Percutaneous Endoscopic Gastrostomy: A Review of Practice and Complications

Alaa Ghallab, MSc, FRCS* Ahmed Mohamed, MRCS** Martin Corbally, MB, BCh, BAO, MCh, FRCSI, FRCS(Ed), FRCS (Paed Surg), CCST (Paed Surg)***

Background: Percutaneous Endoscopic Gastrostomy (PEG) is the standard option for long-term nutritional support in infants and children with nutritional deficit due to feeding difficulties.

Objective: To assess the indications, complications and long-term efficacy of PEG.

Design: A Retrospective Study.

Setting: Our Lady's Children's Hospital, Crumlin, Dublin, Ireland.

Method: One hundred forty-eight patients underwent PEG insertion from October 2004 to December 2007. Data were reviewed from the Hospital Inpatient Enquiry (HIPE) and patients' charts.

Result: One hundred forty-eight patients underwent PEG insertion; 91 (61.5%) males and 57 (38.5%) females with a median age of 15 months (range 1-190 months). The procedure was abandoned in one patient due to unfavorable anatomy (failure rate 0.7%), and this patient is excluded from this report. PEG was indicated for feeding difficulties in 102 (68.9%) patients, recurrent aspiration pneumonia in 15 (10.1%) and failure to thrive in 32 (21.6%). No mortality was recorded; however, 15 (10.1%) patients developed stomal leakage and 3 (2%) of these required change of PEG. Nine (6%) patients developed a wound infection, 2 (1.4%) developed a gastrocolic fistula, 1 (0.7%) patient developed adhesive intestinal obstruction requiring laparotomy and adhesiolysis. Two (1.4%) patients had aspiration pneumonia, 3 (2%) had inadvertent tube removal, 4 (2.7%) had tube blockage, 3 (2%) had tube breakdown, 2 (1.4%) had tube migration, 5 (3.4%) had vomiting and 6 (4%) patients had excess granulation tissue.

Conclusion: PEG tube feeding is an efficient, well-tolerated method for medium and long-term enteral feeding with excellent results and minimal overall morbidity.

Bahrain Med Bull 2016; 38 (2): 74 - 77

Gauderer et al introduced percutaneous endoscopic gastrostomy (PEG) in 1980, which has replaced nasogastric tube (NGT) and open gastrostomy as the procedure of choice for providing long-term nutritional support. Over 200,000 PEG procedures are performed annually in the USA to compensate for an existing nutritional deficit and to diminish or prevent malnutrition. Enteral feeding requires a normally functioning gastrointestinal tract and compared with parenteral nutrition; PEG tube offers greater patient comfort, it is more practical and economical and with a low complication rate. It maintains structural and functional gastrointestinal integrity and thereby contributes to local intestinal defenses.

Various studies have revealed the superiority of PEG over nasogastric tube feeding and has proved to have less frequent episodes of reflux and aspiration, better nutritional result, better tolerated and cosmetically more acceptable. PEG is an accepted procedure for patients at risk of malnutrition; however, it is performed under general anesthesia in children, an invasive procedure and it is not without potential risks.

The aim of this study is to evaluate the indications, effectiveness of PEG feeding and the short and long-term complications.

METHOD

One hundred forty-eight PEG in-patients were included in the study from October 2004 to December 2007. Data was collected from HIPE (Hospital Inpatient Enquiry) and patients' charts. The indications for PEG included inadequate or inappropriate oral feeding due to various conditions; it was considered if the need was more than one month. Explanation of the procedure to the parents and caregivers was done, and informed consent was obtained.

PEG insertion (Corflo PEG Kit, VIASYS MedSystems Wheeling K 60090) was performed under GA using the “pull” technique. No dressing was applied to the PEG site. Feeding was recommenced within 12 to 24 hours according to the protocol formulated jointly by the surgeon and dietitian; antibiotics were not routinely given. Once discharged, the parents and caregivers had direct access to the pediatric surgical team, the gastroenterology liaison nurse and community dietitian. We confirmed safe site selection by clear visualization of a finger indentation in the fundus midway between the greater and lesser curvature and demonstration of the colonic shadow (clear demarcation between the light and dark shadows).

* Registrar
** Senior House Officer
*** Consultant Pediatric Surgeon
Department of Surgery
Our Lady's Children's Hospital, Ireland
Professor and Head of Surgery, RCSI-MUB
Chief of Medical Staff
King Hamad University Hospital
Kingdom of Bahrain
E-mail: martin.corbally@khuh.org.bh