

## Fistulization between stomach and transverse colon because of nasogastric feeding tube

Mustafa Çelik, Ali Kagan Gokakin, Utku Ozgen, Mustafa Gurkan Haytaoglu

Pamukkale University, Gastroenterology Department, 20070 Denizli, Turkey.

### To The Editor

Nasogastric tube is commonly used for nasogastric decompression, feeding, and gastric lavage. In the gastrointestinal tract, malposition, coiling, or knotting can occur anywhere along the course of the tube, including the pharynx, pyriform sinus, esophagus, stomach, and duodenum (1). Nasogastric tubes can cause gastritis or gastric bleeding because of chronic irritation or pressure necrosis (2). Patients with prior esophageal or gastric surgery have a higher risk for gastrointestinal perforation, and those with facial trauma are at a risk for cribriform plate perforation and intracranial insertion (3-4). However, there are no data regarding gastrocolic fistulization secondary to the use of a nasogastric feeding tube.

A 21-year-old female patient, being followed up for cerebral palsy, was admitted to the emergency service because of fecaloid emesis and the drainage of fecaloid content from the nasogastric feeding tube for 2 days. The patient had meningitis when she was 3-month-old and had been followed up for cerebral palsy. It was learned that her percutaneous endoscopic gastrostomy catheter was removed approximately 45 days ago because of dysfunction, and feeding was continued via a nasogastric feeding tube. The silicone nasogastric feeding tube was inserted up to 50 cm. There was no complaint until the last 2 days when fecaloid emesis and fecaloid drainage via the nasogastric feeding tube occurred. Abdominal graphy suggested that the nasogastric tube was located outside the stomach and into the transverse colon (Fig. 1). This pre-diagnosis was confirmed by abdominal computed tomography. Upper gastrointestinal endoscopy revealed that the feeding tube had perforated the middle part of the stomach corpus (Fig. 2). The patient was operated in the general surgery department, and the tube was observed to have passed from the stomach into the transverse colon, forming a fistula between the stomach and transverse colon (Fig. 3).

Spontaneous gastric perforation has significant morbidity and mortality, and it can be life threatening. The most common cause of spontaneous gastric perforation is peptic ulcer disease secondary to the use of pharmaceutical agents such as non-steroidal anti-inflammatory drugs

(NSAIDs) or steroids. Neoplasia is another rare cause. Iatrogenic causes such as nasogastric and orogastric tube misplacements are extremely rare, despite the frequent

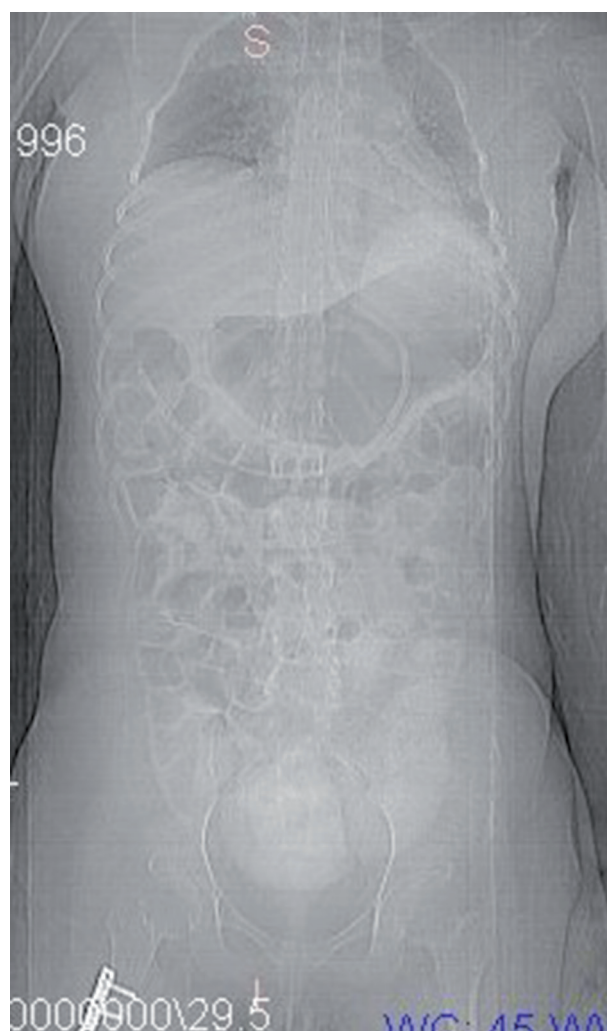


Fig. 1.

