

# C-58

## The Pancreas as a Site of Metastasis or Second Primary in Patients with Small Bowel Neuroendocrine Tumors

*Aaron Scott<sup>1</sup>; Daniel Pelletier<sup>1</sup>; Jessica Maxwell<sup>1</sup>; Scott Sherman<sup>2</sup>; Guiying Li<sup>1</sup>; Joseph Dillon<sup>1</sup>; Thomas O'Dorisio<sup>1</sup>; Andrew Bellizzi<sup>1</sup>; James Howe<sup>1</sup>*

*<sup>1</sup>University of Iowa Carver College of Medicine; <sup>2</sup>University of Chicago*

**BACKGROUND:** The small bowel and pancreas are the most common primary sites of neuroendocrine tumors (NETs) giving rise to metastatic disease. Some patients with small bowel NETs (SBNETs) present with synchronous or metachronous pancreatic NETs (PNETs), and it is unclear whether these are separate primaries or metastases from one site to the other. We examined this question using gene expression and immunohistochemistry (IHC) in patients with both SBNETs and PNETs.

**METHODS:** A surgical NET database including patients undergoing operations for SBNETs or PNETs was reviewed. Patients with synchronous or metachronous SBNETs and PNETs were identified, and available tissues from primary tumors and metastases were examined using a validated qPCR gene expression panel and immunohistochemistry (IHC) to determine the primary site.

**RESULTS:** Of 338 patients undergoing exploration, 11 had both SBNETs and PNETs. Synchronous lesions were found in 8, while 3 presented with SBNETs followed by PNETs. qPCR and IHC data revealed that 3 patients had separate primaries, and 5 patients had SBNETs which metastasized to the pancreas. In the other 3 patients, pancreatic tissue was unavailable in 2, and qPCR and IHC gave discrepant results in 1. Separate primary PNETs all presented synchronously and tended to be larger, but this difference was not significant ( $p=0.2$ ).

**CONCLUSION:** Both SBNETs and PNETs were found in 3% of our patients, none of whom had MEN1 or VHL. In nearly two thirds of evaluable patients the pancreatic tumor was a metastasis from the SBNET primary, while in the other third of patients it represented a separate primary. In patients where pancreatic tumors are suspected to be metastatic from SBNETs, such as those with smaller tumors, metachronous presentation, or CDX2 positivity by IHC, a less aggressive surgical approach to the PNET should be considered. Preoperative core biopsy may aid in this decision making.