

Name of Institution: Pancreatic Research Group, Ingham Institute for Applied Medical Research

Project Title: Circulating Pancreatic Stellate Cells in Pancreatic Cancer

Principal Investigator: Professor Minoti Apte

1) Summarise what the aim of your research was.

Pancreatic cancer has very poor outcomes due largely to the fact that it tends to spread (metastasise) early. Our previous research has found that pancreatic stellate cells (which are non-cancerous cells within the microenvironment surrounding pancreatic cancer cells) help cancer cells to grow and spread (metastasise) to other sites in the body. We have also previously identified the presence of these cells in metastatic cancer deposits and have demonstrated that these cells have in fact spread to distant sites from the original (primary) cancer.

We therefore postulated that these pancreatic stellate cells can be captured in the circulation as they spread from the primary cancer. The aim of this research was therefore to isolate these circulating stellate cells and to investigate how they might influence cancer progression and respond to cancer treatments.

2) What has the outcomes been to date?

The major achievement so far is that we have developed a new way of isolating these circulating pancreatic stellate cells. Experiments have confirmed the success of our technique in isolating such cells, even when the number of these cells within the blood is very low.

We have just started collecting blood samples from patients with pancreatic cancer. Out of the two samples we have collected so far, we have found a circulating stellate cell in one of these patients. This is an exciting and novel finding.

3) What are the next steps?

The immediate next step is to replicate the current successes in circulating stellate cell isolation in blood samples from 10 pancreatic cancer patients. We are also in the middle of using a mouse pancreatic cancer model to investigate the effect of cancer treatments on these circulating cells.

4) What has it meant to have grant funding from the Avner Pancreatic Cancer Foundation?

We are very grateful to the Avner Pancreatic Cancer Foundation for supporting our novel work.



Funding from the Avner Pancreatic Cancer Foundation has enabled us to pursue these elusive circulating stellate cells. It has not just assisted us practically (in terms of the purchase of equipment and consumables) but it has also inspired us to continue to innovate and think of new ways of looking at the biology of pancreatic cancer, with the major aim of developing better diagnostic tools and effective treatments for pancreatic cancer which target not only cancer cells, but also the surrounding helper cells..