New Blood Test in Development to Detect Pancreatic Cancer Early

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The study covered in this summary was published on medRxiv.org as a preprint and has not yet been peer reviewed.

Key Takeaways

A 31-biomarker blood test could distinguish patients with early-stage pancreatic ductal adenocarcinoma (PDAC) from healthy persons with a high degree of accuracy.

Individually weak serum biomarkers, such as CEA and CA 19-9, were combined into a robust screening assay.

Why This Matters

About 65% of patients with PDAC present late with unresectable disease.

An accurate, cost-effective blood test to catch early, asymptomatic disease could substantially increase the number of patients eligible for curative surgery.

Study Design

The team reviewed blood biomarkers previously associated with premalignant lesions or early-stage PDAC.

The 31 biomarkers that met diagnostic accuracy requirements were measured in 461 healthy control persons, 194 patients with benign pancreatic disease, and 182 patients with early-stage PDAC.

The assay was then validated in 40 healthy control persons, 73 patients with benign pancreatic disease, and 73 patients with early- and late-stage PDAC.

Biomarkers that made the cut were involved in angiogenesis, apoptosis, immune response, and other processes.

Key Results

The assay had an area under the curve (AUC) of 0.920 for distinguishing PDAC from non-PDAC and an AUC of 0.944 for distinguishing patients with PDAC from healthy control persons in the development cohort.

The validation set yielded an AUC of 0.919 for distinguishing PDAC from non-PDAC and an AUC of 0.925 for distingushing patients with PDAC from healthy persons.

Limitations

Improved survival and decreased mortality have not been demonstrated.

As with any cancer screening test, there is a potential for lead-time bias and detection of clinically irrelevant lesions.

Disclosures

The investigators have disclosed patent and/or ownership interests in the technology.

This is a summary of a preprint research study, "A Multi-Analyte Serum Biomarker Panel for Early Detection of Pancreatic Adenocarcinoma," led by Matthew Firpo of the University of Utah, Salt Lake City. The study has not been peer reviewed. The full text can be found at medRxiv.org.