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Cadherin 17 is Frequently Expressed by "Sclerosing Variant" Pancreatic Neuroendocrine Tumor

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Background: Recently, we described a series of pancreatic neuroendocrine tumors (PanNETs) featuring prominent stromal fibrosis, which we called sclerosing PanNET. In this study, we examined the pathologic, immunophenotypic, and clinical differences between sclerosing and non-sclerosing PanNETs.

Methods and Results: One hundred and six PanNETs were identified, of which, 15 (14%) were sclerosing NETs. Tissue microarrays containing 44 non-sclerosing and 5 sclerosing panNETs as well as sections from 10 additional sclerosing tumors were immunohistochemically labeled with serotonin, CDX2, CDH17 and islet 1. Sclerosing PanNETs were smaller in size ($p=0.03$) and more likely to show an infiltrative growth pattern ($p=0.003$) compared to non-sclerosing PanNETs. They were frequently associated with a large pancreatic duct, causing duct stenosis and chronic pancreatitis. Additionally, we found significantly increased expression of the small intestinal NET markers serotonin, CDX2, and CDH17 in sclerosing PanNETs ($p<0.001$) compared with non-sclerosing PanNETs, whereas islet 1 was not significantly different between groups ($p=0.44$). No difference in clinical outcome was found, however, lymph node metastasis was seen in 3 sclerosing PanNETs with a tumor size less than 2.0 cm.

Conclusions: Sclerosing PanNETs have distinct pathologic features and biomarker expression profiles. In addition, lymph node metastasis can be present even in small sclerosing PanNETs.