New center aims for pancreatic cancer prevention

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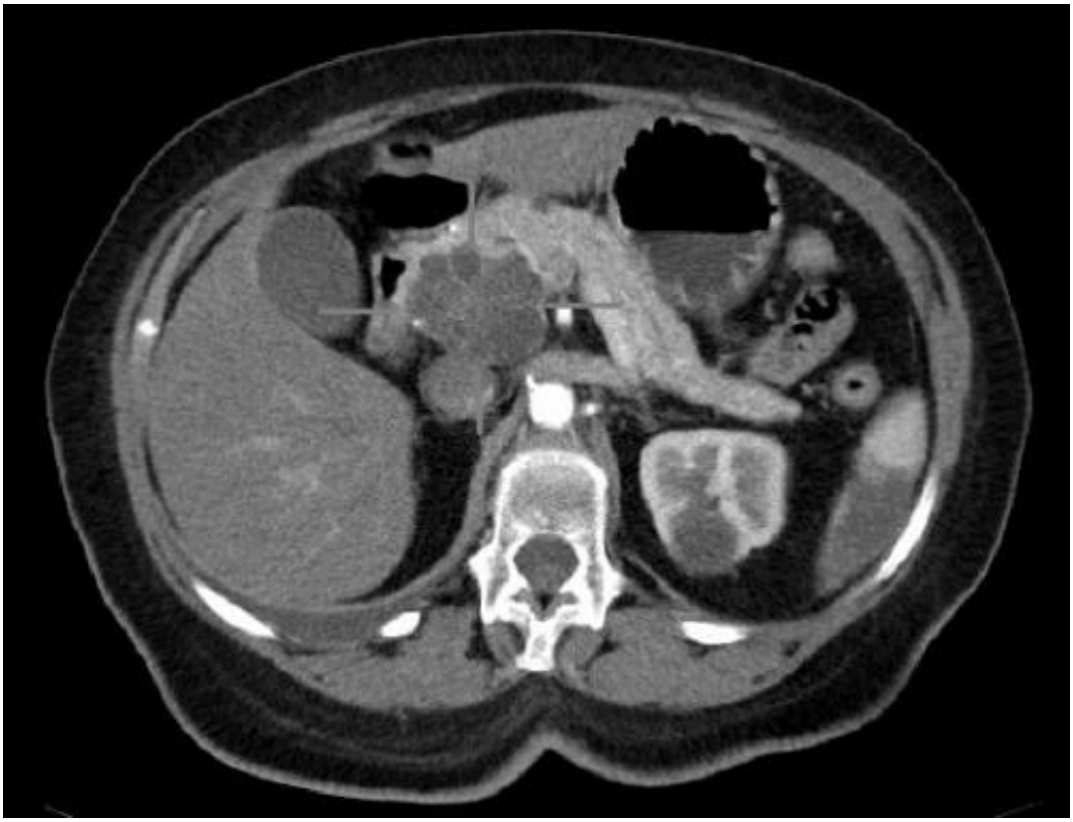

Axial CT image with i.v. contrast. Macrocystic adenocarcinoma of the pancreatic head. Credit: public domain

Pancreatic cancer often causes no symptoms until it has spread to other organs, leading to a very low survival rate after diagnosis.

But a new effort underway at UC San Diego Moores Cancer seeks to increase patients' odds of successful treatment by detecting potential pancreatic problems earlier.

Opened this month alongside a recently announced research effort that explores using complementary drugs to treat the disease, the Pancreatic Cancer Prevention and Screening Clinic at Moores is following special risk-based protocols to screen those with known risk factors for early signs of potential malignancy.

Those who carry certain inherited genetic mutations, have a family history of pancreatic cancer, have pancreatic cysts, have chronic pancreatitis or are newly diagnosed with type II diabetes are at increased risk.

By focusing on this subset of patients and potential patients, said Dr. Andrew Lowy, chief of the division of surgical oncology at Moores, the clinic hopes to prevent a cancer with an appallingly-low survival rate—just 9 percent of patients survive five years after diagnosis.

Early risk-factor-based screening, Lowy said, has the potential to spot pancreatic tumors while they still measure in the millimeters. Waiting until they reach centimeter size, he said, significantly increases the chances that they'll spread.

"The bottom line is that nobody is cured unless their tumor is removable with surgery," Lowy said. "The earlier you get that surgery, the better."

Magnetic resonance imaging, often called MRI, is generally used to take a look at a patient's pancreas. If anomalies are spotted, then ultrasound technology inserted in the stomach can be used to determine whether or not a specific spot is likely to become cancerous. Sometimes, the physician noted, it's necessary to wait and watch to see if changes occur.

But getting these patients under surveillance early, he said, is the current best solution to save lives with a cancer that is known for its relentless ability to return after treatment.

"Pancreatic cancer is too rare to mass screen the entire population, but this kind of risk-based work we think is valuable," Lowy said.

So far, the clinic has identified about 70 patients who could benefit from screening due to having at least one risk factor.

Family history, loosely defined in this case as someone who has two or more immediate family members who were diagnosed with pancreatic cancer, is the largest risk factor group, with genetics second. Existing cysts and chronic pancreatitis have been less common. Patients often learn they have a cyst or other pancreatic growth when doctors are investigating another suspected medical condition such as gall stones.

MRI and ultrasound imaging studies are expensive, but Lowy said health insurance companies will generally pay for this diagnostic work in cases where there is a significant family history, a cyst or chronic pancreatitis. Having a genetic predisposition alone, however, may need to be accompanied by other evidence.

"We look for new onset of Type 2 diabetes, unexplained weight loss, vague abdominal pain, back pain ... there can be these subtle signs which we often don't recognize but, in a patient with genetic risk factors, those signs can be enough that we would probably get approval," Lowy said.

In the short term, the proactive approach could have Lowy and his colleagues in surgical suite more often as more small but suspicious tumors are spotted. But, in the long run, no one hopes that will be the case.

A team of university researchers just received a $1 million grant from entertainment industry charity Stand Up To Cancer for drug testing that will build on previous work by the recently-launched Pancreatic Cancer Initiative. Working in partnership with the Lustgarten Foundation, a New York nonprofit that funds cutting-edge cancer research, the team used genetic analysis to screen existing drugs and those currently in late-stage clinical trials with the potential to block signals at the cellular level that make pancreatic cancer so resilient.

That work, said lead investigator and UCSD pharmacology professor Tannishtha Reya, hit on several drugs capable of blocking hormone receptors thought to allow cells to enter an immature stem-cell-like state, making them able to survive the onslaught of chemotherapy and resume multiplication.

"Based on the work we've already done, we think that combination of chemotherapy and these sorts of drugs will allow us to eliminate those cells that survive after treatment, and that's exciting," Reya said.

If lab work using human pancreatic cancer tissue cells shows an ability to block growth in the lab, clinical trials could follow within 12 months.