

Comparison of Fibroscan Changes in Patients with NAFLD. N Akhverdyan (MDC, SOM), S Sullivan, A Wieland, M Lindsay, S Swartwood, L Grau, T Jensen. Department of Medicine, University of Colorado School of Medicine, Aurora, CO.

Non-alcoholic fatty liver disease (NAFLD) has increased in global prevalence to 20-30% and is projected to become the leading cause of liver transplantation in the US. Recent guidelines recommend the use of Glucagon-Like Peptide 1 Receptor Agonists (GLP-1RA) in the treatment of NAFLD, especially in diabetics. This study retrospectively analyzed patients with NAFLD who completed two Fibroscans separated by 6 months. Changes in Controlled Attenuation Parameter (CAP), Liver Stiffness Measurement (LSM), weight, BMI, blood pressure, liver enzymes, A1c, and lipids were compared between GLP-1RA Users (N=48) vs Non-Users (N=42) and Responders (N=51) vs Non-Responders (N=39) (based on CAP change > 38 dB/m). There was significant improvement in CAP (-61.6% vs -28.8% p=0.012) in GLP-1RA users, but LSM was not significantly different (-0.6 kPa vs -0.5 kPa p=0.493). Weight (-7.5% vs -3.1% p=0.011), BMI (-2.7% vs -1.1% p=0.013), ALT (-15 U/L vs -3.0 U/L p=0.019), AST (-4.0 U/L vs 1.0 U/L p=0.025), and A1c (-0.7 vs 0.0 p=0.026) were significantly better in GLP-1RA users. Weight (-8.4% vs -1.7% p<0.001), BMI (-3.0% vs -0.6% p<0.001), LDL (-16.0 vs 11.0 p=0.042), and A1c (-0.8 vs 0.3 p=0.001) were significantly better in responders. Percent weight change and GLP-1RA use were significantly associated with CAP changes in single variable models, but GLP-1RA use was no longer significantly associated with CAP changes in the full model. In conclusion, GLP-1RA use is associated with improvements in CAP, weight, liver enzymes, and A1c. Weight loss with GLP-1RA use is the likely mechanism for liver improvement. The CAP change cutoff of >38 dB/m is linked to weight loss, LSM, and metabolic parameters, supporting the use of Fibroscan in the surveillance of NAFLD.