Researchers validate staging classifications for neuroendocrine pancreatic tumor surgery response

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Researchers at Moffitt Cancer Center have carried out a study to validate the utility of new tumor classification systems for staging and predicting relapse-free survival for patients with neuroendocrine tumors (NETs) and who may be candidates for surgery.

The results of their study were published in a recent issue of the Annals of Surgery.

Neuroendocrine tumors, which form in the islet cells of the pancreas, are a relatively rare form of cancer, accounting for about 3 percent of all pancreatic malignancies. NETs that have not spread are treated surgically. However, until recently, tumor size and stage (localized or metastasized) were not classified in such a way as to effectively guide clinical practice.

New classification systems – one set issued by European Neuroendocrine Tumor Society (ENETS) and another set issued by the American Joint Committee on Cancer (AJCC) – differ in significant ways, the researchers said. However, since being issued, neither staging system had been validated statistically for its ability to predict relapse-free survival after surgery.

According to the authors, the absence of a uniform staging classification for pancreatic NETs has hindered their ability to predict risk of

recurrence after surgery. Terms such as "local," "locally advanced" and "metastatic" were imprecise. The new classification systems from both organizations allow for a more standardized classification of tumors and risk, they said, although the systems' ability to predict recurrence-free survival had not been tested.

"Patients with resectable pancreatic neuroendocrine tumors typically undergo surgery with curative intent," said study lead author Jonathan R. Strosberg, M.D., assistant member at Moffitt who focuses his research on experimental therapeutics and gastrointestinal tumors. "We sought to test the prognostic accuracy of both staging classifications for relapse-free survival after surgery by studying a large cohort of patients with nonmetastatic pancreatic NETs."

In their study, the researchers used Moffitt clinical databases to identify 123 patients with nonmetastatic pancreatic NETs who were surgically resected between January 1999 and June 2010. They analyzed the diagnoses and outcomes of those patients with NETs stages I-III at the time of surgery.

"Nearly half of those patients were diagnosed incidentally," Strosberg said. "In fact, the majority of patients with tumors smaller than 2 cm in size were diagnosed as a result of evaluations for an unrelated condition. When we analyzed the data, incidental detection correlated most strongly with a low risk of recurrence."

The authors concluded that the AJCC and ENETS staging classifications "each represent an important step in a simple and uniform neuroendocrine tumor nomenclature." They found that in both classification systems, advancing stage correlated with increasing risk of metastatic relapse after surgery.

"Our study confirms that small, low-grade tumors are associated with

exceptionally low metastatic potential – 0 percent in five years," Strosberg said. "Even sizable, lymph node-positive tumors, classified by ENETS as stage III, are associated with relatively favorable long-term prognosis after surgery."

They concluded that the new AJCC and ENETS staging classifications for pancreatic NETs were prognostic for recurrence-free survival.

Provided by H. Lee Moffitt Cancer Center & Research Institute