Acute Gastric Perforation into Subcutaneous Space at Previous Percutaneous Endoscopic Gastrostomy (PEG) Site

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Abstract

Percutaneous endoscopic gastrostomy (PEG) is widely used for long-term enteral nutrition and is associated with a low rate of major complications. Persistent gastrocutaneous fistula following PEG removal occurs in approximately 0.5–3.9% of cases, with most tracts closing spontaneously [1,2]. True delayed reactivation years after apparent healing is exceedingly rare and poses a significant diagnostic challenge.

We report a 24-year-old man with a history of repaired congenital tracheoesophageal fistula and long-term PEG dependence who presented with fever, abdominal pain, and rapidly progressive swelling of the left lower abdominal wall six years after PEG removal. Computed tomography demonstrated extensive subcutaneous emphysema and fluid collections, raising concern for necrotising soft-tissue infection. Emergency surgical exploration revealed gastric contents tracking through a fistulous tract at the previous PEG site, with a large anterior gastric wall perforation into the subcutaneous space. Due to significant inflammatory change, a midline laparotomy and adhesiolysis were required to mobilise the stomach. The gastric defect was repaired primarily in two layers with omental patching, the fistulous tract was excised, and extensive washout and drainage of the abdominal wall were performed. The patient required postoperative intensive care management for septic shock but recovered fully following definitive surgical source control and antimicrobial therapy.

Delayed PEG-related fistulae have been reported only rarely, including isolated cases of enterocutaneous and gastrocolocutaneous fistulae presenting after prolonged asymptomatic periods [3,4]. Proposed mechanisms include persistent epithelialisation of the gastrostomy tract, dense adhesions between the stomach and abdominal wall, localised ischaemia, and infection-related microperforation [5]. Radiologically, this presentation may mimic necrotising soft-tissue infection, making early operative intervention critical.

This case highlights a rare, life-threatening delayed complication of PEG removal and underscores the importance of early surgical exploration and definitive source control in patients presenting with abdominal wall sepsis and a history of gastrostomy.