

**Duodenal switch for the management of failed sleeve gastrectomy: a matched controlled trial.**

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**Abstract**

**Introduction:** The surgical management for insufficient weight loss after sleeve gastrectomy (SG) is still debated.

**Objective:** To assess the risks and medium-term benefits of adding a Duodenal Switch (DS) for the management of SG weight loss failure.

**Methods:** All patients who underwent a laparoscopic DS for weight loss failure following SG, with a minimal follow-up of 2 years were included in this study (N=59). Patients were matched 1 to 1 for age, sex, body mass index (BMI) and the year of surgery with a group of patients who underwent a single-stage laparoscopic biliopancreatic diversion with duodenal switch (BPD-DS). Data were extracted from our prospective electronic database and are reported as the mean  $\pm$  standard deviation.

**Results:** The initial BMI ( $53.8 \pm 9.7$  vs.  $52.7 \pm 7.8 \text{ kg/m}^2$ ,  $p=0.4$ ), age ( $44.0 \pm 10.2$  vs.  $43.4 \pm 9.6$  years,  $p=0.5$ ) and sex-ratio (37F/22H) were similar in both groups. All patients were available for follow-up at a mean  $48.4 \pm 15.9$  months from the initial surgery. Patients were converted to BPD-DS after a mean  $24.4 \pm 10.2$  months. There was no short or long-term mortality. Major 30-days complications occurred in 3%, 5% and 5% after SG, 2nd-stage DS and one-stage BPD-DS, respectively.

At the time of conversion, the Excess Weight Loss (EWL) was  $38.7\pm 17\%$  and total body weight loss (TBWL) was  $20.3\pm 9.3\%$ . Following revision or single-stage BPD-DS, the EWL and TBWL were  $74.8\pm 18\%$  vs.  $87.9\pm 18\%$  at 1 year (n= 107, p=0.00021),  $87.9\pm 16\%$  vs.  $92.2\pm 14\%$  at 2 years (n= 90, p=0.17) and  $90.4\pm 38\%$  vs  $87.3\pm 16\%$  at 3 years (n=69, p=0.6). The incidence of Type 2 diabetes (T2DM) and hypertension before surgery were 44% vs 30% and 57 vs 47%. At last follow-up, remission rate for T2DM was 56%, 88% and 93% after SG, 2<sup>nd</sup> stage DS and BPD-DS, respectively. Remission of hypertension (n= 34 vs 28) was 38%, 71% and 71% after SG, 2<sup>nd</sup> stage DS and BPD-DS.

**Conclusion:** Second-stage DS is an excellent option for the management of failed SG, with an additional 38% EWL and 32% remission rate for T2DM. There was no significant difference in terms of benefits with primary BPD-DS.

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