Effectiveness of magnetic duodeno-ileostomy anastomosis for weight loss in patients with prior sleeve gastrectomy

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Background: Patients who undergo bariatric procedures like sleeve gastrectomy often struggle to sustain long-term weight loss. Duodeno-ileostomy with magnet-based anastomosis is a novel technique aimed at enhancing weight loss by altering food absorption. This ongoing study evaluates the effectiveness of this approach in patients post sleeve gastrectomy.

Objectives: To assess the impact of duodeno-ileostomy with magnet-based anastomosis on weight loss and investigate the relationship between magnet size and outcomes.

Methods: 44 patients underwent the procedure using 30 mm, 39 mm, or 50 mm magnets. Weight, vital signs, and laboratory parameters were assessed periodically. Statistical comparisons were made between patients with 50 mm and 39 mm at 90 days post-procedure and with 50 mm and 30 mm magnets at 180 days post-procedure, based on the available follow-up data at the time of writing this abstract.

Results: Patients with the 39 mm magnet achieved a mean excess weight loss (EW) of 5.04% and total weight loss (TWL) of 0.65% at 90 days while the 50 mm group showed a mean EW of 41.07% and TWL of 11.57%. At 180 days, the 50 mm group had a significantly higher mean EW (36.75%) and TWL (10.66%) compared to the 30 mm group (6.5% EW, 6.69% TWL). HbA1c levels showed a modest reduction in both groups, but no significant difference between magnet sizes (50 mm: -0.25, 30 mm: -0.21).

Conclusion: Magnet-based duodeno-ileostomy is effective in promoting weight loss, with larger magnets (50 mm) showing superior results. Both magnet sizes reduced HbA1c, suggesting similar metabolic benefits.

Keywords: duodeno-ileostomy, magnet, anastomosis, weight loss, sleeve gastrectomy, bariatric surgery