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Case Report

Interposed Bowel Loop during Percutaneous Endoscopic Gastrostomy Placement; Rare and Nightmare

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ABSTRACT

Percutaneous endoscopic gastrostomy (PEG) is one of common means of enteral nutrition in day-to-day gastroenterology practice. However, PEG is associated with complications such as infection, buried bumper, interposed bowel loops, and colocutaneous fistula. Herein, we present a case of PEG tube placement with interposed bowel loop in the gastric and parietal wall that was managed conservatively.

KEYWORDS: *Buried bumper syndrome, gastric wall, interposed bowel, parietal wall, percutaneous endoscopic gastrostomy*

INTRODUCTION

Percutaneous endoscopic gastrostomy (PEG) feeding access is one of the widely performed endoscopic procedures to fulfil nutritional needs in chronically debilitated patients. Most widely used technique for PEG placement is gastric pull through from anterior abdominal wall. As with any invasive intervention, PEG is also associated with complications including failure, infection, buried bumper, interposed bowel loops, colocutaneous fistula, etc. At times, they are not worrisome and can be managed with expectant management, but when any serious complication rises, the prestige of clinician is also on the verge. We are presenting a case of PEG tube placement with interposed bowel loop in the gastric and parietal wall that was managed conservatively.

CASE REPORT

A 78-year-old man diagnosed the case of oropharyngeal carcinoma was referred to gastroenterology clinic for PEG tube placement to meet the nutritional need due to dysphagia and odynophagia. One year after tube placement, he presented with fever, pain abdomen, and his PEG insertion site was found infected as shown in Figure 1. It was managed with antiseptic dressing, parenteral antibiotics; temporary cessation of feeding and shifting on parenteral nutrition. After the antibiotic course, his infection subsided. PEG feeding tube was replaced, and tube feeding reinstituted. Two months after tube replacement, patient presented with abdominal pain and watery diarrhea for 1–2 weeks. His pulse rate was 80 beats/min regular normovolemic equal in both limbs, blood pressure 110/80 mm Hg in all limbs, general physical and systemic examination was normal. His hemoglobin was 10.5 g%, total leukocyte count was 5000/mm^3, serum urea was 12.8 mg/dl, and serum creatinine was 1 mg/dl. Stool examination showed Entamoeba cysts and no trophozoites were seen. All possible causes of persistent painful diarrhea were ruled out by doing stool culture, stool serology, and sigmoidoscopy. The patient was managed with symptomatic treatment though his diarrhea did not settle. Hence, antibiotics were instituted presuming infective etiology of his persistent diarrhea.

Even after adding antibiotics pain abdomen and diarrhea did not settle so he was subjected for imaging like X-ray abdomen and computed tomography (CT) abdomen. X-ray abdomen showed PEG tube migrated into large bowel that was further confirmed on CT abdomen showed interposed bowel loop between the stomach and anterior abdominal wall, as depicted in Figure 2a and b, respectively. The complication and consequences were discussed with patient and attendants, and further need

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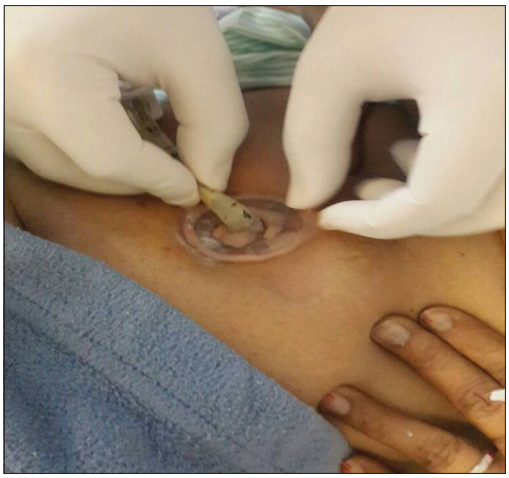

Figure 1: Pus coming out of infected percutaneous endoscopic gastrostomy site

of surgery was also been discussed with the patient, meanwhile if was decided after discussion with family to retrieve internal bumper through enteral route. His PEG tube was cut down and watched for bumper to pass through enteral route. The patient was kept nil per oral for 12–24 h with watchful monitoring, 12 h later, the patient passed internal bumper with feces. After 2 days on parenteral nutrition, nasojejunal feeding tube was inserted. Postprocedure patient remained hemodynamically stable, and no signs of systemic inflammatory response were noted. His feeding was restored after 1 day and the patient was discharged from hospital on next day with no abdominal or systemic complaints.

