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6. THE ASSOCIATION OF MICROSCOPIC POSITIVE MARGINS WITH SURVIVAL IN RESECTED SMALL GASTROINTESTINAL STROMAL TUMORS: IS THERE A NEED TO RE-RESECT THOSE MARGINS?

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Background: Utilization of minimally invasive (MIS) approaches to surgical resection for small gastrointestinal stromal tumors (GISTs) may carry potential for risk of a positive (R1) microscopic surgical margin. Few studies evaluate the relationship between surgical approach, surgical margin and the impact of an R1 resection in GIST with intent to inform decision making regarding the need to pursue re-resection following R1 resection.

Methods: We queried the National Cancer Data Base to identify patients undergoing resections for gastric, small bowel, colonic, and rectal GISTs ≤3cm between 2004 and 2015. Patients with metastatic disease and those receiving chemotherapy or radiation were excluded. Multivariable logistic regression (MVR) was used to assess the association between patient, facility, and tumor characteristics and the risk of receiving an R1 resection. Kaplan-Meier (KM) and multivariable Cox proportional hazard methods were used to evaluate the relationship between R1 resection and overall survival (OS).

Results: 2,734 patients met inclusion criteria. 1963 (71.8%), were gastric GISTs. 177 (6.5%) patients underwent an R1 resection. On MVR, use of the MIS approach was not associated with increased odds risk of an R1 resection relative to use of an open approach (OR 1.06 95% CI [0.71, 1.59]), while patients with tumors located in the small intestine (OR 1.83, [1.15, 2.92]) or rectum (OR 5.26, [2.67, 10.36]) were more likely than those with gastric GIST to undergo an R1 resection. On KM, there was no statistically significant difference in 5-year OS between patients undergoing a margin negative (R0) resection and those undergoing an R1 resection (90% vs 89.4%, p=0.2247). On Cox analysis adjusting for age, demographics, comorbid condition, facility characteristics, surgical approach, tumor location, size, and histologic grade, age (HR 1.09, 95% CI [1.06, 1.11]) and comorbid condition (CCI>2: 2.55, CI [1.47, 4.42], reference CCI=0) were independently associated with an increased risk of death while resection margin status was not associated with OS (R1: 1.03, CI [0.46-2.31], reference R0).

Conclusion: Patients presenting with small GISTs ≤3cm and undergoing R1 resection demonstrate patterns of overall survival statistically identical to those undergoing R0 resection. Efforts to clear the surgical margin in these patients should be avoided.