

# C-56

## Association between Preoperative Vasostatin-1 and Pathological Features of Aggressiveness in Localized Nonfunctioning Pancreatic Neuroendocrine Tumors (NF-PanNET)

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**BACKGROUND:** A reliable and accessible biomarker for nonfunctioning pancreatic neuroendocrine tumors (NF-PanNET) is currently unavailable. Chromogranin A (CgA) represents the best-described neuroendocrine biomarker, but its accuracy is low. Vasostatin-1 (VS-1), a fragment derived from the cleavage of CgA, was recently investigated and found to be more accurate as tumor biomarker in a cohort of patients affected by mainly metastatic small intestinal NET. Aim of the present study was to assess a possible association between preoperative VS-1 plasma levels and pathological features of aggressiveness, in comparison to CgA, in a cohort of patients affected by sporadic localized NF-PanNET.

**METHODS:** Patients submitted to surgery for sporadic localized NF-PanNET at San Raffaele Hospital were included in the study. Preoperative plasma samples were prospectively collected from May 2015. Circulating levels of total-CgA and VS-1 were retrospectively investigated by sandwich Enzyme-Linked ImmunoSorbent Assays (ELISA).

**RESULTS:** Overall, 50 patients were included. VS-1 value ( $P=0.0001$ ) was the only preoperatively retrievable factor independently associated with NF-PanNET size. No significant correlation between CgA and tumor diameter was found ( $P=0.057$ ). A VS-1 value of 0.39 nM was identified as the optimal VS-1 cut-off



accurately associated with NF-PanNET larger than 4 cm, with a sensitivity of 80% and a specificity of 80%. Patients with VS-1 > 0.39 nM had a significantly higher frequency of microvascular invasion (P=0.005) and nodal metastases (P=0.027). Median VS-1 plasma level was significantly higher in the presence of microvascular invasion (P=0.001) and nodal metastases (P=0.012). Proton pump inhibitors (PPI) assumption significantly increased total-CgA levels, but not those of VS-1 (P=0.111). No significant correlation was found between total-CgA and VS-1 (P=0.119).

**CONCLUSION:** In localized, non-metastatic NF-PanNET, VS-1 is strongly associated to tumor dimension and its plasma levels are significantly higher in the presence of microvascular invasion and nodal metastases; moreover, VS-1 value is not affected by the use of PPI.