



Tumor rupture during surgery for gastrointestinal stromal tumors: Pay attention!

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Abstract

In a recently published letter to the editor, we debated the proposal by Coccolini *et al* to treat gastrointestinal stromal tumors (GISTs) of the esophagogastric junction with enucleation and, if indicated, adjuvant therapy. We highlighted that, because the prognostic impact of a T1 high-mitotic rate esophageal GIST is worse than that of a T1 high-mitotic rate gastric GIST, enucleation may not be adequate surgery for esophagogastric GISTs with a high mitotic rate. In rebuttal, Coccolini *et al* pointed out the possible bias in assessment of the mitotic rates due to the lack of standardized methods and underlined that the site and features of the tumor need to be carefully considered in evaluation of the risk-benefit balance. Here we confirm that, apart from the problematic issue of mitotic counting, enucleation should not be indicated for GISTs at any site to reduce the risk of tumor rupture, which has been recently considered to be an unfavorable prognostic factor, and to avoid microscopic residual tumor.

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Key words: Gastrointestinal stromal tumor; Esophago-

gastric junction; Surgery; Resection; Enucleation

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TO THE EDITOR

In a recent issue of *World Journal of Gastroenterology*, we debated^[1] the proposal by Coccolini *et al*^[2] to treat gastrointestinal stromal tumors (GISTs) of the esophagogastric junction with enucleation and, if indicated, adjuvant therapy. We highlighted that, because the prognostic impact of a T1 high-mitotic rate esophageal GIST is worse than that of a T1 high-mitotic rate gastric GIST, enucleation may not be adequate surgery for esophagogastric GISTs with a high mitotic rate. In rebuttal, Coccolini *et al*^[3] pointed out the possible bias in the assessment of the mitotic rate due to the lack of standardized methods and underlined that the site and features of the tumor need to be carefully considered in the evaluation of the risk-benefit balance.

Apart from the prognostic differences related to the anatomic localization of the gastric GISTs (gastroesophageal junction-body-distal antrum), problematic mitotic counting is a significant issue in the staging and therapy of GISTs. Controversies exist regarding how large the 50 high-power field areas should be^[4], varying from 5 mm² to 10 mm². The area recommended by the European Guideline represents half of the area recommended by TNM Classification of Malignant Tumors^[5,6].

However, tumor rupture is a highly unfavourable prognostic factor, which should be considered rather than the mitotic rate, tumor site and tumor size in planning an effective treatment for GISTs. According to the modified risk stratification proposed by Joensuu *et al*^[7] and Rutkowski *et al*^[8], patients with tumor rupture are in-

cluded in high-risk category GISTs.

On the other hand, according to updated National Comprehensive Cancer Network Guidelines^[9], Coccolini *et al.*^[2] pointed out the value of complete resection, leaving a negative margin and an intact pseudocapsule. GISTs may be soft and fragile because of intratumoral hemorrhage and/or necrosis; anyway they are surrounded by a pseudocapsule that should not be torn during surgery to avoid intra-abdominal seeding. From technical point of view, enucleation of GIST implies that the plane of dissection is conducted along the pseudocapsule with no distance margin on the entire surface of the tumor - *i.e.*, at best microscopic residual tumor (R1) surgery - or rather, enucleation maximizes the risks of R1 and tumor rupture.

We think that complete resection should remain the standard surgical treatment for localized GISTs at any site through wedge resection for small size favorably positioned GISTs and variably extended segmental organ resection depending on the size and site for large and/or unfavourably positioned GISTs. To reduce the risk of tumor rupture with consequent risk of tumor relapse and avoid microscopic residual tumor enucleation should not be indicated for any GISTs. For the risk of tumor rupture, laparoscopic surgery should be avoided with large GISTs^[5].

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