weight-loss-driven changes in the defining variables. Resolution kinetics varied: 43 % exited CM/LS by 1 month and 50 % by 6 months. Baseline HOMA-IR and Adipo-IR did not distinguish earlier from later exit, including after adjustment for early ΔBMI. LS showed higher steatosis grade than CON, whereas MASH and F2+ fibrosis prevalence did not differ. Earlier exit was associated with higher baseline CAP ($p = 0.022$).

Conclusions: In this bariatric setting, postoperative CM/LS transitions primarily reflect weight-loss-driven changes in the defining cluster variables, limiting interpretation as stable biologic endotypes. However, heterogeneity in resolution timing, together with higher baseline CAP in earlier responders, suggests that hepatic fat burden may influence transition timing.

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Short-term nutraceutical efficacy of Glucoerb® and Epavin® in overweight and obese adults: a 3-month observational study

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Aims/Hypothesis: Nutraceutical interventions may complement dietary strategies to improve body composition and reduce adiposity in adults with overweight or obesity. Glucoerb® and Epavin® contain plant-derived bioactives designed to support metabolic homeostasis and modulate fat and lean mass.This study aimed to evaluate the short-term effects of Glucoerb®, Epavin®, and their combination on antropometric and bioimpedance-derived body composition parameters.

Methods: Thirty adults with overweight or obesity (BMI ≥ 27 kg/m²) were assigned to receive Glucoerb® (Group 1, n = 10), Epavin® (Group 2, n = 10), or their combination (Group 3, n = 10) for three months. All participants received individualised Mediterranean dietary counseling and lifestyle support. Assessments at baseline and follow-up included weight, BMI,waist circumference, fat mass, fat-free mass, and skeletal muscle mass, measured via bioimpedance analysis.Within-group changes were analysed using paired t-tests or Wilcoxon signed-rank tests.

Results: All groups showed improvements in anthropometric and body composition parameters. In Group 1, waist circumference decreased from 96 ± 15 cm to 93 ± 15 cm (-2.5 %, $p = 0.035$), and fat mass from 29 ± 8 kg to 26 ± 8 kg (-12.3 %, $p = 0.042$). In Group 2, body weight decreased from 88 ± 15 kg to 86 ± 15 kg (-2.61 %, $p = 0.006$), waist circumference from 103 ± 10 cm to 98 ± 11 cm (-5.0 %, $p = 0.007$), and fat mass from 29 ± 12 kg to 26 ± 14 kg (-9.1 %, $p = 0.011$). In Group 3, body weight decreased from 97 ± 14 kg to 93 ± 14 kg (-3.5 %, $p = 0.049$), waist circumference from 112 ± 10 cm to 100 ± 13 cm (-11 %, $p = 0.015$), and fat mass from 38 ± 7 kg to 32 ± 9 kg (-15.4 %, $p = 0.019$).Fat-free mass and skeletal muscle mass were preserved across all groups.

Conclusions: Short-term supplementation with Glucoerb®, Epavin®, or their combination, alongside a combined Mediterranean dietary and lifestyle approach, improves anthropometric and bioimpedance-derived body composition in adults with overweight or obesity.

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Real-world effectiveness of 6-month tirzepatide therapy on body weight and composition in adults with overweight or obesity

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Aims/Hypothesis: Obesity drives cardiometabolic dysfunction and increases cardiovascular risk, with excess fat mass and impaired body composition playing a key role in metabolic outcomes; this study aimed to evaluate the real-world effectiveness (RWE) of tirzepatide on body weight, body composition, and metabolic parameters in adults with obesity or overweight and at least one obesity-associated comorbidities.

Methods: A 24-week retrospective observational analysis included 122 adults (80 % women; mean age 44 ± 15 years) with overweight or obesity, excluding patients with diabetes. Participants received tirzepatide (5 mg weekly) in combination with a standardised low-carbohydrate diet and tailored physical activity. Anthropometric measurements, bioelectrical impedance analysis and metabolic parameters were assessed at baseline and after 24 weeks.

Results: At 24 weeks, mean body weight reduced from 95 ± 20 to 80 ± 22 kg (-16 %, $p < 0.001$). BMI decreased from 35 ± 6 to 29 ± 7 kg/m², along with reductions in waist circumference (109 ± 16 to 92 ± 12 cm) and waist-to-height ratio (0.66 ± 0.1 to 0.56 ± 0.1) (all $p < 0.001$). Fat mass largely reduced from 42 ± 13 to 27 ± 11 kg (-35 %, $p < 0.001$), while fat-free mass slightly decreased from 53 ± 9 to 50 ± 7 kg (-5.1 %, $p < 0.001$). By contrast, skeletal muscle mass was preserved (from 31 ± 8 to 31 ± 7 kg, $p = 0.151$). Metabolic parameters were also improved, including HbA_{1c} (from 5.5 ± 0.4 % to 5.2 ± 0.1 %, $p = 0.007$), fasting plasma glucose (from 93 ± 12 to 84 ± 9 mg/dl, $p < 0.001$), fasting insulin (from 17 ± 15 to 12 ± 9 µIU/ml, $p = 0.002$) and HOMA-IR (from 4.2 ± 4.7 to 2.5 ± 2.1, $p = 0.001$). Lowering body weight and BMI was both positively correlated with the reduction in fat mass ($r = 0.762$ and $r = 0.738$, respectively, $p < 0.001$ for both) and with the improvements in both insulin ($r = 0.527$, $p < 0.01$) and HOMA-IR ($r = 0.465$, $p < 0.05$).

Conclusions: In a RWE study, 24 weeks of tirzepatide treatment led to significant improvement on body weight, BMI and fat mass, together with preservation of lean skeletal muscle mass, and improved glycaemic control and insulin sensitivity.

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Metabolic heterogeneity in gestational diabetes: a focus on insulin sensitivity and secretory capacity

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Background: Identifying metabolic heterogeneity in gestational diabetes (GD)