AB109. P083. Low expression of KLF9 in pancreatic cancer and its correlation with tumor differentiations

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Background: To investigate the expression level of Kruppel-like factor 9 (KLF9) in pancreatic cancer and its correlation with tumor differentiations *in vitro*, which might provide potential diagnostic value for pancreatic cancer.

Methods: The expression level of *KLF9* in pancreatic cancer and adjacent non-cancer tissues as well as pancreatic cancer cell lines PANC-1 and BxPC-3 were measured by using immunohistochemistry and Western blot analyses. The correlation between expression level of *KLF9* and proliferation, cell cycle as well as cell apoptosis of pancreatic cancer were analyzed by using CCK-8 and flow cytometry analysis. Transwell assay was used to evaluate its effects on invasion and migration of tumor cells. The expression of target proteins that correlate with cell cycle distribution, apoptosis, migration and invasion were also evaluated by Western blot analyses.

Results: *KLF9* showed low expression in both samples of pancreatic cancer tissues and cell lines PANC-1 and BxPC-3, which was associated with the depth of vascular invasion (P=0.016) and tumor differentiation (P<0.001). *In vitro* studies confirmed that overexpression of KLF9 reduced the proliferation of pancreatic cancer cells, induced apoptosis, blocked S phase of cell cycle, and inhibited migration and invasion of the tumor cells. In addition, overexpression of KLF9 upregulated the levels of cyclin D1, *cdk4*, *p53*, *Bax* and *E-cadherin*, and down-regulated *cyclin B*, *Bcl-2*, *N-cadherin*, *MMP-2* and *MMP-9*, which suggested that overexpression of *KLF9* inhibit tumor cell epithelial-mesenchymal transition (EMT).

Conclusions: *KLF9* shows low expression in pancreatic cancer, which correlates with tumor differentiations. It maybe has potential diagnostic value in this kind of cancer.

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