A rare complication of Percutaneous Endoscopic Gastrojejunostomy (PEG-J) : duodenal bulb perforation due to retrograde migration

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To the Editor,

Jejenum delivery of enteral nutrition with percutaneous endoscopic gastrojejunostomy (PEG-J) is necessary for the patients who are complicated by gastroparesis, gastro-esophageal reflux, gastric resection, pancreatitis, severe aspiration risk, or gastric feeding intolerance (1). We present here a patient with esophagomediastinal fistula, whose nutritional support was maintained through a PEG-J tube which caused a rare complication.

Sixty-three years old male patient who presented with shortness of breath, cough, dysphagia and aspiration was diagnosed lung cancer and esophagomediastinal fistula. He was hospitalized in our clinic in order to establish percutaneous enteral access for nutritional support. The patient was cachectic and had bilateral inspiratory rales on bases of lungs. His significant laboratory findings were hemoglobin 9.9 gr/dl, albumin 2.4 gr/dl, potassium 3.3 mEq/L, sedimentation 60 mm/h and hCRP 1.65. A 20 Fr PEG tube with 9 Fr Jejunal extension tube was placed for nutritional support and prevention of pulmonary aspiration. After the insertion of PEG-J, he tolerated enteral feeding products ; but he had agitation, tachycardia, severe abdominal pain and fever 6 days after administration of PEG-J tube. Water soluble radio opaque contrast introduced through the tube leaked into sub-diaphragmatic recess (Fig. 1), and a duodenal bulb perforation was diagnosed and the PEG-J tube was withdrawn. His blood culture results were negative and wide spectrum antibiotics were administered. One week later no contrast leakage was detectable in the computed tomography scan and partially healed duodenal bulb ulcer was observed in the endoscopic examination. The PEG-J tube was reintroduced, enteral nutrition was reinitiated and he was discharged without other complications.

The care of patients who require nutritional support has markedly improved by the placement of chronic enteral feeding devices. The development of endoscopic techniques for placement has dramatically decreased the morbidity, inconvenience, and cost of the procedure. PEG-J is one of these numerous endoscopic procedures, and it is superior to nasojejunal tubes in terms of patient comfort and minimization of activity limitation, and carry almost no risk of aspiration pneumonia (2).

Fig. 1. — Water soluble radio opaque contrast leaking into sub-diaphragmatic recess through the PEG-J tube.

The combined gastrostomy-jejunostomy feeding tube enters the stomach through percutaneous access and provides ports for the stomach and jejunum. Jejunal port is for enteral feeding and the gastric port is for drainage ; reducing risk of aspiration (3). The PEG-J tube can be introduced through a skin puncture into the stomach and it can be extended into jejunum (4). The jejunal extension tube is then threaded over the guidewire into the small bowel (5). Using the forceps or snare, to maintain the guidewire in the jejunum, as the endoscope is withdrawn helps to prevent dislodgement of the jejunal extension tube. We performed the same method to insert PEG-J tube into our patient.

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Complications of percutaneous gastrojejunal tubes are the same with percutaneous gastrostomy tubes (aspiration, hemorrhage, peritonitis, necrotizing fasciitis, procedure-related mortaliy, peristomal infection, peristomal leakage, buried bumper, inadvertent removal, fistulous tracts) (1). In addition ; gastrojejunal feeding tubes are also complicated by frequent (53-84%) malfunction due to retrograde tube migration into the stomach or tube dysfunction caused by kinking, clogging, and/or occlusion of the smaller (8-12 Fr) jejunal extension tubes (6,7).

Although other patients in previous publications had other types of tubes placed and had other sites of complications (8,9) ; to the best of our knowledge, this is the first case report in literature concerning retrograde migration of PEG-J tube, ulcer formation on site of contact and duodenal bulb perforation. Duodenal bulb perforation should be in the list of differential diagnoses in patients with PEG-J tube and who present with findings of acute abdomen. Also due to high retrograde migration rates, we believe that fluoroscopy assisted endoscopic placement should be kept on mind to decrease unsuccessful intervention and morbidity.

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