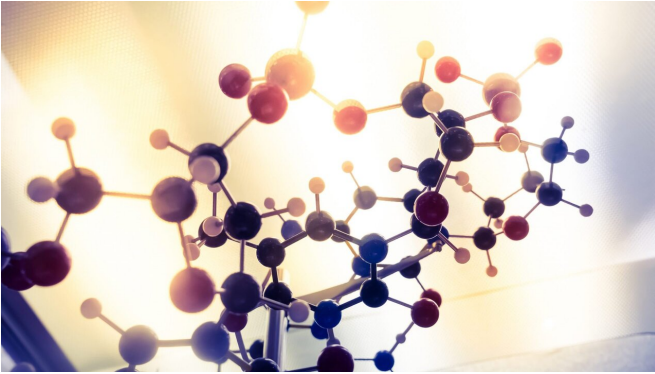# Detecting pancreatic cancer at treatable stages

26 August 2020, by Brian Consiglio

Pancreatic cancer is rarely detected at its early stages because symptoms often do not present themselves until after the cancer has progressed. By then, invasive procedures such as surgery, chemotherapy or radiation are often needed to treat the cancer.

Now, researchers at the University of Missouri's College of Veterinary Medicine and School of Medicine have identified novel pieces of biological information, such as RNA, which may serve as biomarkers for early detection of pancreatic cancer.

"If we can identify the potential for disease development as early as possible, preventative measures can be taken by the patient, which will ultimately lead to improved health outcomes," said Senthil Kumar, a research professor in the MU College of Veterinary Medicine. "By drawing a blood sample in a minimally invasive manner, we can analyze the nano-carriers called 'exosomes' that are present in the bloodstream, which contain different biological information from normal and tumor cells."

In this initial collaborative study between Kumar and surgeons Eric Kimchi and Jussuf Kaifi from MU Health Care's Ellis Fischel Cancer Center, the researchers analyzed the blood samples of healthy individuals and patients at different stages of pancreatic disease. They identified novel RNAs that can be useful in distinguishing between healthy and cancerous conditions in the pancreas.

Screening both cancerous and non-cancerous subjects allows researchers to compare biological patterns to see if certain populations, such as those with a family history of pancreatic cancer, might be more predisposed to develop the disease.

"Identifying these biomarkers early on can help us learn of one's susceptibility for disease development," Kumar said. "Our goal eventually is to keep people well-informed so they have a greater awareness regarding any preventative measures."

While these studies are in the initial phase, more patient studies, which are currently ongoing, will shed light on the potential of identified biomarker applications in pancreatic disease.

This interdisciplinary collaboration between the MU College of Veterinary Medicine and MU School of Medicine helps advance precision medicine, one of the core principles of the NextGen Precision Health Initiative. Identifying specific biomarkers in various populations will ultimately lead to more individualized treatment plans and improved health outcomes.

"RNA cargos in extracellular vesicles derived from blood serum in pancreas associated conditions" was recently published in the February 2020 edition of the journal *Scientific Reports*.

  More information: Senthil R. Kumar et al. RNA cargos in extracellular vesicles derived from blood serum in pancreas associated conditions, *Scientific*

APA citation: Detecting pancreatic cancer at treatable stages (2020, August 26) retrieved 6 October 2022 from https://medicalxpress.com/news/2020-08-pancreatic-cancer-treatable-stages.html