Type-2 Diabetes Remission and Glycemic Control after SADI-S and BPD-DS: A Multi-center Comparative Analysis

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BACKGROUND

Metabolic and bariatric surgery (MBS) is an excellent therapeutic option for the management of type-2 diabetes mellitus (T2DM).

Novel procedures such as the biliopancreatic diversion with duodenal switch (BPD-DS) and single anastomosis duodeno-ileal bypass with sleeve (SADI-S) have shown favorable weight loss results and obesity-related medical conditions resolution rates.

These procedures should be considered for the sustained management of patients with obesity and T2DM.

AIM

There remains a scarcity of reports describing the sustained effect of these novel MBS procedures on T2DM.

Aim: Report and compare the mid-term T2DM remission rates and glycemic control outcomes between patients who underwent BPD-DS and SADI-S

METHODS

We performed a multicenter retrospective cohort study of patients with a confirmed diagnosis of T2DM who underwent BPD-DS (n=48) or SADI-S (n=49) between 2008-2023.

T2DM remission was defined as HbA1c <6.5% and off anti-diabetes medications

Primary endpoint: Comparing T2DM remission rates at 6, 12, and 24 months after each procedure.

Statistical analysis: A chi-square test for categorical variables and a two-sample t-test for continuous variables were used.

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TABLE & FIGURES

TABLE 1: CHANGES IN GLYCEMIC CONTROL PARAMETERS AFTER SADI-S AND BPD-DS

	SADI-S	BPD-DS	*p-value*
N (%)	49 (50.5)	48 (49.5)	
Change in number of medications, n (SD)			
6 months	-0.69	-1.07	0.760
12 months	-1.05	-1.18	0.540
24 months	-1.12	-1.17	0.849
Change in fasting blood glucose, mg/dL (SD)			
6 months	-38.2	-30.4	0.524
12 months	-48.2	-40.8	0.510
24 months	-61.8	-34.3	**0.035**
Insulin use, (%)			
Baseline	42.9	45.8	0.768
6 months	14.3	22.9	0.330
12 months	6.1	12.5	**0.035**
24 months	4.1	12.5	**<0.001**

FIGURE 1: HBA1C FOLLOW-UP

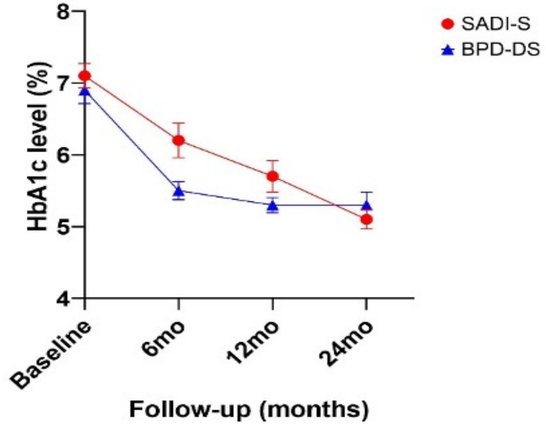


Figure legend: HbA1c: hemoglobin A1c; SADI-S: single anastomosis duodeno-ileal bypass with sleeve; BPD-DS: biliopancreatic diversion with duodenal switch

TABLE & FIGURES

FIGURE 2: T2DM REMISSION RATES AFTER SADI-S AND BPD-DS

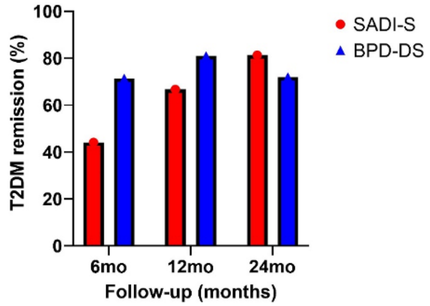


Figure legend: T2DM: Type-2 diabetes mellitus; SADI-S: single anastomosis duodeno-ileal bypass with sleeve; BPD-DS: biliopancreatic diversion with duodenal switch

RESULTS

The SADI-S cohort had a higher change in FBG at 24 months. Decrease in insulin use was statistically higher after SADI-S at 12 and 24 months (**Table 1**).

Both procedures demonstrated a similar mean HbA1c level after 24 months of follow-up (p=0.518) (**Figure 1**).

T2DM remission rates were higher after BPD-DS at 6 months (71.4% vs 44.1%; p=0.016), but similar at 24 months (72.0% vs 81.3%; p=0.712) (**Figure 2**).

CONCLUSIONS

In our cohort, both SADI-S and BPD-DS were associated with high mid-term T2DM remission rates and improvement in glycemic control parameters. Further long-term studies are required to evaluate and compare the trends in T2DM remission rates after these procedures.