

# Researchers identify method to diagnose cancer in patients with early onset diabetes

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Patients diagnosed with pancreatic cancer can develop elevated blood sugar levels up to three years before their cancer diagnosis, according to the results of a study by Mayo Clinic researchers published in the journal *Gastroenterology*.

"Pancreatic cancer is rapidly fatal after its diagnosis, with average survival of six months," says Suresh Chari, M.D., a gastroenterologist at Mayo Clinic. "It has also been thought that its course prior to diagnosis is also rapid and that early detection is not feasible. But our studies provide hope that [pancreatic](#) cancer can indeed be diagnosed at an earlier stage when it is resectable."

In the first study, researchers plotted blood sugar levels of patients with pancreatic cancer going back five years prior to diagnosis. They also plotted the blood sugars of a control group of patients who were age and gender matched to the patients with pancreatic cancer. In this group, researchers were able to show that blood sugars rise 30 to 36 months before the diagnosis of cancer.

In another group of patients and controls, researchers plotted blood sugars of nearly 600 patients with pancreatic cancer just prior to surgical removal of the cancer. Researchers grouped these patients by their tumor volume at the time of the [surgical removal](#). "In this group, we were able to show that blood sugars rise commensurate with the increasing volume of the tumor. Patients with tumors that were very small, less than one cubic centimeter in volume, had lower [blood](#) sugars than patients with larger tumors," Dr. Chari says.

In the second study, also published in *Gastroenterology*, Mayo Clinic researchers describe a risk-prediction model that identifies patients with new onset diabetes that are at very high risk for developing pancreatic cancer. Researchers say the findings are significant

because they represent a potential new way to diagnose pancreatic cancer at an earlier stage.

The model, called an ENDPAC score, identifies a subset of patients with new onset diabetes that have a thirty to forty-fold higher risk of having pancreatic cancer. "Among these patients, the risk of having pancreatic cancer is between four and seven percent," says Dr. Chari. "We believe that if these findings are validated, [patients](#) who have a [high blood sugar](#) and a high ENDPAC score should be thoroughly tested for pancreatic [cancer](#)."

Provided by Mayo Clinic

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