

## Gastric Leiomyoma and its Management: A Rare Occurrence

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### Abstract

Gastric leiomyoma is an uncommon gastric neoplasia. These are rare tumors and usually asymptomatic on clinical presentation. The laparoscopic technique may treat different gastric tumors, including benign leiomyoma by wedge resection without opening the abdomen. The laparoscopic way to deal with submucosal tumors of the stomach is in fact doable, safe and has great postoperative outcomes. Laparoscopic resection is considered as a feasible choice as suitable and safe as open surgical procedure. In this study we portray a single case of laparoscopic wedge resection of gastric leiomyoma.

**Keywords:** Gastric leiomyoma; Diagnostic test; Partial gastrectomy; Surgical wedge resection; Gastric biopsy

### Introduction

Gastric leiomyoma (GLM) is a submucosal growth that can be intraluminal or extramural and denote 2.5% of gastric tumors. Normally, the majority of them are asymptomatic. In some cases, they can turn out to be clinically evident because of bleeding from ulceration of the overlying gastric mucosa [1-4].

On upper gastrointestinal studies, they show up as a filling deformity of the gastric wall and on endoscopy, they are viewed as a submucosal mass (Schindler's sign) [1]. The standard treatment for these lesions is Gastric leiomyomectomy. Advances in laparoscopic procedures have made it achievable to a minimally invasive procedure which is beneficial for patients in many aspects [2].

Laparoscopic wedge resection of gastric leiomyoma has many advantages, including decreased post-operative pulmonary complications such as atelectasis and pneumonia, better post-operative management primarily because of the fact that patient has got small incisions on his/her belly and most importantly better results achieving adequate resections because of excellent operative visions via laparoscope [3].

On the other hand there are few limitations associated with laparoscopic resections as well mainly including lack of tactile sensations and real feel of the tumor that the operating surgeon can't have with a laparoscope and possibility of conversions in to formal laparotomy during any point of time of surgery [4].

### Case Report

A 34 years old male patient, who was presented in out-patient department with history of epigastric discomfort and heart burn for the last 10 months. There was no other significant history in his profile and he had no associated complaints of vomiting, hematemesis, nausea, weight loss, dysphagia or melena. He had been taking proton pump inhibitor for his symptoms which was quite effective for his symptoms and upon discontinuation of them his symptoms used to aggravate. He had unremarkable general physical examination with no palpable mass in epigastrium on abdominal examination either. His baseline blood investigations were within normal ranges.

Upper GI endoscopy showed submucosal lesion in the fundus of the stomach and the biopsy of which was inconclusive. Computed tomography scan revealed 3 × 3 cm polypoidal mass at the cardia of

the stomach along the lesser curvature. Patient was discussed in multi-disciplinary team meeting and recommendation was to perform surgical resection. Surgery i.e., laparoscopic proximal gastrectomy, esophago-gastric anastomosis and pyloroplasty were performed. Operative findings were proximal gastric mass measuring approximately 3 × 2 cm at the gastro-esophageal junction. There were few nodes in station 1 and 3. Liver was normal and no ascites seen.

Patient remained stable during his post-operative period. Oral contrast study was performed, which was unremarkable (images given below illustrates). He was discharged on his 5<sup>th</sup> post-operative day. Histopathology showed gastric leiomyoma, margins were clear. All the lymph nodes were benign. Immunohisto-chemical stains Desmin and Caldesmin were diffusely positive. He was last seen after one month of surgery, his wounds were healed. He was talking and tolerating food with no other complication (Figures 1 and 2).



Figure 1: Post-surgery oral contrast study at 5<sup>th</sup> minute.

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Figure 2: Post-surgery oral contrast study at 10<sup>th</sup> minute.

## Discussion

Morgani in 1972, Virchow in 1867 and Mambrini reported 300 case of gastric leiomyoma. GLM represent 2.5% to 3% of all gastric neoplasms. Most are asymptomatic but some presents with symptoms like postprandial fullness and gastrointestinal bleeding. Schindler's sign which are gastric mucosa overlying a sub mucosal is hallmark sign on endoscopy. This patient presented with symptoms of heart burn, nausea and vomiting [5]. Both genders are equally affected. Published data suggested that gastric leiomyoma affected patient as young as 2 years and as old as 75 years. But the classic age in which symptoms arrives is about 60 years [6]. This client was a middle aged male.

Gastric leiomyoma mostly presents as small solitary tumors. They are smooth and well circumscribed. Surrounding mucosa is ordinary with some ulceration overlying mucosa at the tumor site. If pedunculated mass is present in the antral region then it can present as gastro duodenal intussusception. Microscopically, it presents as crossed groups of extensive fusiform smooth muscle cells, with eosinophilic cytoplasm, no myofibrillae and rare mitotic action, which characterize its favorable character [7].

Clinical manifestation depends on the size, area and type of development of tumor. Most of the tumors are found at post mortem examination or for stomach investigation for other reasons. Secondary leiomyomas are present 3.5% resected specimens. Complications associated with this disease are intra peritoneal discharge secondary to mucosal ulceration, gastric volvulus, gastric tumoral torsion and hemorrhage [8].

The modalities which can be used to diagnose GLM are either computed tomographic scan or endoscopy. Endoscopic ultrasound can be used for localizing small GLM. Endoscopic resections are not possible but can be used for histopathological diagnosis and for further sub typing of disease. Pre-operative endoscopic marking of tumor bearing zone may help in laparoscopic resection of GLM situated on posterior wall [9]. In this case, mass shows on CT scan but the endoscopic biopsy was inconclusive.

The suitable most treatment for GLM is surgical resection. It can be performed by open method or laparoscopically. First laparoscopic

resection was performed in 1992. The conventional resection was laparotomy and resection. However, pedunculated GLM can be resected with endoscopic polypectomy or enucleation [10].

Methods which can be used for resection are:

1. Laparoscopic wedge resection of gastric wall with the use of endo-stapling guns. Per-operative ultrasound guidance or endoscopy can be used for confirmation.
2. Laparoscopic intra-gastric resection with endo-cutter. Best for tumors not suitable for wedge resection.
3. Laparoscopic gastrostomy and resection under endoscopic guidance.
4. Combination of all approaches.

In this case, laparoscopic resection was performed and then an incision made for anastomosis. Patient remained stable in his post-operative period.

## Conclusion

Minimally invasive surgery has modernized the treatment of submucosal gastrointestinal tumors, such as gastric leiomyoma. When diagnosed the laparoscopic approach for resection is considered beneficial and safe. Most patients initiate eating on the first postoperative day and are discharged home a few days later. This patient was taking and tolerating food well and was discharge home after 5 days stay with few post-operative instructions.

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