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Liver Resection for Metastases from Gastrointestinal Stromal Tumors: Does it Improve Long-Term Survival?

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Abstract

Background & Aims: The emergence of tyrosine kinase inhibitors, radically altered the management of GISTs and sparked controversy regarding the role of hepatic resection for metastatic tumors. This study aims to identify whether there is improvement in the overall survival of patients with gastrointestinal liver metastases, undergoing hepatic resection in the context of multimodal treatment strategy, as to those approached only by systemic therapy.

Methods: Using a retrospective database, we identified 57 patients treated at our center over a 12-year period: Group A (n=31) underwent hepatic resection alongside systemic therapies, and B (n=26) only systemic therapies. In order to obtain a more robust sample, needed for the survival analysis, we performed a propensity score matching and a bootstrapping selection with Jackknife correction for errors; thus, we created an extended sample of 1000 virtual patients.

Results: The overall survival measured in all patients was 47 months (95%CI:34-60); significantly higher for group A (56 months, 95%CI:37-75) compared to group B (38 months, 95%CI:19-56), (p=0.007, Log Rank test). Multivariate analysis identified one risk factor: the presence synchronous liver metastases upon diagnosis of primary.

Conclusions: Liver resection following TKI therapy is the current mainstay of treatment strategy for potential cure and prolonged survival, in appropriately selected patients evaluated in an multidisciplinary tumor board.

Key words: gastrointestinal stromal tumors, hepatectomy, combined modality therapy, propensity score matching, bootstrapping selection with Jackknife correction for errors, survival