CASE REPORT

Laparoscopic Sleeve Gastrectomy for a large Gastro-Intestinal Stromal Tumour

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Abstract:
The biologic behavior of Gastro Intestinal Stromal Tumour makes resection of the tumour with adequate margins a curative treatment. GIST does not have lymphatic permeation. Hence the goal of therapy is complete resection of visible and microscopic disease, which can be achieved by adequate tumour free margins. Laparocopic management of large GIST tumours is discouraged with the fear of spillage of the tumour or rupture of the tumour capsule while handling the large tumour and thus causing metastasis.

Keywords: Gastro-Intestinal Stromal Tumour (GIST), Lymphatic permeation metastasis

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Background:
The National Comprehensive Cancer Network task force report states that "laparoscopic or laparoscopy – assisted resection may be useful for small (< 2 cm) GISTs when the risk of intraoperative tumour rupture is low. However laparoscopic resection is generally discouraged for GIST."

The work published by Yoshihide Otani and Masaki Kitajima on "Laparoscopic surgery for GIST : too soon to decide" in 2005 suggests successful laparoscopic resection of larger GISTs (ranging from 1.8 cm -15 cm) without any local or peritoneal recurrence with a median follow up period of 53 months.

Case:
A 47-year-old female came to the hospital with acute GI bleeding. She was stabilized. Esophagogastroduodenoscopy was performed, which revealed an ulcerated lesion in body of the stomach. Adrenaline injection and Argon plasma coagulation controlled the bleeding. Multiple biopsies of the lesion were reported as inflammatory in nature. Computed tomography (CT) abdomen showed an intra-mural GIST of 8 x 6 cms size with no metastasis. She was posted for laparoscopic resection of the tumour. Laparoscopic exploration did not reveal evidence of liver or peritoneal metastases. Additional ports were placed in the midepigastrium (5 mm), left upper quadrant (15 mm), and right upper quadrant (5 mm). Greater omentum was taken down from the stomach using ligasure. Posterior adhesions of the stomach were freed. The mass was grasped and gently elevated with an atraumatic bowel grasper, taking care not to disrupt the serosal surface and allow tumor spillage. Intraoperative upper GI endoscopy was done to confirm adequacy of margins. A sleeve resection of the greater curvature of the stomach using endo-GI staplers was done after calibration with a 8 Fr bougie. The specimen was retrieved in an endobag without spillage through a muscle splitting incision in left flank.

Histopathologic evaluation of the resected specimen showed tumour free margin minimum of which was 1 cm. The mass was found to be a low-grade epithelioid GIST, staining positive for CD117

Discussion:
Gastric GISTs, a relatively rare entity of non-epithelial, mesenchymal neoplasm, account for less than 3% of all gastrointestinal neoplasms.[1] A preoperative pathological diagnosis of GIST

Figure 1:*CT Scan 1*

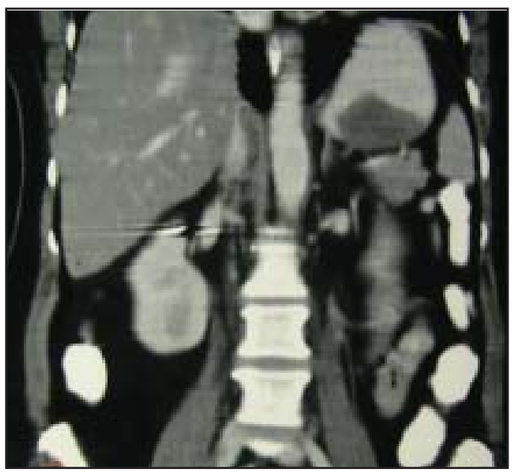

Figure 2: *CT Scan 2*

Figure 3: *Intra-operative image 1*

Figure 4: *Intra-operative image 2*

cannot be made by endoscopic biopsy because of its submucosal location, but endoscopic ultrasonography with fine-needle aspiration (EUS-FNA) allows for easy diagnosis.[2]

Local gastric resection with gross negative surgical margin is accepted worldwide for the treatment of GISTs. Multiple studies have demonstrated the feasibility of laparoscopic resections for gastric GISTs. But, when the neoplasm is located near the esophagogastric junction (EGJ) or pylorus, it is difficult to avoid a gastrectomy due to the risk of causing deformity or stenosis of the gastric lumen.Sexton et al demonstrated successful laparoscopic resections in 98% of 61 patients, with a morbidity rate of 16% and mortality rate of 2%.

Operative indications and treatment guidelines for GIST by a laparoscopic approach are not clear.[1] The GIST Consensus Conference (2004) recommended limiting laparoscopic resection to tumors smaller than 2 cm due to the increased risk of tumor rupture and spillage. Novitsky et al however,reported, a 92% disease-free long-term survival despite a mean tumor size of 4.4 cm (range,1--8.5 cms) for fifty gastric GIST patients of laparoscopic resections. Similar results were reported by Otani et al, with an excellent survival after laparoscopic wedge resection for 2-5 cm gastric GISTs.[1]

Intraoperative gastroscopy is used widely in laparoscopic surgery for gastric GISTs, for identifying and marking tumors, ensuring sufficient margins, and preventing luminal Stenosis.[3]

Conclusion:

We choose to perform a laparoscopic sleeve gastrectomy with calibration bougie in place and intra-operative upper GI endoscopy as tumour was on greater curvature on the posterior wall. We conclude that Laparoscopic resection may be a good option in selected patients.

References:

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