

Post Operative(Laparoscopic sleeve Gastrectomy) - Gastro Pulmonary Fistula

Dr Sarath B Gillellamudi*, Dr Jayashree S. Todkar**, Dr Pramod Kadam***, Dr Shashank S. Shah****

*Associate Professor General surgery Kamineni institute of medical sciences, Narketpally 508254, **Consultant Department of Laparoscopic and Bariatric surgery at Ruby Hall Clinic*** Resident Department of General surgery at Ruby Hall Clinic, **** Director-Laparo-Obeso Centre, Director Department of Laparoscopic and Bariatric surgery at Ruby Hall Clinic, Sasoon Road, Pune, Maharashtra.

Abstracts: Laparoscopic sleeve Gastrectomy (LSG) is a new restrictive bariatric procedure increasingly indicated in the treatment of morbid obesity. Postoperative complications are mainly represented by gastric fistula with an occurrence rate of 0% to 5.1% in the literature. This complication is difficult to manage and requires multiple radiological, endoscopic, and surgical procedures. We are reporting second such case till date following Laparoscopic sleeve Gastrectomy. The present report describes the serious nature of this complication in a patient after an uneventful Laparoscopic sleeve Gastrectomy. [Gillellamudi S et al NJIRM 2012; 3(1) : 150-152]

Key Words: Laparoscopy - sleeve gastrectomy; morbid obesity, bariatric surgery, restrictive procedure, post operative bronchogastric fistula

Author for correspondence: Dr. Sarath Babu Gillellamudi, Department of General Surgery, Kamineni institute of medical sciences, Narketpally, Nalgonda, Andhra Pradesh 508254.e- mail: gillellamudi@gmail.com

Introduction: Laparoscopic sleeve Gastrectomy (LSG) is a new restrictive bariatric procedure increasingly indicated in the treatment of morbid obesity and has an acceptable success rate. However, the procedure is not without attendant complications, namely, wound complications including infection and hernia. One serious and rare complication of this operation is the formation of a fistula between the stomach and lung. Aspiration pneumonitis develops and evolves into lung abscess formation with the attendant risk of life-threatening massive hemoptysis, bronchiectasis and recurrent local infection, pyopneumothorax and empyema. There is only one recently reported case of this complication after Laparoscopic sleeve Gastrectomy (LSG)¹ and one case report following gastric bypass². We are reporting second such case till date following Laparoscopic sleeve Gastrectomy.

This complication is difficult to manage and requires multiple radiological, endoscopic, and surgical procedures. This case report highlights the possible issue of the complex management of gastric fistula after LSG and the serious nature of this complication in a patient after an apparently uneventful Laparoscopic sleeve Gastrectomy (LSG).

Case report:

In November 2009 a 32-year-old south Indian male, known diabetic with morbid obesity weighing

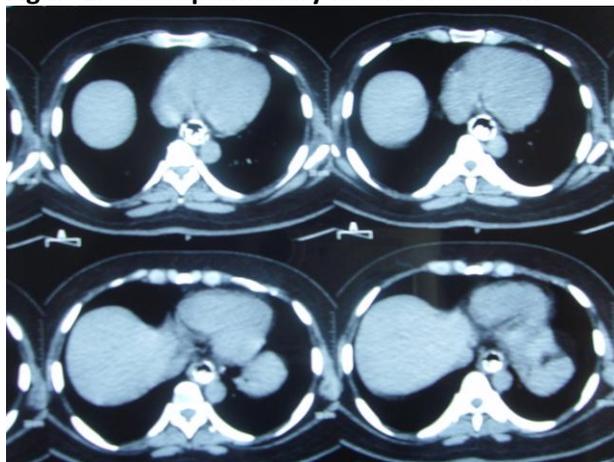
112 kilograms underwent Laparoscopic sleeve Gastrectomy at a local hospital. Six weeks after

operation he developed shoulder pain. Further two weeks later he developed fever and increasing shoulder pain. He received conservative management with antibiotics and analgesics. Pain and fever did not subside. Three months after the operation, urgent admission was necessary for the management of acute pulmonary sepsis following the patient's complaints of cough with purulent sputum, fever and choking on drinking liquids. A computed tomography scan showed a gastro bronchial fistula. [Figure 1]

