AISP - 36th National Congress. **Bologna, Italy. October 4-6, 2012**

PTEN and MIR-21 Expression in IPMN and PDAC

Alessandra Alvino[1], Lucia Botta[1], Maria Denaro[1], Luca E Pollina[1], Vittorio Perrone[2], Nelide De Lio[2], Ugo Boggi[2], Daniela Campani[1], Niccola Funel[1], Elisa Giovannetti[3]

[1]Division of Surgical Pathology, Department of Surgery, and [2]Division of General and Transplant Surgery, Department of Oncology; University of Pisa. Pisa, Italy.
[3]VU University. Amsterdam, The Netherlands

Context The prognosis of invasive IPMN is better than for PDAC and many authors believe that IPMNs have distinct genetic and biological characteristics underlying this different clinical behavior. **Objective** Since previous studies correlated miR-21 expression with PTEN levels and worse prognosis in PDAC, we compared PTEN and miR-21 expression in invasive IPMNs and PDACs. **Methods** Ten invasive IPMN and 16 PDAC were evaluated for both PTEN expressions, with a validated immunohistochemistry method: 4 degrees of score (0 absent, 1 weak, 2 moderate, 3 strong). The miR-21 expression, as assessed by PCR in mRNA isolated from laser-microdissected samples. According to the miR21 quantification, all samples were identified as follow: (IPMN-L, IPMN-H, PDAC-L and PDAC-H). Statistical analysis was performed using ANOVA tests. **Results** IPMNs with high mi-R21 expression presented a negative/weak PTEN cytoplasmatic staining, with only few scattered positive cells, while IPMNs characterized by low mi-R21, had a moderate or strong cytoplasmic PTEN expression. This inverse correlation of miR-21 and PTEN expression was also observed in PDAC. However, we observed a significant difference comparing PTEN IPMN-L *vs*. PDAC-L (P=0.021), IPMN-L *vs*. IPMN-H (P=0.041) and all groups (P=0.037). **Conclusion** PTEN expression correlated with miR-21 in both invasive IPMNs and PDACs. Moreover, PDAC had significantly higher levels of miR-21 and lower levels of PTEN than IPMNs, suggesting that these biological characteristics might underline the better clinical outcome of IPMN compared to PDAC.