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The Diamagnetic Effects of Peritoneal Carcinomatosis in the Prognosis of Patients with Advanced Midgut Neuroendocrine Tumors

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Background: Peritoneal carcinomatosis from most malignancies is generally associated with a poor prognosis. However, the clinical implication of peritoneal carcinomatosis from midgut neuroendocrine tumors (NETs) remains undefined. Given the indolent nature of midgut NETs, we hypothesized that carcinomatosis in these patients does not inherently translate into a poor prognosis.

Methods: Charts of 177 consecutive midgut NET patients, operated on at our institution between February 2005 and October 2010, with distant metastatic disease were reviewed. Patients were divided into three groups. Group 1 had peritoneal carcinomatosis without liver metastases (n=8), group 2 had liver metastasis without carcinomatosis (n=119), and group 3 had carcinomatosis with liver metastasis (n=50). Kaplan-Meier analysis was performed and survival rates were compared among the three groups.

Results: Survival data among the groups were as follows: group 1 (carcinomatosis only): 1/8 patients have died (12.5%), group 2 (liver metastasis only): 28/119 patients have died (23.5%), and group 3 (liver metastasis and carcinomatosis): 29/50 patients have died (58%). Group one patients had a median survival that was not yet reached and group three patients had a 46 month median survival (p=0.05).

Conclusions: In midgut NETs, peritoneal carcinomatosis, without liver metastases, is generally well tolerated. However, in the presence of liver metastases, carcinomatosis appears to transform an indolent disease course into a more aggressive one. The mechanism of potentiation for this malignancy and any predictors that could alert clinicians to the development of synchronized carcinomatosis and liver metastases warrants further studies.