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THE SEVERITY OF STEATOSIS DOES NOT INFLUENCE LIVER STIFFNESS MEASUREMENTS IN PATIENTS WITH NON-ALCOHOLIC FATTY LIVER DISEASE

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Introduction: Non-invasive characterization of hepatic steatosis and fibrosis based on Fibroscan elastography and controlled attenuation parameter (CAP) is used widely for diagnosis and follow up in NAFLD. The aim of this study was to assess the correlation between the degree of steatosis as determined by CAP and the degree of fibrosis by liver stiffness measurements using the fat and collagen quantitation as gold standard.

Method: 80 consecutive patients with biopsy confirmed NAFLD and transient elastography with CAP score. Biopsies were digitalized at 2x magnification and then analysed by our automated software. Fat and fibrosis quantitation were expressed as percentages of the relative areas of fat and collagen respectively and of tissue.

Results: Correlation between CAP score and fat% was statistically significant ($p=0.002$, $Rho=0.45$). Regression analysis revealed an $R^2=0.206$ (figure 1a). The AUROC for identifying fat >5% was 0.82 ($p=0.001$, 95% CI=0.71-0.92) with the best cutoff at 250 dB/m (95% sens, 60% specificity). Correlation between liver stiffness and fibrosis quantitation (%) was statistically significant ($p<0.001$, $Rho=0.802$) with an R^2 of 0.679 (figure 1b). When our cohort was split to those with fat% $\leq 10\%$ and $>10\%$ in the liver biopsies there was no difference between liver stiffness and fibrosis quantitation in Pearson's correlation: $Rho=0.883$ and $Rho=0.843$ respectively (figure 2).

Image/graph:

Conclusion: Liver stiffness is a reliable noninvasive tool for estimating the severity of fibrosis in NAFLD. The presence of severe steatosis evaluated by fat quantitation in liver biopsies did not influence liver stiffness measurements.

Disclosure of Interest: None Declared

Keywords: CAP, Liver stiffness measurement, NAFLD