

Percutaneous endoscopic gastrostomy (PEG) is a well-accepted procedure in children to supplement nutrition when oral feedings is not possible. One major technical limitation is the need for good transillumination of the stomach through the abdominal wall, under the costal ribs. Stewart et al. have challenged the necessity for good transillumination prior to gastric puncture, reporting a 97% success rate for PEG tube insertion without transillumination [1].

We report the case of an adolescent in whom a PEG was positioned intercostally. This boy had presented at birth with VACTERL (vertebral, anorectal, cardiovascular, tracheoesophageal, renal and limb) syndrome associated with gastroesophageal reflux disease and scoliosis. He underwent surgery four times during the first years of life, to treat esophageal atresia complicated by mediastinitis, anal imperforation, and Nissen fundoplication (two occasions). At the age of 15 years, he presented with severe growth retardation, pubertal delay, malnutrition, and dysphagia, related to persistent gastroesophageal reflux and severe esophageal dysmotility.

Gastrostomy for nutritional support was decided upon. Surgical gastrostomy was contraindicated because of multiple mediastinal and abdominal adhesions due

to previous surgery. Endoscopy showed by transillumination that the stomach was located under the left ribs. Computed tomography (CT) scan demonstrated a possible puncture point between the 9<sup>th</sup> and the 10<sup>th</sup> left ribs, on the axillary line, without visceral interposition.

With the patient under prior generalized analgesia, in the operating room, this point was located by means of ultrasound monitoring, without transillumination. A 16-Fr PEG was easily inserted (Figure 1). Endoscopic control showed good placement of the collaret. The boy was discharged, for 10–12 hours continuous home enteral nutrition, associated with limited food intake. At a 3-year-follow-up, local tolerance of the PEG remained excellent; enteral nutrition was well tolerated without no vomiting nor diarrheal episodes, and pubertal and nutritional catching-up were observed. A gastrostomy button was placed after 20 months (Figure 2).

Our report demonstrates that inability to transilluminate the stomach should not be considered to be an absolute contraindication to PEG tube insertion. Complementary use of radiological and endoscopic techniques is necessary to locate the puncture site. Intercostal PEG could be a safe and efficient technique for long-term enteral tube feeding in children,

with much better psychological tolerance than with a nasogastric tube.

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## Reference

- 1 Stewart JAD, Hagan P. Failure to transilluminate the stomach is not an absolute contraindication to PEG insertion. *Endoscopy* 1998; 30: 621–622

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**Figure 1** Position of the percutaneous endoscopic gastrostomy in the ninth intercostal space (arrow).



**Figure 2** Position of the gastrostomy button.