

Intestinal Obstruction Due to Intraluminal Migration of a Feeding Jejunostomy Tube: A Rare Complication

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Abstract

Feeding jejunostomy tubes are commonly used to provide enteral nutrition for patients who require prolonged nutritional support, particularly those undergoing major gastrointestinal surgeries or facing conditions such as esophageal cancer. Despite being a generally safe procedure, feeding jejunostomy tubes can be associated with complications, including migration of the tube into the intestinal lumen, a rare but potentially life-threatening event. This case report describes a 65-year-old male who presented with abdominal distension, bilious vomiting, and constipation due to intestinal obstruction caused by the migration of a feeding jejunostomy tube. Diagnostic imaging and exploratory laparotomy confirmed the migration and resolved the obstruction. This case underscores the need for vigilance in monitoring for complications and the importance of early recognition and intervention.

INTRODUCTION

A feeding jejunostomy is a surgically created enteral access that allows direct delivery of nutrition into the proximal jejunum, commonly indicated in patients requiring prolonged enteral support. This procedure is particularly beneficial in individuals undergoing major upper gastrointestinal (GI) surgeries, complicated laparotomies, or those with conditions such as esophageal carcinoma, where oral intake is compromised(1). By ensuring adequate postoperative enteral nutrition, feeding jejunostomy plays a critical role in reducing the incidence of malnutrition-related morbidity and mortality.

Several surgical techniques exist for jejunostomy tube insertion, including the Witzel technique, open jejunostomy, percutaneous endoscopic jejunostomy (PEJ), and laparoscopic-assisted methods. Among these, the Witzel technique is widely preferred due to its technical simplicity, ease of performance, and short learning curve(1,3). Despite its relative safety and minimally invasive nature, feeding jejunostomy is not devoid of complications, which can be broadly categorized into mechanical, infectious, gastrointestinal, metabolic, and electrolyte disturbances(1).

Among these, mechanical complications are the most frequently encountered, including tube kinking, coiling, malpositioning, knotting, and blockage(2). Although

these are usually minor and manageable, more severe complications such as intestinal obstruction, intraperitoneal leakage, intussusception, and volvulus are extremely rare, accounting for only 2.1% of cases(1,3). Gastrointestinal complications, such as abdominal distension, colic, diarrhea, constipation, and vomiting, may also occur, with intestinal obstruction secondary to jejunostomy tube migration being an exceptionally rare but serious complication(1,4). Infectious complications include surgical site infection, intra-abdominal abscesses(1,5).

The present case is of particular importance as it highlights an exceedingly rare occurrence—intestinal obstruction caused by a migrated and dislodged feeding jejunostomy tube(6). While mechanical obstruction due to surgical manipulation, postoperative adhesions, or inflammation is well-documented, complete bowel obstruction due to intraluminal migration of a jejunostomy tube is a highly unusual phenomenon(7).

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This case underscores the critical need for early recognition, prompt imaging, and timely surgical intervention to prevent life-threatening consequences. Furthermore, it highlights the importance of meticulous surgical technique, careful post-insertion monitoring, and enhanced surgical training to minimize the risk of such rare but serious complications.

CASE PRESENTATION

A 65-year-old male patient with a history of dysphagia had gradually worsened over the course of five months, culminating in an inability to swallow solid foods and, eventually, his own saliva. An upper gastrointestinal endoscopy, performed, revealed a tumour at 25 cm from the incisors, and histology confirmed adenocarcinoma of the oesophagus. The patient was awaiting staging studies via contrast-enhanced CT when his condition worsened, requiring immediate nutritional support. Due to the anticipated need for esophagectomy following staging, a surgically placed jejunostomy tube was selected over a percutaneous gastrostomy tube. He underwent a feeding jejunostomy placement for enteral nutrition.

Postoperatively, the patient recovered well and was discharged with instructions on tube care. However, two months later, he presented to the emergency department with progressive abdominal distension, bilious vomiting, and absolute constipation, all of which worsened over the course of 48 hours. Associated with these symptoms were episodes of colicky abdominal pain.

Upon admission to the emergency department, the patient was alert and stable, though mildly dehydrated and in mild distress. Abdominal examination revealed generalized

distension with visible peristalsis and hyperactive bowel sounds. Notably, the feeding jejunostomy tube was absent at the insertion site, raising suspicion of tube migration. Digital rectal examination showed an empty rectum, further suggesting an obstruction. A provisional diagnosis of intestinal obstruction was made.

To confirm this, abdominal X-rays were taken, as access to CT imaging was limited in this resource-poor setting. The X-rays revealed dilated small bowel loops with multiple air-fluid levels, consistent with small bowel obstruction. No evidence of bowel perforation was noted on chest X-ray, which was reassuring.

Given the clinical suspicion of a feeding jejunostomy tube migration and resulting obstruction, the patient was prepared for emergency exploratory laparotomy. Preoperative investigations included a full blood count, which showed mild leukocytosis without significant elevation of inflammatory markers, suggesting a reactive response. Cross-matching and type & screen tests were also performed in preparation for potential surgical intervention.

