A glimmer of hope against a deadly disease

By the time pancreatic cancer causes symptoms, it’s often too advanced to treat, says Dartmouth’s Stuart Gordon, M.D. The five-year survival rate for patients with metastatic pancreatic cancer is under 2%. But if the cancer is caught before it spreads, overall survival improves considerably. The problem is figuring out how to spot it early.

“There hasn’t been a very good screening test,” Gordon says. Ideally, he explains, a test to screen for a disease will be relatively inexpensive, noninvasive, safe, and highly specific and sensitive, meaning the results can be trusted to be accurate.

Test: Gordon recently collaborated with researchers at the University of Vermont to enroll 546 participants in a test of a screening protocol designed to catch pancreatic cancer early in people with an elevated risk of the disease. To be eligible, participants had to have either at least one close relative with pancreatic cancer or a genetic mutation that increases the risk of the disease.

The first step in the protocol is a blood test that looks at levels of an antigen called CA 19-9; high levels can be a sign of pancreatic cancer. This test fits many of the criteria identified by Gordon: it’s not expensive or invasive and it is safe. However, a patient who tests negative for CA 19-9 could potentially still have pancreatic cancer, and one who tests positive might not have it. “But it’s probably the best serum marker we have,” Gordon says, which is why the team used it.

Detect: Participants with high levels of CA 19-9 then had endoscopic ultrasound (EUS) imaging. Gordon says EUS is an effective way to detect pancreatic cancer early in its development. But, he adds, it’s expensive and invasive and must be done under general anesthesia.

Of the participants, 27 had elevated CA 19-9 levels. All but one of the 27 underwent EUS imaging (one declined). Potentially cancerous growths were spotted in five participants, and in one the growth turned out to be pancreatic cancer. That person had surgery to remove the tumor and was still alive without a recurrence at the end of the study, over three years after having surgery. Two other participants had noncancerous growths serious enough to warrant surgical removal. The patients who did not have surgery were monitored to see if the findings became cause for concern.

Cost: Gordon says the test isn’t yet ready for widespread use. But he and his colleagues noted in Gastrointestinal Endoscopy that detecting the one cancer cost about $41,000—which is comparable to mammography or colonoscopy.

It was easy to recruit patients for the study, he adds, because anyone who has had a family member with pancreatic cancer knows how devastating it can be. “Family members are pretty shook up about it,” he says. “They wanted to do something to help the cause.” That’s a goal Gordon shares as well.

Amos Esty

Inflammation variation

Cortisol, often called “the stress hormone,” can be pro-inflammatory, anti-inflammatory, or neither, depending on its concentration in the blood. So found a recent study led by Dartmouth anesthesiologist Mark Yeager, M.D. In a variety of experiments, Yeager and his colleagues showed that baseline cortisol levels permit inflammatory immune responses, but moderate cortisol concentrations suppress inflammation and high concentrations are neither pro- nor anti-inflammatory. Cortisol regulation of human inflammation is both “dualistic” and “dynamic,” wrote the researchers in the journal Dose-Response. “It evolves over time.”