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Managing Nutritional Adaptation Post Endoscopic Sleeve Gastroplasty (ESG): A Case Study

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Introduction:

The escalating prevalence of obesity in Malaysia, currently affecting 54.4% of adults, necessitates durable and accessible interventions. In July 2025, Queen Elizabeth Hospital (QEH), Sabah, reached a clinical milestone by performing the state's first public-sector Endoscopic Sleeve Gastroplasty (ESG). This case report details the six-month outcomes of a patient managed within the multidisciplinary framework of the Queen Elizabeth Hospital II (QEH II) Obesity Clinic.

Case Presentation:

A 45-year-old female engineer with morbid obesity (BMI 47.8 kg/m², weight 122.3 kg) and metabolic comorbidities (hypertension, dyslipidemia, and MAFLD) presented following a significant weight rebound after ceasing oral Semaglutide. Her initial body composition showed 65.6% total fat and 80.2 kg of fat mass. In July 2025, she underwent ESG as a sustainable, minimally invasive intervention.

Results:

At her six-month follow-up, the patient achieved 11.4% Total Weight Loss (TWL) and 21.9% Excess Weight Loss (EWL), reducing her weight to 108.4 kg and BMI to 42.3 kg/m². Her body composition showed a significant reduction of 8.2% of body fat (18 kg of fat mass). Notably, her total muscle mass increased to 3.7kg with adjunct lifestyle intervention, indicating high-quality weight loss focussing on fat reduction. Caloric intake was reduced from 2300 kcal/day to 1100 kcal/day due to early satiety, though normal hunger cues remained. Compared with conventional sleeve gastrectomy, ESG resulted in slower weight loss progression but was associated with fewer dietary intolerances, greater flexibility in food choices, and higher patient-reported satisfaction with quality of life. However, the preserved dietary tolerance contributed to a slower transition toward a low-calorie, low-fat dietary pattern.

Conclusion:

ESG is an effective minimally invasive intervention that offers significant weight loss and superior dietary tolerance compared to traditional surgery, though at a slower pace. Adjunct therapy with lifestyle modification remains vital for long-term success. Ongoing follow-up will evaluate the 12-to-24-month efficacy of the multidisciplinary intervention in Obesity Clinic.

Keywords: Endoscopic Sleeve Gastroplasty (ESG), Morbid Obesity, Sabah Healthcare, Muscle Mass Preservation, Bariatric Endoscopy