

PCL/22/03 – The role of cancer associated fibroblast heterogeneity in determining metastatic patterns in pancreatic and oesophageal adenocarcinoma.

Pancreatic and oesophageal cancer remain major causes of cancer death in Scotland, and the Western world, with less than 8% and 20% of patients alive 5-years after diagnosis for each respectively. Almost all patients with these cancers die from the cancer spreading to other organs, usually the liver or lung. Even when the original tumour is diagnosed early, and patients have surgery to remove the tumour, most patients have their cancer coming back and often in a different place in the body. I believe non cancer cells, called fibroblasts, in the tumour, can direct the spread of cancer cells. Using new, state-of-the-art technologies, I hope to study the behaviour of these fibroblasts at a detail that has never been done before to identify new treatments to prevent these cancers from spreading or coming back after surgery to remove them. I will investigate the unique organisation of these fibroblasts in the original tumour, and in some, in the sites where it has spread to. I believe that this will allow me to determine how these fibroblasts enable cancers to spread to other organs, and why they select specific organs such as the liver in some patients and the lung or other sites in others. This will allow me to identify new treatments that target these fibroblasts and other immune cells to help prevent, and treat, pancreatic and oesophageal cancer from spreading to distant sites.