

A Systematic Review On Unresectable GastroIntestinal Stromal Tumor (GIST) Liver Metastases As A New Indication For Liver Transplantation. Has Its Time Arrived?

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Background : Liver metastases from gastrointestinal stromal tumors (GIST) can be found synchronously to a primary tumor and in the medium/long term after resection of a high-risk GIST. In these cases, treatment with tyrosine kinase inhibitors like imatinib has provided good results, but drug resistance is common after two years of treatment. Liver resection of potentially resectable metastases can improve the results of medical treatment. In cases of unresectability, the role of liver transplantation (LT) has not been well-studied.

Methods : The current systematic review was structured following the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) and AMSTAR (Assessing the methodological quality of systematic reviews) guidelines. We performed a systematic review of the available literature on liver transplantation in non-resectable GIST-liver metastases based on a rigorous literature search of four international English-language databases (PubMed, Scholar, ScienceDirect, and Scifinder). The research period involved 25 years, from January 1995 to December 2020. The inclusion/exclusion criteria were defined before the initiation of the literature search to ensure proper identification of all eligible records. The study selection criteria were defined by applying the PICO (Population/Participants, Intervention, Comparison, and Outcome) framework.

Results : Fifteen cases were identified. In eight cases, the liver transplantation was carried out before 2002. Mutational status was only studied in seven cases. Liver transplantation was performed in 12 cases with a deceased donor and in three cases with a living donor. After a mean follow-up of 52.4 months, overall survival was 86.6% with disease-free survival of 53.3%.

Conclusions : Liver transplantation in the management of unresectable GIST metastases has rarely been performed. Although its application has a solid theoretical basis, its use understood as a radical extension of a standard resection can only be recommended within prospective studies by groups with considerable experience in both GIST and transplantation care.

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