# **Case report**

## GASTROINTESTINAL STROMAL TUMOR OF STOMACH: LAPAROSCOPIC RESECTION

## **Ashish Bhanot**

## Nova Hospitals – Apollo Hospitals, Kailash Colony, New Delhi- India

**Corresponding Author:** Dr Ashish Bhanot, MD,Senior consultant- Chief of Bariatric Surgery & Surgical Gastroenterology,Nova Hospitals – Apollo Hospitals, Kailash Colony, New Delhi- India.

#### Abstract :

Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal (GI) tract. We report a 55 yr old male who presented to the surgical department with pain in upper abdomen, abdominal discomfort and dyspepsia. Upper GI endoscopy was showing 4x4 cm Polyploid mass in fundus. Biopsy was taken and the histopathology showed a mesenchymal tumor with long fascicles of bland spindle cells with pale to eosinophilic Cytoplasm. CECT abdomen there was mass lesion of posterior wall of stomach abutting left crus and inferior border of spleen. The operative procedure was Laparoscopic resection of tumor with more than wide margins performed.

Keywords: Gastrointestinal stromal tumors, Stomach, Laparoscopic resection of Stomach GIST

#### INTRODUCTION

Gastrointestinal stromal tumours (GISTs) are the most common mesenchymal neoplasms of the digestive tract with an estimated annual incidence of 10–20 cases per one million inhabitants [1, 2]. GISTs probably arise from precursor cells of the interstitial cells of Cajal. Their definingcharacteristic is a gain-of-function mutation in genes coding for the KIT tyrosine kinase receptor, which is considered the driving force of cell proliferation in this tumour [3]. Clinical presentation of GISTs ranges from indolent, hardly proliferating to fast-growing, recurring and metastasizing tumours.

#### CASE REPORT:

A 55 year old male who presented to the surgical department with pain in upper abdomen, abdominal discomfort and dyspepsia. Upper GI endoscopy was showing 4x4 cm Polyploid mass in fundus. (figure1)Biopsy was taken and the histopathology showed amesenchymal tumor with long fascicles of bland spindle cells with pale to eosinophilic Cytoplasm. CECT abdomen there was mass lesion of size 5.6 x 4.5 x 6.5 cm of posterior wall of Stomach (Figure 2) abutting leftcrus and inferior border of spleen. Laparoscopic exploration was planned

#### **Equipment and Instruments:**

- 1x12mm, 2x11 mm, and 2x 5mm ports
- 10 mm 300 laparoscope
- 5 mm harmonic scalpel
- EndoGIA 60mm blue and green loads avaible.
- Endocatch bag
- Maryland dissector, Bowel graspers, needle holder

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Volume 3, Issue 4, 2014

- laparoscopic liver retractor 10mm suction
- 2-0 Mersilk stitches and 2-0 Vicry
- Reusable clip applier (10mm)

## Setup

Before patient comes into room supine position with both arms tucked and foot support for reverse trendelenberg. Foleys inserted, Antibiotics, OG tube. Steep reversed Trendelenberg – test performed before draping.

## Procedure:

- 1. Pneumoperitoneum with Veress needle
- 2. liver retractor port inserted first liver retracted.
- 3. Working portsplaced(Figure 3) showing port placements.
- 4. GIST Identified and adjacent stomach moblized. (Figure 4)
- 5. Divide Gastrocolic(greater curvature) with Harmonic scalpel. Dissection performed from left crus and splenic adhesions.
- 6. Retraction suture placed on either side of GIST with 2-0 mersilk.
- Retracted anteriorly, then staple underneath with >2cm stomach margin with GIA 60 Green and blue.Staple line was reinforced using 2-0 lembert sutures. Retrieval specimen performed using endobag. Drain was placed in left sub hepatic space. Specimen examined for complete removal and tumour margins grossly. (Figure 5,6)

Postoperative recovery was uneventful patient was o liquid diet from day 2 and given discharge on day 3 with drainage tube. Drain removed on  $5^{\text{th}}$  POD (Post-operative day). All stiches removed on  $8^{\text{th}}$  POD.



Figure 1 Endoscopic view GIST



Figure 2 CECT Showing tumor inside and outside lumen



Figure 3 Port Positions For Laparoscopic Excision of GIST of Stomach



Figure 4 Laparoscopic View of Stomach GIST Tumor



Figure 5 Showing extra luminal extension of GIST of Stomach

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Figure 6 Showing Intraluminal Polypoid intraluminal growth of Stomach GIST Tumor

## **REVIEW OF LITERATURE**

Gastrointestinal stromal tumors (GIST) are extremely unusual neoplasm accounting for less than 1% of all gastrointestinal tumors, arising from the Cajal's interstitial cells located in mesodermal tissue. They are defined as primary mesenchymal tumors, typically staining positive for the expression of c-KIT protein.<sup>4</sup>About 50% of GISTs are located in the stomach which makes it the most frequent site of manifestation<sup>2,5</sup>.Preoperative histological diagnosis of submucosal gastric lesions is however not always feasible through endoscopic biopsy. Moreover, biopsy seems to be associated with a certain risk of tumour haemorrhage and dissemination.<sup>1</sup> Due to the often fragile consistence, particularly of pedunculated GISTs, there is an ongoing debate whether surgical resection of gastric GISTs can be performed laparoscopically without increasing perioperative morbidity and compromising oncological outcome. nontouc technique is considered best for laparoscopic removal of GIST<sup>6</sup>. It is warranted to perform surgical excision of submucosal gastric lesions without prior histological ascertainment even if in a small percentage of cases the tumour is not a GIST.<sup>7</sup>Surgical resection is still "the gold standard treatment" for GISTs, allowing to reach a cumulative3-5 years survival of almost 50% and 35% respectively.<sup>8</sup>The main principle of curative surgery for GISTs is en bloc resection with negative tumour margins and strict avoidance of intraoperative tumour rupture. Due to the extremely low frequency of lymphatic metastasis, lymphadenectomy is not required. Thus, segmental or wedgere section is the treatment of choice for tumours whose size and location technically allow forit.<sup>9,10</sup>.

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#### **CONCLUSION:**

Laparoscopic resection of GIST stomach tumors is safe and feasible.

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