

POSTER PRESENTATION

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Role of cytokines in the interplay between cancer cells and stroma-associated monocytes

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Background

Pancreatic cancer is characterized by the presence of a highly reactive stroma [1]. The latter harbors a variety of cellular compartments including stellate cells, fibroblasts, endothelial cells and a variety of inflammatory cells such as macrophages and monocytes. Interaction between tumour cells and surrounding stromal cells (tumour micro- environment) plays an important role in pancreatic cancer progression [2]. We have previously shown that stroma-associated monocytes express low molecular weight proteins: S100A8 and S100A9 [3]. The aim of this study is to investigate the involvement of S100A8 and S100A9 proteins in the tumour-stroma crosstalk and to decipher the potential signaling mechanism.

Materials and methods

Cell culture of pancreatic cancer cells and monocytic cells, HL-60 and primary isolated human monocytes. Isolation of Conditioned medias from pancreatic cancer cells. Western blotting analysis. Cytokines multiplexing assay (27-plex, BioRad). Cell signaling assay. Luciferase assay.

Results

1- The expression of S100A8 and S100A9 in monocytes is increased in response to soluble factors in pancreatic cancer cells conditioned media.

2- Cytokine profiling of cell supernatants, using Luminescence assay, showed that PCC secrete a number of cytokines and growth factors including IL-8, FGF and TNF- α .

3- S100A8 and S100A9 increased phosphorylation of MAPK, erk1/2 and p38 and activated NF- κ B signaling pathways in a RAGE dependent manner.

Conclusions

S100A8 and S100A9 promote specific cytokine secretion from pancreatic cancer cells. Interestingly, a number of these cytokines, in turn, induce the secretion of S100A8 and S100A9 from monocytic cells, creating a paracrine loop. These events may create a favourable environment for tumour development and metastases.

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