

PANCREATIC DISORDERS & TREATMENT

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High expression of galectin-1 in pancreatic stellate cells increases the progression of pancreatic cancer

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Pancreatic cancer is one of the most common malignant tumors with poor prognosis due to extremely high malignancy, low rate of eligibility for surgical resection and chemoradiation resistance. Increasing evidence indicate that the interaction between activated pancreatic stellate cells (PSCs) and PDAC cells plays an important role in the development of PDAC. By producing high levels of cytokines, chemotactic factors, growth factors and excessive extracellular matrix (ECM), PSCs create desmoplasia and a hypoxic microenvironment that promote the initiation, development, evasion of immune surveillance, invasion, metastasis and resistance to chemoradiation of PDAC. Our founding suggested that Galectin-1 expression was highest in poorly differentiated pancreatic cancer cells and lowest in well-differentiated pancreatic cancer cells, and was associated with tumor size, lymph node metastasis, differentiation, and UICC stage short survival. High expression in PSCs contributes to immune privilege in the pancreatic cancer microenvironment by enhancing apoptosis and anergy of T cells and skewing the Th1/Th2 cytokine balance. Further more, TGF- β 1 from pancreatic cancer cells upregulated Galectin-1 expression in PSCs, and in turn to promotes the proliferative activity, *MMP2* and *MMP9* expression, and invasion of pancreatic cancer cells, as well as the tumor establishment, growth, and liver metastasis. High expression of Galectin-1 in pancreatic stellate cells may provides a therapeutic target for the treatment of pancreatic cancer.

Biography

Dong Tang has completed his PhD from Nanjing Medical University and Post-doctoral studies from Nanjing University of Medicine. He is a Supervisor and Assistant Chief Physician of Clinical Medical College of Yangzhou University (Subei People's Hospital of Jiangsu Provinc). He got a chance of being Visiting Scholar in the National Cancer Center in Japan from December 2012 to January 2013. He has published more than 20 papers in reputed international journals.

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