

Endogastric resection of gastrointestinal stromal tumor

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Abstract: Gastric gastrointestinal stromal tumors (GIST) have a distinct surgical therapy compared to gastric adenocarcinoma. Large oncologic margins and lymphadenectomy are not necessary rendering local resections suitable to treat the disease and spare the stomach. That may be accomplished through a minimally invasive approach. We present a case of a 67-year-old woman with an endophytic 3.5 cm gastric GIST located in the posterior wall of the gastric body that underwent an endogastric resection. Operation was uneventful. The patient was discharged in the following day. Pathologic examination showed free margins and a low grade GIST. Endogastric resection is a feasible option in endophytic GISTs located in the posterior wall of the stomach.

Keywords: Gastrointestinal stromal tumor; stomach; laparoscopy; endogastrosurgery; minimally invasive

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Introduction

Gastric gastrointestinal stromal tumors (GIST) have a distinct surgical therapy compared to gastric adenocarcinoma. Large oncologic margins and lymphadenectomy are not necessary rendering local resections suitable to treat the disease and spare the stomach. That may be accomplished through a minimally invasive approach.

Most authors adopt a tailored approach to gastric GISTs (1-4). Exophytic tumors are generally resected via laparoscopy while endophytic tumors or those located in the posterior gastric wall, cardia or pylorus may be resected through an endogastro (transgastric) approach.

We present a video of a 67-year-old woman with an endophytic 3.5 cm gastric GIST located in the posterior wall of the gastric body. An uneventful endogastric resection was carried out. The patient was discharged in the following day. Pathologic examination showed free margins and a low grade GIST.

Patient selection and workup

Preoperative biopsy is not necessary, due to low accuracy (2). Endoscopy (Figure 1), CT scan (Figure 2) and endoscopic ultrasound (Figure 3) are necessary to diagnose, locate and

measure the tumor.

Loss of integrity and spillage of tumor cells increase the risk for recurrence, thus some guidelines limit the size for minimally invasive resection (5). Experienced groups; however, are able to resect large tumors intact.

Pre-operative preparation

Preoperative endoscopic tattooing of the tumor is usually not necessary, unless the size of the mass is very small.

Equipment preference card

Balloon-tipped trocars may be used to facilitate the transgastric stage of the procedure (4) but they are not essential as shown in the presented video. In this case, hooked needles (endoclose[®]) to fish the retention stitches are useful. Staplers make the procedure much easier, especially with an articulated head. A standard gastrointestinal load is sufficient.

Procedures

Surgeon may be located either in the right-hand side of

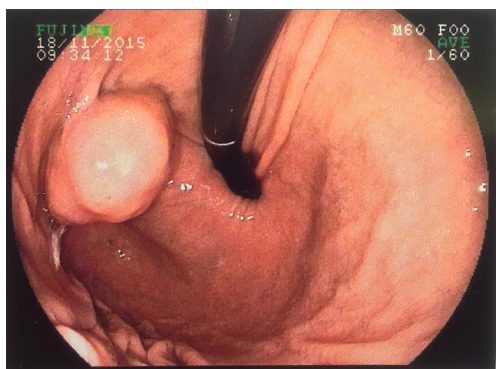


Figure 1 Upper endoscopy disclosing an endophytic 3.5 cm gastric gastrointestinal stromal tumors (GIST) located in the posterior wall of the gastric body.

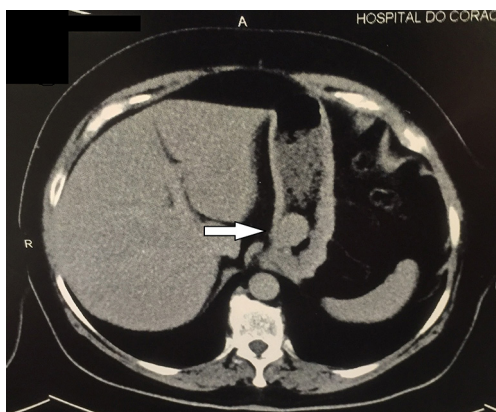


Figure 2 Computerized tomography showing an intraluminal gastric mass originated in the gastric wall (arrow).



Figure 3 Endoscopic ultrasound depicting the regular margins of the tumor originated in the gastric wall.



Figure 4 This video discloses an endogastric resection of an endophytic 3.5 cm gastric gastrointestinal stromal tumors (GIST) located in the posterior wall of the gastric body (6). Available online: <http://www.asvide.com/articles/1143>

the patient or between the legs depending on his/her experience with gastrectomy/gastroplasty or antireflux operations. Ports placement also may follow previous experience; however, liver retraction is not necessary unless a hepatomegaly is present.

Abdominal cavity is searched for the main tumor and eventual metastasis. If the transgastric approach is decided, 3 trocars are inserted in the stomach to allow the camera and the hands of the surgeon to operate inside the stomach. The ports may be secured with a balloon-tipped trocar or retention stitches as shown in the video (*Figure 4*). Tumor is located and stapled. The specimen is removed protected in a bag. Stomach incisions are closed.

Role of team members

Usually a single assistant is needed to handle the camera. Intraoperative endoscopy may be necessary in rare cases to locate small tumors or retrieve per mouth a larger specimen.

Post-operative management

Recovery is usually fast. Diet may be resumed in the same day and the patient may be discharged in the day following the procedure.

Tips, tricks and pitfalls

There is no need to pull the stomach to the abdominal wall. A nasogastric tube helps inflate or deflate the stomach as necessary. Tumor must be handled very carefully to prevent

spillage. Normal mucosa around the tumor must be grasped not the tumor itself. Stitches may help presentation of the tumor too. Since extended margins are not necessary, there is no need to include too much gastric wall in the stapler to avoid unintentional inclusion of external vessels or structures.

Acknowledgements

None.

Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Informed Consent: Written informed consent was obtained from the patient for publication of this manuscript and any accompanying images.

References

1. Kawamura H, Shibasaki S, Yoshida T, et al. Strategy of Laparoscopic Partial Resection for Gastric Gastrointestinal Stromal Tumors According to the Growth Pattern. *Surg Laparosc Endosc Percutan Tech* 2015;25:e175-9.
2. Valle M, Federici O, Carboni F, et al. Gastrointestinal stromal tumors of the stomach: the role of laparoscopic resection. Single-centre experience of 38 cases. *Surg Endosc* 2014;28:1040-7.
3. Ma JJ, Hu WG, Zang L, et al. Laparoscopic gastric resection approaches for gastrointestinal stromal tumors of stomach. *Surg Laparosc Endosc Percutan Tech* 2011;21:101-5.
4. Sasaki A, Koeda K, Obuchi T, et al. Tailored laparoscopic resection for suspected gastric gastrointestinal stromal tumors. *Surgery* 2010;147:516-20.
5. Blay JY, Bonvalot S, Casali P, et al. Consensus meeting for the management of gastrointestinal stromal tumors. Report of the GIST Consensus Conference of 20-21 March 2004, under the auspices of ESMO. *Ann Oncol* 2005;16:566-78.
6. Herbella FA, Tamasauskas I, Moura EG. This video discloses an endogastric resection of an endophytic 3.5 cm gastric gastrointestinal stromal tumors (GIST) located in the posterior wall of the gastric body. *Asvide* 2016;3:374. Available online: <http://www.asvide.com/articles/1143>

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