Correspondence to: Mustafa Çelik, Pamukkale University, Gastroenterology Department, 20070 Denizli, Turkey  
E-mail : mustafa.dr29@hotmail.com.

Submission date : 07/07/2016  
Acceptance date : 03/08/2016



Fig. 2.

use of these tubes in surgical and critically ill patients (5-6). Esophageal and pharyngoesophageal perforations are known complications associated with nasogastric tube insertion in adults; however, gastric perforation is extremely rare. A case series reported by Ghahremani et al. in 1980 described six gastric perforation cases following nasogastric tube insertion. At least three of these six patients had documented risk factors (salicylate use, gastric anastomosis, and metastatic gastroesophageal cancer) that could facilitate the perforation that so readily occurred subsequent to the nasogastric tube insertion. In our case report, the patient had no history of peptic ulcer disease or the use of NSAIDs. The cause of the fistulization following the insertion of the nasogastric tube was not known for certain as the stomach wall is thick and well perfused in adults. Furthermore, the absence of symptoms despite continuous feeding could not be explained. Pressure ischemia because of nasogastric tubes that become rigid owing to the effect of the gastrointestinal fluids can be an explanation for perforation (6). Nevertheless, the asymptomatic course of the patient until fistulization could not be explained.

We present an interesting case of gastrocolic fistulization because of a nasogastric feeding tube, which has no symptoms or laboratory findings of perforation

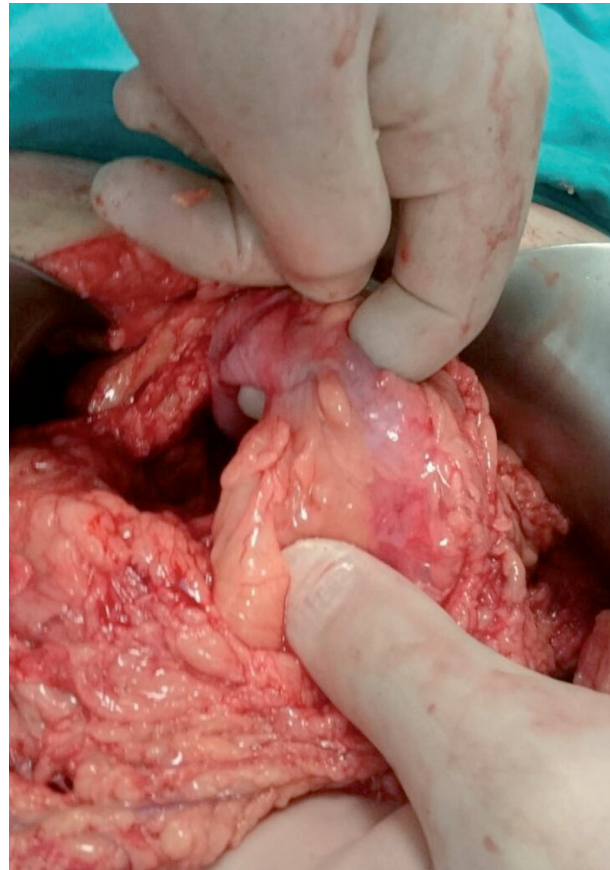


Fig. 3.

## References

1. AGARWALA S., DAVE S., GUPTA A.K., MITRA D.K. Duodeno-renal fistula due to a nasogastric tube in a neonate. *Pediatr. Surg. Int.*, 1998, **14** : 102.
2. METHENY N.A., MEERT K.L., CLOUSE R.E. Complications related to feeding tube placement. *Curr. Opin. Gastroenterol.*, 2007, **23** : 178.
3. FERRERAS J., JUNQUERA L.M., GARCÍA-CONSUEGRA L. Intracranial placement of a naso-gastric tube after severe craniofacial trauma. *Oral Surg. Oral Med. Oral Pathol. Oral Radiol. Endod.*, 2000, **90** : 564.
4. BAŞKAYA M.K.. Inadvertent intracranial placement of a nasogastric tube in patients with head injuries. *Surg. Neurol.*, 1999, **52** : 426.
5. GHAHREMANI G.G., TURNER M.A., PORT R.B. Iatrogenic intubation injuries of the upper gastro-intestinal tract in adults. *Gastrointest. Radiol.*, 1980, **5** : 1-10.
6. LEE S.H., KIM M.S., KIM K.H. et al. Gastric perforation caused by nasogastric intubation in a patient on peritoneal dialysis. *Korean J. Nephrol.*, 2007, **26** : 250-253.