

Acute necrotizing pancreatitis, gastric ischemia, and portal venous gas complicating intragastric balloon placement

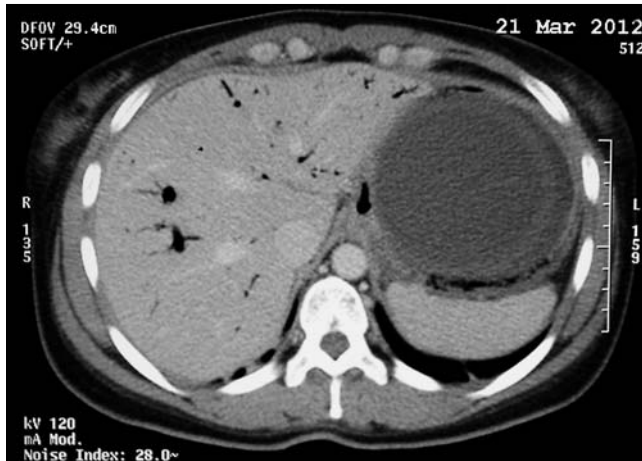


Fig.1 Contrast-enhanced computed tomography (CT) scan of the abdomen showing extensive hepatic portal venous gas in an overweight 30-year-old woman with insulin resistance and a Spatz adjustable balloon system (ABS) inserted into the fundus and adjusted to 700 mL.



Fig.2 Contrast-enhanced computed tomography (CT) scan of the abdomen showing the gastric balloon catheter impacted at the D1/D2 junction with surrounding mucosal inflammatory change.



Fig.3 Endoscopic view of the gastric balloon catheter migrated into D1/D2.

Endoscopic intragastric balloon (IGB) placement is associated with complications, the most serious including bowel obstruction. The Spatz adjustable balloon system (ABS) (FGIA Inc., New York, New York, USA), with a non-collapsible catheter, was designed to decrease the risk of balloon migration and bowel obstruction. We report the first case of severe acute necrotizing pancreatitis with gastric ischemia and hepatic portal venous gas following migration of a Spatz balloon catheter into the duodenum.

A 30-year-old woman with a body mass index (BMI) of 29 kg/m² and insulin resistance had a Spatz ABS inserted into the fundus and adjusted to 700 mL at 8 months, which was well tolerated. At 11 months, she presented with 24 hours of severe abdominal pain. Biochemistry confirmed severe acute pancreatitis with amylase 2114 U/L, lipase 10 700 U/L, white cell count 11.2 × 10⁹/L, C-reactive protein (CRP) 21 mg/L, corrected calcium 2.00 mmol/L, and albumin 25 g/L. Her liver enzymes were normal and she had no risk factors for pancreatitis.

Abdominal computed tomography (CT) showed extensive portal venous gas (● Fig. 1). The stomach was distended with possible intramural gas but no perforation. The balloon catheter had migrated into D2 with adjacent mucosal inflammation and edema (● Fig. 2). On gastroscopy, the filled balloon was in the fundus but the catheter was impacted at the D1/D2 junction (● Fig. 3). From mid-body to antrum, ischemic mucosa, thought secondary to a pressure effect from the tightly angulated catheter, was noted (● Fig. 4). Given the hepatic portal venous gas, the possible intramural gas, and the inability to retrieve the catheter endoscopically, the patient proceeded to laparotomy. At laparotomy, the gastric wall was ischemic but viable. The pancreas was grossly inflamed with fat saponification, necrosis, and hemorrhage. The catheter was impacted at the ampulla and removed with difficulty. The balloon and stabilizer band were found to be intact. The patient's postoperative course was complicated by pneumonia and wound infection. She was discharged on day 14. The Spatz ABS has a non-collapsible catheter that is intended to lower the risk of balloon migration and is thus approved for 12-month implantation. This case demonstrates that catheter migration with this device can occur even in the absence of deflation and with life-threatening sequelae. Hepatic portal venous gas, an

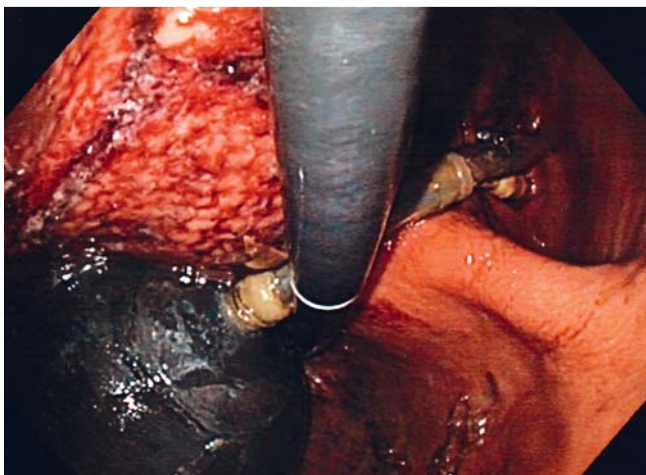


Fig. 4 Endoscopic view of the ischemic gastric mucosa and the tightly angulated catheter.

ominous radiological sign, has a mortality of 30%–75% [1]. Endoscopic weight loss devices are a necessary development in the face of the obesity epidemic, however, the technology is far from perfect and rigorous reporting of post-marketing complications is essential.

Endoscopy_UCTN_Code_CPL_1AH_2AJ

Competing interests: None

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Bibliography

DOI <http://dx.doi.org/10.1055/s-0032-1310146>
Endoscopy 2012; 44: E383–E384
 © Georg Thieme Verlag KG
 Stuttgart · New York
 ISSN 0013-726X

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