

Reducing Tumor Burden: Laparoscopic Subtotal Gastrectomy in the Setting of Recurrent Metastatic GIST (with video)

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ABSTRACT

Introduction: Gastrointestinal stromal tumors frequently spread via hematogenous route to the liver or through peritoneal seeding in the abdominal cavity. Once metastization has occurred neither surgery alone nor systemic therapy can successfully accomplish persistent malignancy control. However, a grouping of both approaches may potentially achieve disease stabilization and significantly improve overall survival.

Case presentation: We describe the case of a 61-year-old male patient who had presented a large gastric GIST with tumor rupture seven years before. He was then submitted to atypical gastrectomy bearing microscopically positive margins. At the time, mutational analysis for KIT and PDGFRA genes came back negative. Nevertheless, the patient was started on imatinib 400 mg daily. After years of sustained response to systemic therapy a contrast-enhanced CT scan revealed focal progression around the prior resection's staple line. Surgical exploration additionally unveiled various peritoneal implants on the greater omentum, round ligament of liver and diaphragm. Reduction of tumor burden was undertaken by performing a laparoscopic subtotal gastrectomy with Billroth II reconstruction. Subsequently, a PDGFRA exon 18 mutation conferring resistance to imatinib was identified and tyrosine kinase inhibitor therapy switched to sunitinib 50 mg daily. Two years later he was submitted to cholecystectomy and choledochoduodenostomy due to synchronous biliary gallstones. Intraoperatively two suspicious nodes located on the greater omentum and Gerota's fascia were found and excised. Pathology concluded recurrent GIST. The patient currently remains clinically stable with a known 20 mm metastatic lesion in the right rectus abdominis muscle showing dimensional regression on follow-up MRI scans. Even though recent GIST guidelines do not recommend excision as a primary line of treatment in the metastatic setting, selected patients may benefit from surgery by attaining complete or partial tumor regression. The reasoning behind such practice relies on decreasing the risk of secondary mutations once less cells become exposed to a continuous stimulus during treatment with tyrosine kinase inhibitors.

Conclusions: Complete excision of residual metastatic disease has been associated with favorable prognosis, although prospective studies to evaluate if these results are due to surgery or patient selection are lacking. Survival is more likely mirrored by broad aspects of the inherent disease than whichever effect of surgery. Hence, patient selection is critical.

Key words: GIST, recurrence, gastrectomy, laparoscopy, imatinib

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Conflicts of interest

The authors declare no conflicts of interests.

Ethics approval

For this case ethical approval was obtained.

REFERENCES

1. Gastrointestinal stromal tumours: ESMO-EURACAN-GENTURIS Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol.* 2022;33(1):20-33.
2. Ronellenfitsch U, Hohenberger P. Surgery for Gastrointestinal Stromal Tumors: State of the Art of Laparoscopic Resection and Surgery for M1 Tumors. *Visc Med.* 2018;34(5):367-374.
3. Naito Y, Nishida T, Doi T. Current status of and future prospects for the treatment of unresectable or metastatic gastrointestinal stromal tumours. *Gastric Cancer.* 2023;26(3):339-351.