IFSO

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Long-term outcomes of SADI-S versus DS

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TORONTO2026

The Future of Obesity Management:
From Weight Loss to Health Gain

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Disclosure

Advisory Board: Novo-Nordisk, Eli Lilly, Bausch, GI-Windows

Research support: Johnson and Johnson, Medtronic, Bausch, GI-Windows

Why not a Standard Duodenal Switch?

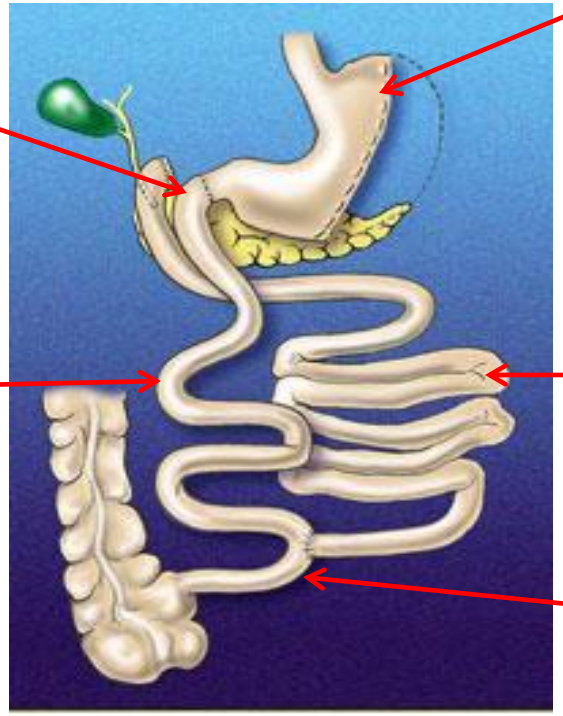
- Technically demanding
  - Requires duodenal dissection and duodeno-ileostomy
- Side-effects
  - Higher bowel movement frequency
  - Increased bloating and flatus
- Risk of nutritional deficiencies
  - Protein, Vitamins A, D, E, K

> SADI-S

DS versus SADI-S
Single-Anastomosis Duodeno-Ileal bypass

Sleeve gastrectomy

Duodeno-ileal anastomosis

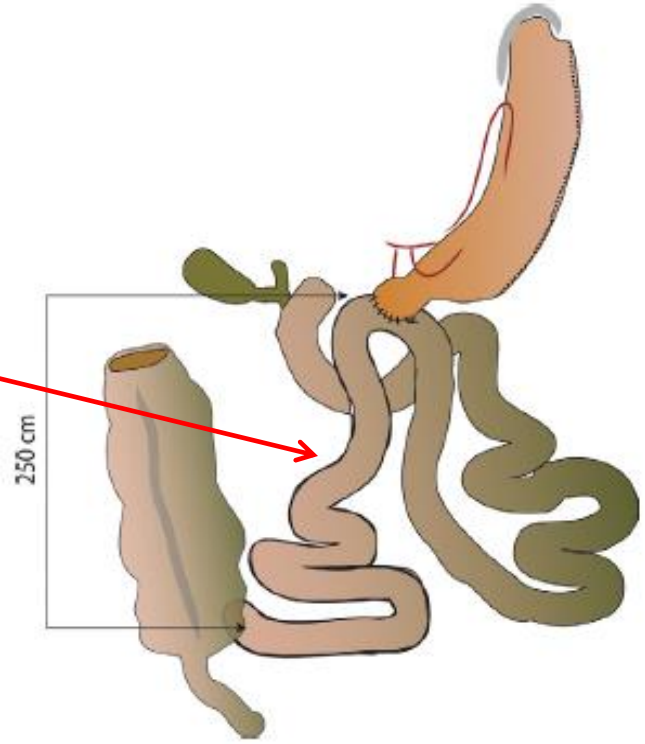


150cm alimentary limb

Biliary limb

100cm common channel

250 cm common channel



Obes Surg. 2007 Dec;17(12):1614-8. Epub 2007 Nov 27.

Proximal duodenal-ileal end-to-side bypass with sleeve gastrectomy: proposed technique.

Sánchez-Pernaute A[1], Rubio Herrera MA, Pérez-Aguirre E, García Pérez JC, Cabrerizo L, Díez Valladares L, Fernández C, Talavera P, Torres A.

