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

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Author contributions: Peparini N conceived and drafted the manuscript, critically revised the manuscript and gave the final approval; Chirletti P critically revised the manuscript and gave its final approval.

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Received: December 24, 2012 Revised: February 18, 2013
Accepted: March 6, 2013
Published online: March 28, 2013

Abstract
In a recently published letter to the editor, we debated 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].

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-

Key words: Gastrointestinal stromal tumor; Esophagogastric junction; Surgery; Resection; Enucleation
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 [3].

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