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Case report

## Practice of routine intraoperative leak test during laparoscopic sleeve gastrectomy should not be discarded

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Laparoscopic sleeve gastrectomy has become a popular procedure for the surgical management of morbid obesity [1,2]. However, postoperative gastric leak after this procedure is a serious complication. The reported incidence of leak has varied from 0% to 5% [2–6]. The leak usually occurs through the upper part of the staple line near the gastroesophageal junction [4]. It is a source of major morbidity and can be fatal. Intraoperative tests such as the methylene blue dye test, air leak test and endoscopy are used variably to diagnose staple line disruption. These tests are important when their findings are positive. A negative test, however, does not eliminate the possibility of leak in the postoperative period [5]. Hence, the routine practice of intraoperative leak test is widely debated.

We report a case of laparoscopic sleeve gastrectomy with a positive intraoperative air leak test. The air leak was not from the staple line but from the anterior gastric wall. The routine practice of the intraoperative leak test prevented the serious postoperative consequences that would have occurred in the case of a missed injury. The present report highlights the possibility of gastric leak from a site other than the staple line and the importance of performing a routine intraoperative leak test.

### Case report

The patient was a 45-year-old woman with body mass index of 44 kg/m<sup>2</sup>. Her co-morbidities included type 2 diabetes mellitus and hypertension. She underwent laparo-

scopic sleeve gastrectomy using 5 ports. The omentum was detached from the greater curvature starting at 5 cm from the pylorus to the gastroesophageal junction. The gastric sleeve was formed over a 36F calibration tube after sequential firings of the Endoscopic linear cutter, Echelon 60 (Ethicon EndoSurg, Cincinnati, OH). Two green and 3 blue cartridges were used to complete the longitudinal gastrectomy. No buttressing material or sutures were used for staple line reinforcement. The procedure was uneventful. An intraoperative leak test was performed using air insufflation through the nasogastric tube. No leak was detected on insufflation of the first 50 mL of air. However, on insufflating another 50 mL of air, air bubbles were seen over the upper part of the stomach tube (Fig. 1). A figure-of-8 suture was placed on the staple line where the air seemed to be leaking. A repeat leak test showed persistent air leak from the same region. The region was then carefully evaluated. An area of bruising was found on the anterior wall of the stomach (Fig. 2), and the air was leaking through a small rent on it. The rent was closed carefully using interrupted 2-0 polydioxanone sutures. The subsequent air leak test was negative. The upper gastrointestinal contrast study done on first postoperative day was normal. The patient had an uneventful recovery.

### Discussion

Sleeve gastrectomy bears a long staple line. This long staple line is prone to leak in the postoperative period, resulting in serious morbidity and mortality. Various methods can be used for intraoperative testing for leaks, including air insufflation with saline immersion, methylene blue dye and endoscopy. However intraoperative testing is not a universal practice, and many centers do not perform the

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