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CASE REPORT

A RARE COMPLICATION IN A CASE OF PERSISTENT DIARRHEA: PEG CATHETER MIGRATION

İdil Çetin[1], Şükran Yıldız Düzenli[2], Mustafa Düzenli[2], Doğan Albayrak[2]

[1]Trakya University School of Medicine, Edirne, TÜRKİYE
[2]Trakya University School of Medicine, Department of General Surgery, Edirne, TÜRKİYE

ABSTRACT

Percutaneous endoscopic gastrostomy is a common procedure performed for enteral feeding for patients who experience difficulty swallowing. Although generally safe, complications like infection, hemorrhage, gastrointestinal perforation, peritonitis, fistulisation, internal organ damage, and clogging of the catheter may occur. One of the rare complications is the misplacement of the percutaneous endoscopic gastrostomy catheter into neighboring organs or the migration of the catheter with time. In this case report, we focused on the diagnosis and treatment of persistent diarrhea due to migration of a percutaneous endoscopic gastrostomy catheter into the transverse colon.

A 70-year-old patient, with a history of cerebrovascular accident and who was under follow-up for inoperable lung cancer, was started on enteral feeding via a percutaneous endoscopic gastrostomy catheter due to dysphagia. A year later, the patient was admitted to the general surgery ward after applying to the emergency room experiencing watery diarrhea more than ten times a day that had been going on for a month. During evaluation, differential diagnoses of diarrhea including infectious, enteral feeding-related, and drug-associated causes were considered. An abdominal computed tomography revealed that the catheter had migrated to the transverse colon level. Subsequently, esophagogastroduodenoscopy and colonoscopy confirmed that the catheter was not in the stomach, but rather in the lumen of the transverse colon. The catheter was removed endoscopically and after the procedure, a new percutaneous endoscopic gastrostomy catheter has been inserted without complications.

This case emphasizes the importance of recognizing and appropriately managing a rare complication of percutaneous endoscopic gastrostomy. In patients presenting with gastrointestinal symptoms such as persistent diarrhea, a detailed history should be taken and this complication should be considered.

Keywords: Catheters, complication, endoscopy, gastrostomy, enteral nutrition, diarrhea

INTRODUCTION

Percutaneous endoscopic gastrostomy (PEG) is a common procedure to provide enteral feeding by inserting a tube into the stomach of patients who experience feeding difficulties. Although considered to be generally safe, complications like infection, hemorrhage, and peritonitis can be observed (1). Migration of the catheter to adjacent organs is a rare complication, with an occurrence of 0.8% (2). In this case report, we review the diagnosis and treatment of a patient with a PEG tube who developed persistent diarrhea due to migration of the catheter into the transverse colon. In cases of colon migration of PEG catheters involving fistulas, more symptoms that signal it are present, such as fecal leakage at the PEG site. However, it is essential to be aware of and recognize the possibility of migration in cases of extensive diarrhea, despite otherwise unremarkable physical examination and laboratory results (3). We emphasize the importance of timely recognition and proper treatment of this complication to prevent mortal outcomes such as peritonitis or sepsis.

CASE REPORT

A 70-year-old patient with a history of cerebrovascular accident and a diagnosis of inoperable lung cancer was started on feeding via a PEG catheter due to difficulty swallowing liquids.

Address for Correspondence: İdil Çetin, Trakya University School of Medicine, Edirne, TÜRKİYE
e-mail: cetinidill@gmail.com
ORCID iD of the authors: İÇ: 0009-0001-4028-2714; ŞYD: 0009-0002-3232-4985; MD: 0000-0003-4322-0284; DA: 0000-0002-1950-2444
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Approximately one year later, the patient presented to the emergency room experiencing diarrhea with watery, yellow-green bowel movements without blood or mucus, more than ten times a day that had been going on for a month. The patient was admitted to the general surgery ward after it was deemed that emergency surgery was not necessary. Upon presentation, the patient did not have fever, nausea, vomiting, or abdominal pain and physical evaluation was unremarkable. Diarrhea occurred subsequent to PEG tube placement and feeding, without any preceding history of similar symptoms. During the evaluation in the general surgery ward, differential diagnoses of diarrhea such as infectious, enteral feeding-related, and drug-associated causes were considered. None were identified and there was no inflammation at the PEG site. Laboratory findings did not support infection. Stool samples were negative for leukocytes and erythrocytes. No antibodies against *Entamoeba histolytica, Giardia lamblia,* or *Clostridium difficile* A-B toxins were detected. There was no history of recent use of antibiotics. Enteral nutrition fed to the patient was evaluated to exclude enteral nutrition-associated diarrhea and the enteral feed was changed. Diarrhea persisted. Abdominal computed tomography (CT) revealed that the PEG catheter extended subcutaneously to the level of the transverse colon, 7 cm cranial to the umbilicus (Figure 1). In order to locate the catheter, gastroscopy and colonoscopy were planned. Gastroscopy showed that the catheter was not in the stomach and colonoscopy confirmed that the catheter was in the lumen of the transverse colon. Subsequently, the catheter was removed endoscopically (Figure 2). One month later, a new PEG catheter was inserted and it was confirmed to be functioning properly. No pathology after feeding was observed. An informed oral consent was obtained from the patient.