During the exploratory laparotomy, the migrated jejunostomy tube was found completely within the intestinal lumen, causing a mechanical obstruction at the mid-jejunum. Importantly, there was no evidence of bowel ischemia, necrosis, or perforation, which was reassuring. The migrated tube was carefully removed under direct visualisation to avoid further injury to the bowel. After the tube was successfully extracted, the integrity of the bowel was assessed and confirmed to be intact. No signs of perforation or ischemia were observed.



Figure 1. Obstructed small bowel with a feeding jejunostomy inside

Following the removal of the obstructing tube, a new jejunostomy was placed, ensuring secure fixation to prevent future migration. The patient recovered uneventfully from surgery. Postoperatively, enteral feeding was gradually reintroduced via the newly placed jejunostomy tube once bowel sounds were confirmed. The patient's diet was

gradually advanced to a normal diet as tolerated. He was discharged in stable condition with instructions for careful monitoring of the new feeding tube. The patient was advised on proper tube care, potential signs of migration, and the importance of follow-up appointments to monitor tube function and avoid recurrence.

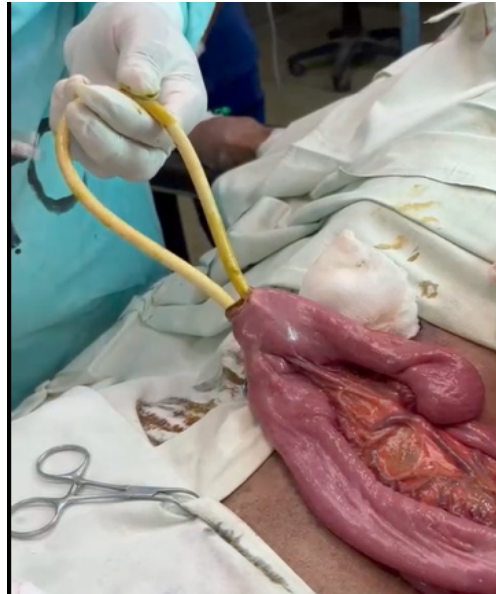


Figure 2. Removal of feeding jejunostomy from the small bowel

DISCUSSION

Feeding jejunostomy tubes are an essential tool for providing enteral nutrition to patients who cannot tolerate oral intake(4). Although complications are relatively uncommon, mechanical issues such as tube malposition, kinking, and blockage are frequently encountered(2,6). Migration of the tube into the intestinal lumen, causing small bowel obstruction, is a rare and serious complication. The precise mechanisms of intraluminal tube migration remain unclear, though several hypotheses have been proposed(1,3).

One mechanism is retrograde peristalsis, where peristaltic waves push the tube back into the lumen over time. Another potential cause is inadequate fixation during the initial procedure. If the tube is not properly anchored to the jejunal serosa or abdominal wall, it may dislodge and migrate distally. Prolonged tube placement may also contribute to pressure necrosis and erosion of the jejunal wall, which facilitates tube migration. Once within the lumen, the tube can act as a foreign body, causing partial or complete obstruction of the small intestine.

In the present case, the patient presented with classic signs of small bowel obstruction: abdominal distension, bilious vomiting, and absolute constipation. The absence of the feeding jejunostomy tube at the insertion site

raised a strong suspicion of tube migration. Radiological investigation confirmed the diagnosis, showing dilated small bowel loops and air-fluid levels consistent with obstruction, along with the presence of the migrated tube within the lumen.

The incidence of jejunostomy tube migration resulting in small bowel obstruction is exceedingly rare, with an estimated occurrence of less than 0.5% of cases in available literature(1,3,4). Other common mechanical complications of jejunostomy tubes, such as tube blockage or malposition, are more frequent but generally less severe. In a systematic review of jejunostomy complications, migration-induced obstruction was highlighted as an outlier, underscoring the importance of early recognition and timely intervention.

Management of jejunal obstruction secondary to tube migration requires a prompt, thorough surgical approach(4,6). In our case, the patient underwent emergency laparotomy, where the migrated tube was carefully removed without causing further injury to the bowel. The new jejunostomy tube was placed securely to prevent future migration. The patient's recovery was uneventful, and his symptoms resolved postoperatively.

Given the potential for severe complications, certain preventive measures should be emphasized to minimize

the risk of feeding jejunostomy tube migration. Proper fixation of the tube to both the jejunal serosa and the abdominal wall during the initial procedure is crucial. Techniques like the Witzel tunnel method may offer added stability, reducing the risk of migration. Regular monitoring of the tube's position and function, along with early identification of any complications, should be routine practice. Clinicians and caregivers should be trained to recognize symptoms of tube malfunction or migration, including abdominal distension, vomiting, and constipation, and to seek immediate medical evaluation when these occur.

CONCLUSION

This case report illustrates the rare but potentially life-threatening complication of small bowel obstruction due to intraluminal migration of a feeding jejunostomy tube. While feeding jejunostomies remain a critical tool in the management of enteral nutrition, clinicians must remain vigilant for complications. Early detection, prompt radiological evaluation, and timely surgical intervention are paramount in preventing serious outcomes. Preventive strategies, including secure fixation and regular monitoring, are key to minimizing the risk of migration and improving patient safety.

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Conflict of Interest

The authors declare that there are no conflicts of interest regarding this case report. No financial or personal relationships influenced the outcomes or content of this study.

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