Percutaneous Endoscopic Gastrostomy for Enteral Feeding

K M MOHANDAS, V SANTHI SWAROOP, D C DESAI, VINAY DHIR, AABHA NAGRAL, N M KAVARANA, H M BATHENA

Departments of Medical Gastroenterology and Plastic Surgery, Tata Memorial Hospital, Powai, Bombay 400 012

Abstract
Percutaneous endoscopic gastrostomy was performed for enteral feeding in a patient with oesophageal fistula. The method of construction of the gastrostomy tube from locally available materials is described.

Key words: Therapeutic endoscopy, gastrostomy, tube feeding.

Introduction
Percutaneous endoscopic gastrostomy (PEG), developed by Gauderer and Ponsky in 1980, has virtually replaced the traditional surgical gastrostomy in North America. No report on its use has appeared in Indian literature. We performed PEG in a patient with carcinoma of the buccal mucosa with oesophageal fistula. The indigenous design of the PEG tube using cheap and locally available materials is described.

Technique
The PEG tube was constructed with a 20F Foley's catheter. The external end with double connection was cut (Fig 1). An internal cross bar was prepared from the cut end, which was then positioned near the tip of the catheter over the balloon and secured with the help of two through-and-through suture. A silk suture was passed 1 cm from the trimmed end, looped for several centimeters and tied securely (Fig 2). By pulling on the suture after it had been threaded through the sheath of a 14G 'Medicut' cannula, the

Fig 1: Cut Foley's catheter with the external and internal cross bars. Silk suture is looped for several centimeters and passed through the Medicut sheath which is to be passed 1 cm from the trimmed end of the catheter and tied.

Fig 2: Ready to use pull technique PEG tube.
terminal end of the catheter close to the suture was stretched so as to narrow the diameter of the tube. In this stretched state, the Medicut cannula was positioned over the thinned out distal end, and then the pull on the suture was released. As the catheter expanded, it locked securely on to the Medicut sheath (Fig 2). The external cross bar was prepared from the remaining 2 cm of the catheter. A 150 cm strong silk suture was doubled up and used for pulling the PEG tube into place. The PEG tube, external and internal cross bars, and silk sutures were sterilised by immersing in 2% glutaraldehyde (Cidex) for 30 minutes.

The PEG (Fig 3) was performed by the pull technique, which consisted of 5 basic steps: (1) Gastroscopic insufflation of the stomach and selection of the PEG site by transillumination and finger pressure. (2) Percutaneous introduction of a tapered cannula into the stomach under gastroscopic guidance. (3) Introduction of silk suture into the stomach and its retrieval per oral with the gastroscope. (4) Pulling the PEG tube through the esophagus, across the stomach and abdominal walls after attaching the silk suture. (5) Confirmation of correct placement of the PEG tube after partial deflation of the stomach, and placement of the external cross bar.

Four months after the PEG his orocutaneous fistula healed completely, and his hemoglobin increased from 9·8 g.dl to 13·5 g.dl, and albumin from 3 g.dl to 4·5 g.dl. The PEG tube was functioning well but was removed, as he could eat adequately by mouth.

Discussion

Our case illustrates the feasibility of a PEG with an indigenously prepared low cost tube for Indian circumstances. Ponsky et al. reported 150 patients with PEG in whom suture was used for the gastrostomy pull-through; there was 10% morbidity and 2% underwent subsequent laparotomy. A large series of 299 PEGs from the Mayo Clinic noted 13% minor and 3% major complications with 1% mortality. A PEG is a simple procedure requiring less time and cost with less morbidity when compared with conventional gastrostomy. Prophylactic antibiotics and oral preparation reduce the severity of wound infection. Modification of the PEG into a jejunostomy can reduce the risk of aspiration, which is a common cause of death during tube feeding, including in PEG patients.

We believe that the procedure of PEG holds promise for enteral feeding in Indian circumstances. It can be performed in the endoscopy room or intensive care unit or at the bedside. Our technique of construction of the PEG tube will overcome the high cost of commercial PEG kits.

References


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