Aims of the study
To develop a viable and reproducible ex vivo culture system of precision cut tumour slices obtained from surgical resection specimens with human ductal adenocarcinoma of the pancreas (pancreatic cancer).

Objectives of the study
Our objectives are to establish and validate a 3D culture system of cognate human pancreatic tumour in its native microenvironment to understand the pathobiology of pancreas cancer and use it as a model system for drug (cancer chemotherapeutics) testing.

Methodology
Our objectives are to establish and validate a 3D culture system of cognate human pancreatic tumour in its native microenvironment to understand the pathobiology of pancreas cancer and use it as a model system for drug (cancer chemotherapeutics) testing.

Preliminary Results

H & E Staining
Case # 1 (Pancreatic Ductal Adenocarcinoma)
Case # 2 (Pancreatic Ductal Adenocarcinoma)
Case # 3 (Pancreatic Ductal Adenocarcinoma)

Transmission Electron Microscopy
24 hours
72 hours

Immunostaining
Proliferation marker Ki67 (an example)

Can these tissue slices be cultured in normoxic condition?

Conclusions
Precision cut slices of human pancreatic tumours can be successfully cultured ex vivo. These slices remains viable for at least 4 days. Varying degree of outgrowth is indicative of healthy tissue. Importantly, this can be achieved at normoxic condition. Morphological and immunohistochemical analyses show preserved (ultra-)structural integrity and proliferative activity and presence of limited necrosis or degenerative changes.

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