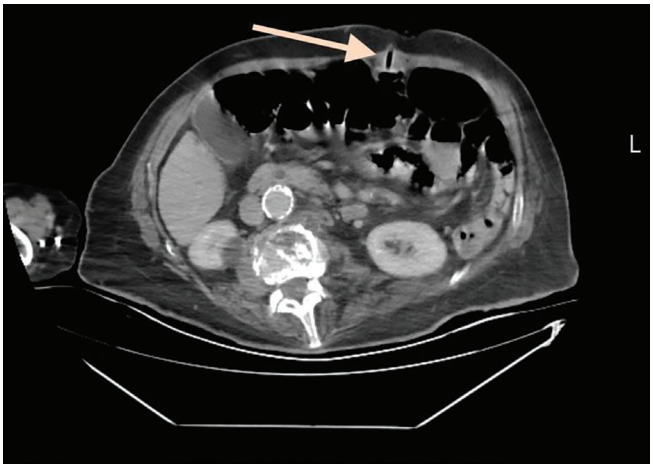

Figure 1: The PEG catheter as seen in the abdominal CT image indicated by the arrow.
PEG: Percutaneous endoscopic gastrostomy, CT: Computed tomography

DISCUSSION

Percutaneous endoscopic gastrostomy tube has been a widely used technique for enteral feeding since 1980 (4). The tube is placed into the stomach with gastroscopy and a percutaneous needle through the abdominal wall. After the tube has been placed, its location is secured with transillumination and direct pressure. The catheter is later secured to the skin with a balloon or a disk. This procedure's complication rate is low and it is considered safe (5). The most common complications include hemorrhage, infection, aspiration, pneumoperitoneum, tube dislodgement, and forming of granulation tissue (1). Migration of the PEG catheter to the neighbouring organs is a rare complication with studies reporting about 4% to 25% of patients suffer from placement-associated complications (6). Catheter migration to the gastric pylorus, duodenum, ileocecal valve, and transverse colon has been reported (7-9). Unintentional punctures of the stomach and transverse colon after the first insertion are the main contributing factors to the migration of PEG catheters. Other recognized risk factors include the overdistension of the stomach during esophagogastroduodenoscopy, high-riding transverse colon, and post-surgical adhesion (10).

Migration to the colon commonly presents with non-specific symptoms like diarrhea, abdominal pain, cramps, and non-bilious vomiting (7). Diarrhea is also a typical complication of enteral feeding and it is observed in 10-20% of the patients. Enteral feeding-associated diarrhea etiology includes infection, diet, protein malnutrition, and drug therapy (11). After these causes are excluded, other rare etiologies like migration should be considered.

Tube migration can be confirmed with abdominal CT, gastroscopy, and colonoscopy. Patient's management is dependent on the tube's localization and clinical presentation

Figure 2: The PEG catheter as seen in colonoscopy images.
PEG: Percutaneous endoscopic gastrostomy

of the patient. With patients who are clinically stable the PEG catheter can be removed endoscopically and a new catheter can be inserted (8). However, it has been reported that external migration from the stomach can cause serious complications like acute pancreatitis, bowel obstruction, and perforation (9, 12, 13). Patients' clinical symptoms should be observed closely. If the complications advance, surgical intervention is needed.

Migration of a PEG catheter into the colon is a rare but potentially serious complication. In this case report, the diagnosis and treatment of a PEG catheter that migrated into the colon are evaluated in detail, with emphasis on its recognition and the appropriate management approach. It should be noted that these cases may present with non-specific symptoms such as diarrhea; therefore, clinicians should maintain a high index of suspicion for catheter migration in patients with PEG tubes presenting with unexplained gastrointestinal symptoms. This case also highlights that such complications may present even in the long term and supports the practice of endoscopic follow-up in affected patients.

Ethics

Informed Consent: *An informed oral consent was obtained from the patient.*

Conflict of Interest: *The authors declared no conflict of interest.*

Author Contributions: *Surgical and Medical Practices: M.D., D.A., Concept: İ.Ç., Ş.Y.D., M.D., D.A., Design: İ.Ç., Ş.Y.D., Data Collection or Processing: İ.Ç., Ş.Y.D., M.D., Analysis and/or Interpretation: İ.Ç., Ş.Y.D., M.D., D.A., Literature Search: İ.Ç., Ş.Y.D., Writing: İ.Ç., Ş.Y.D.*

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