FROM AMINO ACIDS TO MUSCLES: WEIGHT GAIN ANALYSIS IN ACHALASIA PATIENTS AFTER POEM USING NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY

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Pre-treatment branched chain amino acid levels predict muscle mass gain after peroral endoscopic myotomy in 43 achalasia patients, with higher BCAA correlating with greater muscle and less fat gain at 3 months.

KEY POINTS

- Patients gained an average of 5.58 kg body weight 3 months after POEM, with 1.77 kg fat gain and 1.33 kg muscle gain, while Eckardt scores improved from 6.86 to 0.71
- Pre-procedure levels of branched chain amino acids (valine, leucine, isoleucine), their keto acids, and glutamine, histidine, and lysine were positively correlated with percentage muscle gain (p=0.03-0.0004) and inversely correlated with percentage fat gain (p=0.01-0.00001)
- Nuclear magnetic resonance spectroscopy of blood plasma and bioimpedance measurements were used to characterize metabolomic and body composition changes
- The authors suggest these findings could guide nutrition strategies in achalasia patients and that achalasia may serve as a model for studying metabolic changes after restoration of normal dietary patterns

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