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3469-A: VISUALIZED TRANSIENT ELASTOGRAPHY TO ASSESS FIBROSIS AND STEATOSIS IN PATIENTS WITH CHRONIC LIVER DISEASE

Background: Assessment of liver fibrosis and steatosis in patients with chronic liver disease (CLD) is important for risk-stratification and management decisions. Various non-invasive techniques including transient elastography and laboratory-based scoring systems are used in practice for fibrosis staging in CLD. The purpose of this study was to compare fibrosis and steatosis measurements between the FibroScan® 630 (vibration-controlled transient elastography, VCTE) and the recently developed Hepatus Series Diagnostic ultrasound system® (visualized transient elastography, ViTE).
Methods: We performed a prospective study of 48 patients with CLD at the Schiff Center for Liver Diseases between August 2022 to March 2023. We reported descriptive continuous variables as mean ± standard deviation (SD). The shapiro-wilk test was conducted to determine the normality of the data. We used a paired t-test to compare the means of the VCTE kPa vs. ViTE kPa and a wilcoxon signed-rank test to compare the means of the VCTE CAP vs. ViTE LiSA. We used Pearson correlation (r) to assess whether there was an association between BMI, height and weight and the aforementioned clinical values. IBM SPSS v28 was used to conduct statistical analysis and $p<.05$ was considered statistically significant.
Results: Among the 48 patients, the mean age (years) was 52.7 (13.88), the mean BMI was 30.675 (0.97), weight (lbs.) was 198.77 (7.00), and height (cm) was 170.70 (1.56) (Table 1). The mean VCTE kPa was 8.33 (4.92) and ViTE kPa 8.38 (4.13). There was no statistically significant difference between their mean values ($p=0.868$). The mean VCTE CAP was 284.44 (7.55) and ViTE LiSA was 276.58 (7.71). There was no statistically significant difference in the VCTE CAP compared to ViTE LiSA ($p=0.133$). There was a statistically significant, moderate positive correlation between VCTE kPA ($r=0.326$, $p=0.024$), ViTE kPA ($r=0.326$, $p=0.024$) and VCTE CAP ($r=0.370$, $p=0.010$) and weight. There was no statistically significant correlation between height and VCTE kPa, VCTE CAP, ViTE kPa, and ViTE LiSA ($p>.05$). Additionally, there was a statistically significant, moderate positive correlation between VCTE kPA ($r=0.402$, $p=0.005$), ViTE kPA ($r=0.527$, $p=<.001$), ViTE LiSA ($r=0.315$, $p=0.029$), VCTE CAP ($r=0.429$, $p=0.002$) and BMI.

Conclusion: Our data indicates similar liver fibrosis and steatosis measurements between VCTE and ViTE. ViTEâ€™s real-time visual guidance may offer a quicker and more reliable method for non-invasive liver fibrosis staging. Further studies evaluating the accuracy of ViTE compared to VCTE across BMI classes with a larger cohort are warranted.

Table 1. Pearson Correlation of Liver Measurements for VCTE and ViTE with Height, Weight, and BMI (n=48).

	VCTE kPa	VCTE CAP	ViTE kPa	ViTE LiSA
Height (cm)	0.004 (0.979)	0.058 (0.695)	0.07 (0.638)	-0.065 (0.663)
Weight (lbs.)	**0.326 (0.024)**	**0.326 (0.024)**	**0.37 (0.010)**	0.165 (0.263)
BMI	**0.402 (0.005)**	**0.527 (<0.001)**	**0.429 (0.002)**	**0.315 (0.029)**

p-values in parenthesis
Significant p-values <0.05 in **bold**