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

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 demonstrating 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.

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