

Artificial intelligence in pancreatic imaging

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Presentation

Nurses

Pancreas

Radiology & Imaging

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Artificial intelligence applications in pancreatic imaging span screening, diagnosis, and training, with real-time AI-powered endoscopic ultrasound systems achieving expert-level accuracy for tumour detection.

KEY POINTS

- The speaker reported that a real-time AI system trained on 200 patients and validated in 308 patients demonstrated non-inferior accuracy to expert endoscopists for pancreatic tumour detection on endoscopic ultrasound, with results published in Endoscopy.
- A Nature Medicine study found that non-contrast CT was non-inferior to radiologists using contrast-enhanced CT for detecting small pancreatic lesions and differentiating adenocarcinoma from autoimmune pancreatitis.
- The speaker stated that an MIT pancreatic cancer risk prediction model using clinical, biochemical, and imaging data identified 3.5 times more cases than current screening guidelines.
- AI systems can segment pancreatic structures in real time, including pancreas, cysts, tumours, ducts, and stones, potentially shortening the long learning curve of endoscopic ultrasound.
- Convolutional neural networks using grey scale, Doppler, elastography, and contrast-enhanced images help differentiate adenocarcinoma, neuroendocrine tumours, and pancreatic ductal adenocarcinoma, according to the speaker's work.

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