

# Efficacy of surgery and imatinib mesylate in the treatment of advanced gastrointestinal stromal tumor: a systematic review

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## ABSTRACT

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**Aims and background.** In patients with localized gastrointestinal stromal tumors, surgery remains the elective treatment. Nowadays, imatinib therapy has been standardized in advanced gastrointestinal stromal tumors, showing continuous improvements in progression-free and overall survival. A combination of imatinib therapy and surgery may also be effective in a subset of patients with metastatic or unresectable gastrointestinal stromal tumors. In this review, the authors analyzed the role of imatinib mesylate associated to surgery in unresectable and/or metastatic gastrointestinal stromal tumors.

**Methods and study design.** We searched for all published and unpublished randomized controlled clinical trials and controlled clinical trials. We conducted the review according to the recommendations of The Cochrane Collaboration. We used Review Manager 5 software for the statistical analysis.

**Results.** There are currently no randomized controlled clinical trials or controlled clinical trials on this issue. We performed a subgroup analysis in the patients preoperatively treated with imatinib mesylate. This subgroup revealed a minor incidence of recurrent or metastatic gastrointestinal stromal tumors and a greater incidence of locally unresectable gastrointestinal stromal tumors in the responsive disease group ( $P = 0.001$ ). In this patient group, more complete resections were observed ( $P = 0.00001$ ). Furthermore, in the same patient group we observed a more significant 12 and 24-month disease-free survival after imatinib treatment and complete resection (respectively  $P = 0.06$  and  $P = 0.003$ ) and also a better 24-month overall survival ( $P = 0.004$ ).

**Conclusions.** There is actually only one ongoing European randomized study evaluating surgery of residual disease in patients with metastatic gastrointestinal stromal tumors responding to imatinib mesylate. Imatinib mesylate represents the standard treatment as preoperative supplement for locally unresectable and/or metastatic gastrointestinal stromal tumors, and a trial to compare the approach *versus* surgery alone is not necessary. For patients responding to imatinib or patients with prolonged stable disease, resection of residual disease should be considered. A phase III randomized study evaluating surgery of residual disease in patients with metastatic gastrointestinal stromal tumor responding to imatinib mesylate, EORTC 62063, has been opened. Moreover, surgery should be considered for patients at higher risk of complications during pharmacological debulking. In advanced gastrointestinal stromal tumors, the advantages of the integrated treatment are significant in the complete or partial response disease group in terms of more complete resections and better disease-free and overall survival. Free full text available at [www.tumorionline.it](http://www.tumorionline.it)

**Key words:** advanced gastrointestinal stromal tumors, imatinib mesylate, surgery.

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