

## **Very Early Onset Pancreatic Adenocarcinoma – Clinical Presentation, Risk Factors and Therapeutic Options**

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### **Abstract**

*Background:* Pancreatic cancer (PC) is usually diagnosed in the 7th decade, but cases diagnosed in younger patients are associated with a greater disease burden, through the potential years of life lost. The aim of our study was to compare the differences in risk factors, clinical presentation and treatment options between patients diagnosed with pancreatic adenocarcinoma below 45 years of age (very early onset pancreatic adenocarcinoma - VEOPC), and those diagnosed over 45 years.

*Methods:* A retrospective study has been conducted by registering in standardized Excel Worksheets all PC cases diagnosed in our tertiary referral center between 01.01.2015 and 31.12.2017. Only patients with a documented diagnosis of pancreatic adenocarcinoma (PDAC) were included in the statistical analysis that has been conducted using the NCSS v9 Statistical Software package. Categorical data have been compared using Chi2 test or Fisher Exact as appropriate, with a statistical significance  $p$  value  $< 0.05$ .

*Results:* There were 296 patients diagnosed with pancreatic solid tumors during the study period, 183 cases with documented histology: 80.87% PDAC, 17.5% neuroendocrine tumors, 2 cases of LMNH and 1 MANEC tumor. In our study group there were 24 patients (16.22%) with VEOPC. Family history of pancreatic neoplasia (33.3% vs 1.03%,  $p=0.0004$ ) and alcohol consumption (42.86% vs 5.41%,  $p=0.01$ ) were significantly more prevalent in young patients. Pain, as primary symptom, was reported at higher rates in patients with VEOPC (60% vs 22.94%,  $p=0.006$ ). Tumors were more frequently located in the head of the pancreas in younger patients (56.52%) and in the body of the pancreas in older patients (52.07%,  $p=0.02$ ). There was no significant difference in therapy or death rate during follow-up period between the two study groups, although patients diagnosed under 45 years were more frequently subjected to a radical resection (33.3% vs 22.69%).

*Conclusions:* Our study has identified alcohol consumption and family history of pancreatic neoplasia as risk factors for VEOPC. Pain is the primary symptom at diagnosis in young patients with PDAC. In our cohort, therapeutic options do not differ significantly in PDAC patients with age of onset.

**Key words:** early onset, pancreatic cancer, risk factors