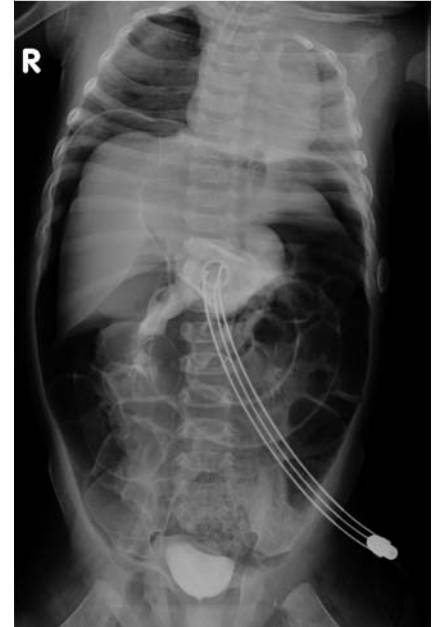


## The presence of percutaneous endoscopic gastrostomy (PEG)-related postprocedural pneumoperitoneum



**Fig. 1** The contrast material fails to fill the air-insufflated stomach and flushes the esophagus directly. Continuing images imitate an extremely dilated esophagus and possible disruption at the esophago-gastric level showing extravasations. The double-contrast view obtained from the intussuscepted esophagus clearly demonstrates the nature of the complication.



**Fig. 2** Chest radiograph obtained in the intensive care unit showing wide pneumoperitoneum and pneumothorax on the right side.

Percutaneous endoscopic gastrostomy (PEG) is a good example of surgical treatments that adopt a “minimal access therapeutic approach”. However, the procedure, which is also referred to as the non-surgical technique, carries a false sense of safety, as it is associated with significant morbidity [1–5]. In the English literature, a wide range of reports regarding PEG insertion state that postprocedural pneumoperitoneum is a common and benign finding. The reported incidence is over 50%, and the condition is generated by endoscopic air insufflation in association with needle puncture of the abdominal wall and stomach [1,2].

A 3-month old boy weighing 3.7 kg and under ventilator support was being cared for in the intensive care unit. He rapidly developed severe respiratory distress and hypoxia following PEG (Flocare 35429, CH 18; Numico, Schiphol, The Netherlands) placement using the “pull” technique. A contrast study was obtained immediately via the gastrostomy catheter by the gastroenterologist. The image outlined a possible perforation showing extravasations (◉ Fig. 1).

A chest radiograph revealed wide pneumoperitoneum and pneumothorax (◉ Fig. 2).

Exploratory laparotomy revealed complete transection of the esophagus. An esophageal segment of approximately 3.5-cm long was inverted and inserted in the stomach. The distal portion of the esophagus was closed, the gastrostomy replenished, and a left cervical esophagostomy was fashioned. The patient was successfully weaned from respiratory treatment and started on gastrostomy feeding within a week.

A year after the initial gastrostomy operation, the patient is awaiting a repeat operation, following two failed esophageal replacement operations performed in a tertiary center abroad.

Wilson et al. recommend either a 14- or 15-Fr tube in infants weighing less than 3.5 kg [5]. We may postulate that the size of the PEG tube and repeated insertion attempts may be the leading cause of the transection process in our case. We believe that the double-contrast view obtained from the intussuscepted esophagus is unique and pathognomonic in demon-

strating a transected esophageal remnant due to PEG complication. Our case represents an extremely rare but morbid complication, which emphasizes the need for careful intervention, particularly in the very small infant. An aggressive surgical approach towards esophageal reconstructive surgery must be avoided, and postponed until successful recovery is maintained.

Endoscopy\_UCTN\_Code\_CPL\_1AH\_2AI

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## References

- 1 Schrag SP, Sharma R, Jaik NP et al. Complications related to percutaneous endoscopic gastrostomy (PEG) tubes. A comprehensive clinical review. *J Gastrointest Liver Dis* 2007; 16: 407–418
- 2 Varnier A, Iona L, Dominutti MC et al. Percutaneous endoscopic gastrostomy: complications in the short and long term follow-up and efficacy on nutritional status. *Eur Med Phys* 2006; 42: 23–26
- 3 Ségal D, Michaud L, Guimber D et al. Late-onset complications of percutaneous endoscopic gastrostomy in children. *J Pediatr Gastroenterol Nutr* 2001; 33: 495–500
- 4 Khattak IU, Kimber C, Kiely EM, Spitz L. Percutaneous endoscopic gastrostomy in paediatric practice: complications and outcome. *J Pediatr Surg* 1998; 33: 67–72
- 5 Wilson L, Oliva-Hemker M. Percutaneous endoscopic gastrostomy in small medically complex infants. *Endoscopy* 2001; 33: 433–436

## Bibliography

DOI 10.1055/s-0029-1215068

Endoscopy 2009; 41: E269–E270

© Georg Thieme Verlag KG Stuttgart · New York ·  
ISSN 0013-726X

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