

## CO-064 - AUTO POINT SHEAR WAVE ELASTOGRAPHY AND ULTRASOUND DERIVED FAT FRACTION: ARE THEY PROMISING TOOLS TO DETECT LIVER FIBROSIS AND STEATOSIS?

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**Introduction:** Auto Point Shear Wave Elastography (auto-pSWE) is a new liver stiffness quantification tool designed to reduce liver elastography exam time. Ultrasound Derived Fat Fraction (UDFF) is a new measurement tool to assess hepatic steatosis. The aim of the study was to assess the diagnostic accuracy of conventional pSWE, auto-pSWE and UDFF.

**Methods:** Patients with chronic liver disease who had already performed liver biopsy were consecutively recruited from our outpatient department to participate in this cross-sectional study. Conventional pSWE (obtaining 10 measurements through 10 acquisitions), auto-pSWE (automatically obtaining 15 measurements by a single acquisition), and UDFF (one measurement obtained by one acquisition) of the liver were performed in March 2022.

**Results:** A total of 44 patients were included, the majority female (56.8%), with a median age of 56 years old (IQR 46-61). The Pearson correlation coefficient between UDFF and histologic steatosis was 0.584 ( $p < 0.001$ ). The UDFF identified patients with a higher probability of having histologic steatosis: the area under the receiver operating characteristic curve (AUROC) values for diagnosing steatosis >grade 0 was 0.768 (95%CI 0.593-0.943,  $p = 0.014$ ), for steatosis >grade 1 was 0.842 (95%CI 0.719-0.965,  $p < 0.001$ ) and for steatosis >grade 2 was 0.844 (95%CI 0.727-0.961,  $p = 0.001$ ). The difference between conventional pSWE and auto-pSWE methods was not significant ( $p = 0.165$ ). The AUROCs for diagnosing fibrosis stage >1, >2 and >3 was 0.782 (95%CI 0.643-0.921,  $p = 0.003$ ), 0.817 (95%CI 0.654-0.979,  $p = 0.014$ ) and 0.864 (95%CI 0.686-1.000,  $p = 0.038$ ) for pSWE and 0.816 (95%CI 0.676-0.956,  $p = 0.001$ ), 0.842 (95%CI 0.647-1.000,  $p = 0.005$ ) and 0.747 (95%CI 0.428-1.000,  $p = 0.109$ ) for auto-pSWE, respectively.

**Conclusion:** UDFF tool provides a simple, non-invasive and low-cost tool for quantifying the hepatic fat fraction with a high degree of agreement with histologic biopsy. The auto-pSWE has equal accuracy as conventional pSWE in measuring liver stiffness, with the advantage of time effectiveness.