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Weight loss via endoscopic bariatric therapies improves 'all major NAFLD outcomes

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Weight loss induced by FDA-approved endoscopic bariatric and metabolic therapies improved several features of nonalcoholic fatty liver disease, with significant improvement in liver fibrosis, according to research.

"Our study demonstrates that [endoscopic bariatric and metabolic therapies (EBMTs)] are associated with significant improvement in all major NAFLD surrogates, including liver fibrosis," Pichamol Jirapinyo, MD, MPH, of Brigham and Women's Hospital in Boston, and colleagues, wrote in Clinical Gastroenterology and Hepatology. "In addition, all surrogate markers of insulin resistance including [homeostasis model assessment of insulin resistance (HOMA-IR)], fasting glucose and fasting insulin significantly improve, suggesting possible mechanisms of how EBMTs affect NAFLD improvement."In a meta-analysis, researchers reviewed data on 863 NAFLD patients from 18 studies to assess changes in liver outcomes following EBMT. The primary outcome of the analysis was the effect of EBMT on liver fibrosis; secondary outcomes included changes in liver enzymes, steatosis, NAFLD histological changes and insulin sensitivity.

Jirapinyo and colleagues found that liver fibrosis was reduced by a medium effect size with a standardized mean difference (SMD) of 0.7 (95% CI, 0.1-1.3; P = .02). They also noted significant improvements in alanine aminotransferase (–9 U/L; 95% CI, –11.6 to –6.4), hepatic steatosis (SMD: –1.0; 95% CI, –1.2 to –0.8) and histologic NAFLD activity score (–2.50; 95% CI, –3.5 to –1.5) (P < .0001 for all).

In addition, insulin resistance significantly improved after EBMT, with HOMA-IR, fasting glucose and fasting insulin decreasing by 1.8 mg/dL, 7.3 mg/dL and 4.5 μIU/mL, respectively (P < .0001 for all).

Other notable findings included an absolute weight loss of 15.8 kg, with a decrease in BMI of 5.2 kg/m2, which, at a 6-month follow-up, corresponded to

14.5% total weight loss and 38.1% excess weight loss ($P < .0001$ for all). Waist circumference also decreased by 4.8 inches.

However, researchers deemed the quality of evidence to be "very low because we found serious risk of bias, indirectness and imprecision," suggesting a need for further research and longer-term studies.

"This systematic review and meta-analysis demonstrate the benefits of EBMTs on all major NAFLD outcomes including liver fibrosis," Jirapinyo and colleagues wrote. "Because of the worsening NAFLD pandemic and the paucity of available therapies, EBMTs should be further investigated as a potential treatment option for this patient population."