

Outcomes and options in the management of leak and gastric fistula after sleeve gastrectomy.

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Leak and gastric fistula after sleeve gastrectomy remains one of the most feared and difficult complications to deal with after sleeve gastrectomy. The incidence in the published literature ranges from 2-5% and is increased in revisional surgery. Over the last 6 years we have performed over 850 sleeve gastrectomies and have had leaks in 24 patients, (3%) in addition there have been 19 infected perigastric haematomas in which no leak was demonstrated. Management of these patients can be divided into early, middle and late. All patients required early laparoscopic lavage and drainage. Immediate control of leak by oversew or restapling was possible in only two patients . Twenty two patients went on to develop chronic gastric fistulas with spontaneous resolution in 14. Eight patient have required delayed open gastrectomy or Roux en y internal fistula drainage as a salvage procedure for Chronic leaks. There has been one late death in this group during surgery at 6 months post leak. Weight loss in the leak group is comparable to uncomplicated patients. Use of additional manouveres including stenting, gluing , feeding jejunostomy, percutaneous drainage, Botox and plugging will be discussed.

Conclusion: Leak after sleeve gastrectomy is a devastating complication that can be difficult to manage. Using a sequential and logical approach the situation can be successfully managed with resolution of the leak and good outcomes.

Superior mesenteric venous thrombosis after revisional open sleeve gastrectomy

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A 44 year-old man with morbid obesity (BMI49), hypertension, obstructive sleep apnoea-hypopnea and stasis phlebitis visited our hospital for revisional bariatric surgery for inadequate weight loss. He had had vertical banded gastroplasty (VBG) 20 years ago at other hospital. However he regained weight 7 years after the surgery probably due to staple line disruption and has been lost to follow-up. Preoperative gastroscopy confirmed staple line breakdown. Open sleeve gastrectomy as revisional surgery was successfully carried out. The patients underwent thromboprophylaxis using subcutaneous heparin calcium injection (5000 IU preoperatively, followed by 10000 IU daily postoperatively for 3 days). He developed fever and vague abdominal pain 14 days after the operation. His C-reactive protein and D-dimer were elevated to 20.4 mg/dl and 18.8 μ g/ml, respectively. Computed tomography (CT) revealed superior mesenteric venous thrombosis and mesenteric panniculitis. Intravenous heparin and oral warfarin were immediately started. The patient's symptom and laboratory data were improved thereafter. Follow-up CT showed no further development of thrombosis. He continues on oral warfarin (5mg per day). At three months after the operation, he achieved 30 kg weight loss and did well. Mesenteric venous thrombosis is a rare condition that should remain in the differential diagnosis for patients presenting with abdominal pain after the bariatric surgery. The prompt diagnosis and anticoagulant therapy can produce favorable outcomes.

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.

Drains are not necessary in laparoscopic gastric bypass

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Objective: To prove that the surgical drains are not necessary in routine laparoscopic gastric bypass.
Method: This is a retrospective review for the files of all patients who have underwent laparoscopic gastric bypass over one year with no surgical drains.
Results: There were 104 patients who have laparoscopic gastric bypass in the period between April 2009 and the end of the July 2010. All these patients have primary laparoscopic gastric bypass. They are 78 female and 26 males patients and the age range between 15 and 62 years with average age of 38.2 years. The BMI range between 34 to 53.8 kg/m², the mean is 44kg/m². All those patients have no surgical drain. There were no mortality, and one patient needed laparoscopic drainage of infected collection at left sub-phrenic region after 7 days from the operations. There is one patient needed needle aspiration of left pleural reactive effusion with conservative management of left sub-phrenic small hematoma. No other immediate post operative complications.
Conclusion: None use of surgical drain post laparoscopic gastric bypass has no major side effects and surgical drain should only used in selected cases and when there is indications.

Is the long staple line reinforcement needed or not during laparoscopic sleeve gastrectomy?

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Purpose: To evaluate the effect of staple line reinforcement during laparoscopic sleeve gastrectomy (LSG).

Method: Between April 2009 and September 2010, we did LSG for morbidly obese 81 patients. Staple line reinforcement was not done for early 30 patients (group 1) and was done late 51 patients (group 2). We compared the outcomes according to bleeding, leak, stricture or obstruction. Result: There were no differences in age, sex, preoperative weight and body mass index. Mean operation time was 129 minutes (group 1) & 103 minutes (group 2). ($p=0.027$) Staple line related complication was observed in 3 cases (1, leak/2, obstruction due to kinking) only in group 1. ($p=0.048$) There was no complication in group 2. Re-operation was done in a leak case and there were no in-hospital mortality. Conclusion: Although there are some limitation for retrospective analysis and learning curve, we conclude that long staple line reinforcement was effective to prevent staple line related complications.

The safety and advantages of applying clips in sleeve gastrectomy

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Since the introduction of sleeve gastrectomy gained widespread popularity. However the complication of bleeding and leakage may limit its advantage. Leakage and bleeding are usually managed by suturing or other method. We study the efficacy and safety by using the clips on the staple line on 74 patients with BMI in more 40 over 2 years. The clips were applied on staple gastric line. There was leak or heamatoma need to be spiraled. More over applying the clips is shorter in time and easier than using suture. The usage of clips is safe, easy and decrease the bleeding may prevent leakage further extension of work may prove its metros

Laparoscopic Duodeno-jejunal Bypass with Sleeve: How we do it and management of a possible complication

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Background: A few reports of Laparoscopic Duodenojejunal bypass with Sleeve has demonstrated it as a good alternative to Roux and Y gastric bypass in weight control and resolution of comorbidities. Such a procedure specially important in Asian countries where the incidence of Gastric cancer is high. DJB with sleeve gastrectomy is proposed as an ideal alternative to RYBG with the stated advantages -1. Presence of difficult to access gastric remnant in RYGB is at risk of cancer development in high endemic regions. Endoscopic surveillance is easy in sleeve gastrectomy. 2. Preservation of pyloric mechanism prevents dumping syndrome. 3. Reduced alimentary limb tension. With very few reports, the technique of this procedure is yet to be standardized. **Video:** In this High Definition video we demonstrate our technique of Laparoscopic Duodeno jejunal bypass with Sleeve, Sleeve being performed 5 cm from the pylorus on a 36F bougie, wherein the duodenojejunal anastomosis is done in a retrocolic fashion in end-end hand sewn method. The biliopancreatic limb length is 75 cms and that of the Roux limb is 100cm, similar to a standard Roux en Y gastric bypass. In the second part of the video, we show a case of internal herniation in the retrocolic window 1 month post-op in a patient operated with Duodenojejunal bypass and how we managed the same.