Intra-observer reproducibility of shear-wave EUS elastography for assessing pancreatic tissue stiffness

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Background/aims:

- Endoscopic ultrasound (EUS) share-wave elastography is a minimally invasive diagnostic method for evaluating tissue elasticity.

- The aim of the present study was to evaluate the reproducibility of pancreatic tissue stiffness of the endoscopic ultrasound share-wave elastography (EUS-SWE)
  - System used: Arietta 850 ultrasound machine and Olympus Echoendoscope, (Tokyo, Japan).
Methods:

• A prospective study was conducted, recruiting consecutive patients who underwent pancreatic tissue ultrasound SWE (EUS-SWE).

• Seventeen consecutive measurements were taken in all patients by a single operator.

• The intra-observer reproducibility of the technique was evaluated using the inter-class correlation coefficient (ICC).

• Median VsN values of the first 10 and last 7 measurements were calculated.
Results:

• 54 patients who underwent endoscopic ultrasound (EUS) guided elastography of the pancreas were included: 57.4% women and 42.6% men, with a mean age of 63.8 ± 12.6 years.

• The overall intra-observer agreement was excellent: 0.961 (95% CI: 0.934-0.977).

• A strong correlation was obtained between measurements (r=0.96, 95% CI: 0.933-0.977, p<0.0001).
Conclusions:

• The good ICCs of the values indicate that the presented endoscopic ultrasound SWE (EUS-SWE) system is a reproducible method for assessing pancreatic tissue stiffness.

• Keywords: Elastography, Share-wave, Eus, Stiffness