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To Treat or Not to Treat: Resection of Primary Pancreatic Neuroendocrine Tumors in the Metastatic Setting

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BACKGROUND

The pancreas is the most common site of origin for neuroendocrine tumors (NETS). Half are stage 4 at diagnosis. For NETS from small bowel primaries, surgical resection of the primary tumor is the standard of care even when metastatic and is associated with increased overall survival. In contrast, the benefit of resecting pNETs in the metastatic setting is unclear. Pancreatic surgery is higher risk and has more long-term morbidity than bowel resection. Current practice guidelines reflect considerable uncertainty about the role of primary pancreatic tumor resection in the metastatic setting. To better understand current pNET natural history and develop an evidence base for further study of pancreas-directed therapies, we compared progression and overall survival of a cohort of metastatic pNET patients who underwent resection of their primary tumor with those who did not.

METHODS

The healthcare system database was searched to find all patients presenting with metastatic primary pancreatic neuroendocrine tumors with at least 2 years of follow up. Patients were divided into two groups based on whether their primary tumor was resected or not. Co-primary outcome measures of progression free survival (PFS) and overall survival (OS) were estimated by Kaplan-Meier in each group and compared using the log rank test. Other variables of interest were tumor grade, type of resection, toxicities and adverse events with and without resection, and other therapies.

RESULTS

Overall, 292 patients with primary metastatic pNETs were analyzed. 159 underwent resection of their primary tumor and 133 did not. For the co-primary endpoints, median PFS for patients with unresected vs. resected primary tumors was 8.5 vs 38.1 months, HR 2.38, $p < 0.0001$. Median OS for unresected vs. resected primary tumors was 45.6 vs.190 months, HR 5.59, $p < 0.0001$.

CONCLUSIONS

Resection of the primary tumor in patients presenting with metasttic pancreatic NETs is associated with considerable improvements in PFS and OS. Additional multivariate analyses to incorporate the affect of tumor grade, type of resection, and other therapies will be performed. Adverse events associated with resection vs. no resection will be analyzed.

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