

Technique of intragastric laparoscopic resection for gastrointestinal stromal tumor (with video)

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Titre : Technique de résection intragastrique par laparoscopie pour une tumeur stromale gastrointestinale (avec vidéo)

Title : Technique of intragastric laparoscopic resection for gastrointestinal stromal tumor (with video)

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Text (522 words):

Gastrointestinal stromal tumours (GIST) of the stomach are the most common mesenchymal tumours of the gastrointestinal tract. Surgical treatment is the only chance of cure in patients with primary localized GIST (1). If the GIST is localized and resectable, the procedure should be R0 and avoid digestive tube mutilation. Preoperative histological evidence is not mandatory and lymph node dissection is not routine. A laparoscopic approach is considered to be reasonable in patients with gastric GIST. According to tumor size, intragastric localization and parietal extension, intraoperative visualization of the tumor may be difficult. Endoscopic localization and preoperative imaging (CT scan) allow to locate the tumour and define a surgical strategy. Each intragastric localization (oesogastric junction, pre-pyloric, anterior face, posterior face) leads to a specific surgical strategy (2,3). This video shows a minimally invasive surgical technique using the intragastric route for a GIST located at the posterior aspect of the stomach. This was a young patient in good general condition who had been followed since 2006, for a GIST discovered during a checkup for hiccups and retro-sternal burns. The tumor was located on the posterior aspect of the fundus and was 1 cm long in diameter at that time. Because of the small tumor size (< 2 cm) and patient's refusal for surgical resection, a surveillance was proposed according to current recommendations (4). During the follow-up, the patient underwent a gastroscopy which found that the tumor diameter had increased in size to 4 cm. Surgical resection was then proposed because of the size of the tumor (> 2 cm) and its increase over time. Furthermore, there is no validation for endoscopic resection for tumors larger than 2 cm (risk of R1 resection and perforation)(4). This video shows the different steps of the surgical procedure and their specificities. After a laparoscopic access to the abdominal cavity, 3 gastric trocars were placed to bring

the anterior gastric wall closer to the abdominal wall (1 of 12mm with balloon and two of 5mm). A pneumogastrum was created to visualise the tumour on the posterior surface of the stomach (Figure 1). The tumour was resected (Figure 2) and the posterior aspect of the stomach was closed using an intra-gastric suture (Figure 3). Extraction of the surgical specimen was performed through the gastrotomy site. The trocar openings on the anterior surface were sutured (Figure 4). No drainage was placed and the gastric tube was removed on POD1. No postoperative radiological exam was performed. The patient was discharged on POD7. Pathology confirmed a GIST measuring 4 cm in diameter, with a complete resection (R0), and a very low risk for recurrence. No adjuvant therapy was given. Adjuvant Imatinib for 3 years is used in patients having a GIST with a high risk of recurrence (except in patients with PDGFRA mutation of type D842V in exon 18 or in the context of neurofibromatosis with NF1 mutations) or a GIST with an intermediate risk of recurrence, taking into account health status, mutation status of the tumor (exon 11 of KIT or not) and the patient's wishes (4). This video will be usefull for all surgeons having to manage patients with gastric GIST.

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- Image 1 : position of the trocars
- Image 2 : visualization of the intragastric tumor
- Image 3 : intragastric tumor resection
- Image 4 : intragastric suture
- Image 5 : closure of the gastrotomy