Discussion

Percutaneous PEG first described by Gauderer *et al*.[1] in 1980 is widely performed the interventional endoscopic procedure to meet long-term nutritional need in chronic debilitated patients suffering from stroke, cerebral palsy, head injuries, and advanced malignancies where feeding and unmet nutritional supplementation is a big concern for long-term outcome. Replacement of these feeding tubes is not too complex and relatively has low complication rate.[2]

Absolute contraindication to place PEG feeding tube is a significant oropharyngeal obstruction, overt coagulopathy or abdominal wall infections. Most of the endoscopy related complications during PEG placement occurs due to cardiorespiratory compromise and sedation-related adverse events. Esophageal perforation during endoscopy is rare, and most of them are located in cervical esophagus and incidence is <0.1%. Benign pneumoperitoneum after PEG is common reported up to approximately 50% of cases and generally subsided with conservative management, but in a recent study, it

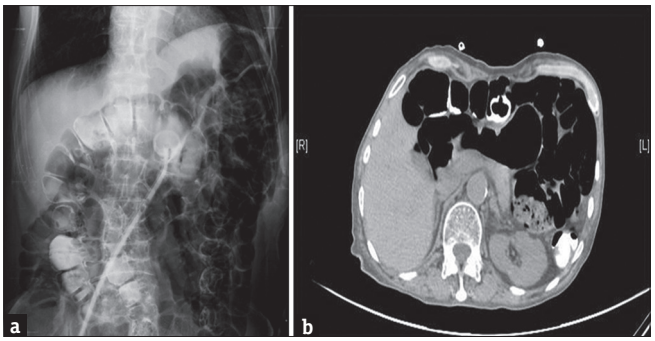

Figure 2: (a) X ray showing PEG tube migrated into bowel. (b) Axial section of CT showing internal bumper of percutaneous endoscopic gastrostomy tube

has been shown that is not very common.[3] Development of peritonitis and appearance of signs of systemic inflammatory response needs urgent attention.

Wound infection at insertion site is generally managed with the institution of antibiotic therapy, and tube removal is not necessary. It is seen in chronically depilated patients and those who did not receive preprocedure antibiotic prophylaxis.[4] Interposed bowel loop in between stomach and the anterior abdominal wall is rarely reported complication of PEG placement.[5] This can be avoided by looking transillumination and indentation before passing the needle and adequate gastric inflation during passing needle. Gastric colonic cutaneous fistula is a late complication due to interposed bowel loops, present as fever and diarrhea. The sigmoid colon is most frequently interposed bowel loop in these conditions. Patient with this condition is usually asymptomatic or had transient fever or ileus initially but at later stage present with diarrhea. Expectant management after tube removal is adequate in most of the cases, but persistent colocutaneous fistula may need surgery.

There is a possible risk of tumor seeding also with PEG placement,[6-8] but it may be a coincidental finding also as in advanced stage almost any part, and organ can be affected.

In conclusion, our patient with diarrhea after PEG placement was diagnosed with a case of interposed bowel loops between the stomach and abdominal wall. The interposition of bowel loop in our case might have happened probably at the beginning of PEG insertion, and the patient was asymptomatic until PEG site got infected. Although rare complication of PEG placement and can be avoided using a combination of transillumination, indentation and adequate air insufflation. Expectant management after tube removal is adequate at times, but surgical intervention may be needed in case of persistent SIRS and peritonitis.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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