obstruction. Intussusception should be suspected if a patient with jejunostomy tube develops upper gastrointestinal obstructive symptoms, which are relieved by nasogastric tube drainage. CT or ultrasonography (USG) can help to confirm the diagnosis. It can be relieved spontaneously or sometimes requires laparotomy. We have encountered such complication in one patient. The patient developed intestinal obstruction after removal of FJ tube and was diagnosed as having intussusception radiologically. On exploration, intussusception was identified at FJ site for which surgical reduction was done.

Keywords Feeding jejunostomy · Intussusception · Obstruction · Enteral feeding

Case Report

Thirty-five-year-old female was admitted to our hospital for the management of lower-third esophageal cancer. She underwent transhiatal esophagectomy. Witzel type FJ was

done for enteral feeding. Her postoperative course was uneventful. Oral feeding was started on 6th postoperative day (POD) which was gradually increased. On 12th POD, full oral diet was resumed, and she was discharged on stable condition with FJ tube in situ. On follow-up visit, FJ tube was removed. After few days she developed colicky upper abdominal pain and bilious vomiting. She was admitted for symptomatic. Nasogastric tube was inserted. Plain abdominal X-ray was done that showed a dilated small bowel loop in the left upper abdomen with scanty colonic gas. Due to persistent symptoms, small bowel series using water soluble contrast medium was performed, that showed retention of contrast in stomach, duodenum and jejunum (Fig. 1a). We kept the clinical diagnosis of adhesive intestinal obstruction. But on ultrasound abdomen examination classical target sign of intussusception was seen (Fig. 1b). With the radiological evidence and persistent obstructive symptoms, exploratory laparotomy was planned. A segment of antegrade jejunojejunal intussusception was found in proximal jejunum with the leading point at the previous FJ site (Fig. 1c). Bowel was nonischemic but edematous. Careful surgical reduction was done. Postoperative recovery was uneventful.

Discussion

Feeding jejunostomy is a surgical procedure for enteral feeding. There are many methods for feeding jejunostomy: Stamms, longitudinal Witzel, transverse Witzel, needle catheter technique, percutaneous endoscopy, and laparoscopy [1].

The complications related with jejunostomy can be mechanical, infectious, gastrointestinal, or metabolic [2]. The mechanical problems are related to tube like coiling, kinking, knotting, malpositioning, retrograde flow, and occlusion of the tube [3]. The infectious complications include wound

✉ Sanjeev Patni
sanjeevnidhi@yahoo.com

Shreyas Dholaria
Shreyas.dholari@gmail.com

Kamal Kishor Lakhera
drkk.bhu@gmail.com

¹ Department of Surgical Oncology, Bhagwan Mahaveer Cancer Hospital and Research Centre, Jaipur, Rajasthan, India

Fig. 1 **a** Small bowel series showing proximal small bowel obstruction, **b** ultrasound abdomen showing classical target sign of intussusceptions, and **c** intussuscepted proximal jejunal segment at FJ site

infection and peritubal biliary leakage [2]. The gastrointestinal complications include small-bowel obstruction, nonobstructive small-bowel narrowing, extraluminal tracks or collections, jejunal hematomas, and intussusceptions [3]. The metabolic complications are hyperglycemia, hypokalemia, water and electrolyte imbalance, hypophosphatemia, and hypomagnesemia [2].

Minor technical complications are common and can be reduced by a meticulous insertion technique and careful postoperative management. Regular clinical surveillance may reduce the incidence of nutrition-related complications [4].

Jejunostomy tube-induced intussusception is rare with an incidence of 1%. Intussusception may be transient or intermittent. Common presentations are bilious vomiting, pain, and sometimes transient mass per abdomen [1]. It is seen more commonly in men, young infants and with the presence of distal pigtail on the tube [1, 5].

The diagnosis of jejunostomy tube-induced intussusception is difficult as it may not disturb with tube feeding. [1] Clinical findings, X ray, and endoscopic findings may not be different than other causes of small bowel obstruction like adhesions. USG and CT scan usually confirm the diagnosis [6].

The mechanism of jejunostomy tube-induced intussusceptions is not known. Few theories have been proposed as follows:

1. Tip of the tube acting as a lead point and dragging of the bowel.
2. Tube-induced inflammatory reaction causing hypertrophy of the mucosa which forms the lead point.
3. Retrograde peristalsis of jejunum due to vomiting and injecting force during feeding.
4. Poorly built patients have reduced fatty tissue (omentum, mesentery), allows free movement of intestine [1].

After esophagectomy, there can be various differential diagnosis for early postoperative upper gastrointestinal obstructive symptoms including adhesions and pylorospasm.

Intussusception and volvulus, though rare complications, but can be the cause after feeding jejunostomy, which can happen with tube in situ or after removal of tube, as in our case.

Jejunostomy tube-induced intussusception usually resolves spontaneously [1, 6, 7] but sometimes may require operative intervention [1]. Reduction by injection of air or contrast via the tube can be attempted. [8] If it does not resolve by conservative approach then operative intervention is required. It can be managed by surgical reduction if bowel is nonischemic. Resection is advised if there is gangrenous change, perforation, or stenosis. The feeding tube can be used postoperatively without recurrence of intussusception [6].

Few technical points like fixing a 4–5 cm segment of jejunum to abdominal wall instead of a single point fixation and keeping the distance from duodenojejunal (DJ) flexure to FJ site minimum (15 cm) to avoid antegrade intussusception of proximal redundant loop may help in preventing this complication.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

References

1. Krishna S, Raghunat P, Thangavelu S, Shenoy R (2013) Jejuno-jejunal intussusception: an unusual complication of feeding jejunostomy. *BMJ Case Rep*. doi:10.1136/bcr-2013-200219
2. Tapia J, Murquia R, Garcia G, de los Monteros PE, Oñate E (1999) Jejunostomy: techniques, indications, and complications. *World J Surg* 23(6):596–602
3. Carucci LR et al (2002) Evaluation of patients with jejunostomy tubes: imaging findings. *Radiology* 223(1):241–247
4. De Gottardi A, Krahenbühl L, Farhadi J, Gernhardt S, Schäfer M, Büchler MW (1999) Clinical experience of feeding through a needle

- catheter jejunostomy after major abdominal operations. *Eur J Surg* 165(11):1055–1060
5. Hughes UM, Connolly BL, Chait PG, Muraca S (2000) Further report of small-bowel intussusceptions related to gastrojejunostomy tubes. *Pediatr Radiol* 30:614–617
 6. Wu TH, Lin CW, Yin WY (2006) Jejunojejunal intussusception following jejunostomy. *J Formos Med Assoc* 105(4):355–358
 7. Parikh M et al (2010) Does all small bowel intussusception need exploration? *Afr J Paediatr Surg* 7(1):30–32
 8. Connolly BL et al (1998) Recognition of intussusception around gastrojejunostomy tubes in children. *AJR Am J Roentgenol* 170(2):467–470