

Staple line complications during bariatric surgery

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Background: Bariatric surgery is accepted as the most effective treatment for morbidly obese individuals. In current practice, the majority of procedures are performed by laparoscopy. Hence surgeons are highly dependent on modern laparoscopic instrumentation, in particular endoscopic staplers. **Aims:** To investigate the incidence and impact of staple line failures during bariatric surgery. **Methods:** Retrospective review of all bariatric surgical procedures performed at the Singapore General Hospital. The use of staplers, and occurrence of intra-operative and post-operative complications related to stapling was noted. **Results:** From January 2003 to November 2010, 70 bariatric procedures were performed: 23 laparoscopic adjustable gastric bands (AGB) and 47 laparoscopic stapled procedures comprising 37 sleeve gastrectomies (LSG), 9 gastric bypass (LGB) and 1 bilio-pancreatic diversion (BPD). Re-inforcement with buttress materials or suture inversion of staple lines was not performed routinely. There were 3 intra-operative staple line failures (6%) resulting in haemorrhage (1 case) and gaping of the staple line (2 cases). All 3 failures were rescued by suturing and did not affect the surgical outcome. There were 3 post-operative staple line-related complications (6%) requiring re-operation within 24 - 48 hours. 2 patients had haemorrhage from the gastric staple line and 1 patient had an anastomotic leak from a jejunum-jejunostomy (which was preceded by intra-luminal bleeding and bowel obstruction by blood clots). All staple lines were repaired by suturing during re-operation and the patients did well post-operatively with no further incidents. **Conclusion:** Staple line complications are relatively common and may be due to instrument failures or technical failures by the surgical team. It is essential to thoroughly inspect all staple lines and have an effective rescue strategy at hand to manage failures before complications develop.