Endoscopic stenting of oesophagus and stomach were done. Management now consisted of advice for complete cessation of oral intake, total parenteral nutrition and intravenous antibiotics. Patient was referred to our hospital (Laparo Obeso Center) in April 2010 with persistence of leak from the fistula and cough on swallowing liquids. On admission he was weighing 76 kilograms. He was posted for exploratory laprotomy with thoracotomy under general anaesthesia after TPN and lung physiotherapy for 10 days. His oesophageal stent was removed under GA. The fistulous tract was formed by diaphragm, pericardium and left lower lung superiorly, the spleen and tail of pancreas inferiorly, the stomach remnant and celiac axis medially. The tract had lot of adhesions because of

repeated infections. Partial oesophago gastrectomy and left pulmonary lower lobectomy was done. Excision of fistulous tract with part of diaphragm was done. Splenectomy, cholecystectomy and pyloroplasty were done. An abdominal drain and left water seal intercostal drain were kept after the procedure. He was in the intensive care unit for five days and a gastrograffin study was done after 24 hours and 1 week, which confirmed no leak. The stent was removed and patient was discharged after 2 weeks. He came for follow up after 12 weeks and the fistula remained closed. After a Sleeve Gastrectomy and partial oesophagogastronomy, reconstruction is always a challenge. Jejunoplasty or colon interpositions are the options. In this case, we mobilized the duodenum and pancreas completely and could achieve tension free oesophagoantral anastomosis. The anastomoses were performed by hand in two layers.

Figure1: Gastropulmonary fistula on CT scan



Discussion: Sleeve Gastrectomy has increasingly gained acceptance among bariatric surgeons during the past 5 years. The initial reports of SG included high-risk patients who underwent laparoscopic sleeve Gastrectomy (LSG) as a planned staged procedure before Roux-en-Y gastric bypass (RYGB) or biliopancreatic diversion/duodenal switch. Data have shown that LSG is a highly effective and safe procedure for achieving weight loss as a primary bariatric procedure³. Despite the high surgical risk of this patient population, the reported rates of postoperative leaks(2.7%), bleeding(1.7%), and stricture (0.5%)have been acceptably low⁴. Acquired gastropulmonary fistula is a rare complication of bariatric surgery⁵. There is only one

published case reports of gastro pulmonary fistula following sleeve Gastrectomy in literature¹. We believe that our patient developed an early contained leak that caused formation of an inflammatory phlegmon which got eroded into lung resulting in fistula.

The use of prolonged antibiotic therapy, withdrawal of all oral intake and total parenteral nutritional support can result in the successful management of the fistulous complication other than the type connecting with the lung parenchyma.³ But this was not successful in our patient.

The management was difficult and we had to go for a more radical surgery for prevention of recurrence of the fistula. We believe that if an early diagnosis of contained leak had been made with a water-soluble contrast study when the patient first complained of new onset shoulder pain soon after the operation, definitive treatment with immediate laparoscopy or percutaneous drainage of the infection, appropriate intravenous antibiotic and total parenteral nutrition could have prevented prolonged suffering and interventions. Leaks from sleeve Gastrectomy is difficult to heal because of the following reasons:

1. As the oesophagus is devoid of serosa the oesophagogastric junction is the commonest site for a leak.
2. The muscular layer beyond the stoma sites contract giving a stenosis like effect beyond the leak.
3. Pylorus acts as a distal obstruction.
4. Stent may not stay put in place because of uneven lumen size.
5. A very long covered removable stent with pyloromyotomy balloon is considered by some surgeons.[Because the stents do not stay put in place.]

Conclusion: Laparoscopic sleeve Gastrectomy has become the standard operation for morbid obesity. One must be vigilant about potential surgical complications although rare. It would be prudent to perform a water-soluble contrast study to assess the integrity of the anastomosis before starting oral intake. Surgeons must be aware of delayed leak as a dreaded complication and any postoperative

symptoms must be addressed aggressively to diagnose it in time.

References:

1. Fuks D, Dumont F, Berna P, Verhaeghe P, Sinna R, Sabbagh C et al. Case report-complex management of a postoperative bronchogastric fistula after laparoscopic sleeve gastrectomy. *Obesity Surgery*. 2009 Feb; 19(2): 261-4.
2. Campos J, Siqueira L, Ferraz A, Ferraz E. Gastrointestinal fistula after obesity surgery. *J Am Coll Surg*. 2007; 204:711–3.
3. Jayashree S. Todkar, Shashank S. Shah, Poonam S. Shah, Jayashri Gangwani .Long-term effects of laparoscopic sleeve gastrectomy in morbidly obese subjects with type 2 diabetes mellitus *Surgery for Obesity and Related Diseases*. 2010 ;6(2):142-5.
4. Brethauer SA, Hammel JP, Schauer PR. Systematic review of sleeve gastrectomy as staging and primary bariatric procedure. *Surg Obes Relat Dis*. 2009; 5:469–75.
5. Doumit M, Doumit G, Shamji FM, Gregoire S, Seppala RE. Gastropulmonary fistula after bariatric surgery. *Can J Gastroenterol* 2009;23(3):215-6.