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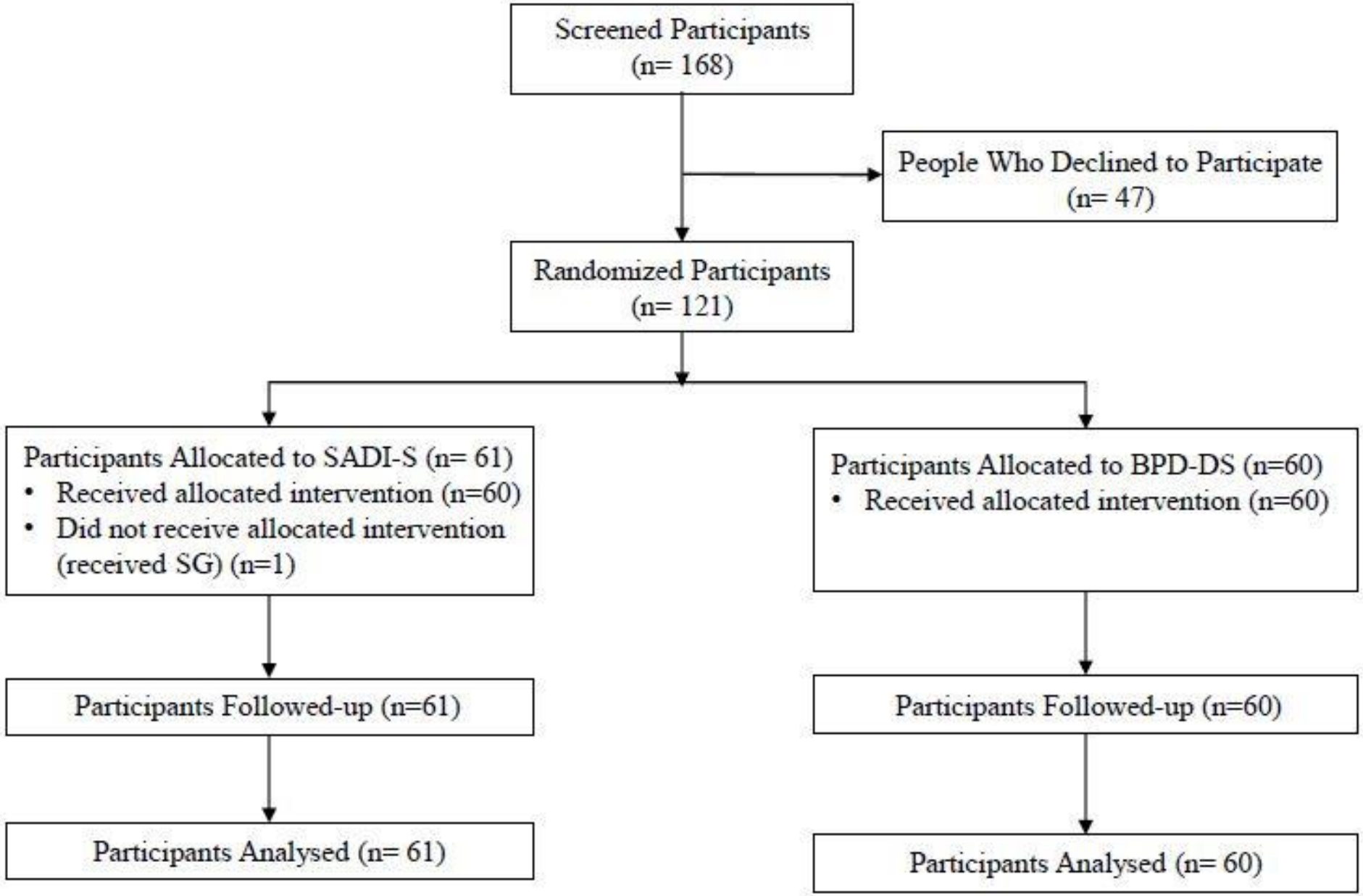
Sanchez-Pernaute et al, Obes Surg 2007

Prospective randomized double-blinded clinical trial comparing the Single Anastomosis Duodeno-Ileal Bypass (SADI) to Bilio-Pancreatic Diversion with Duodenal Switch.

- Randomized 1:1 - SADI Vs Standard DS
- Double-blinded (patient-evaluator)
- Standard NIH criteria
- N=120 (60 patients in each group)
  - Powered to detect a 5% difference in EWL
  - Primary objective: EWL at 2 years
- F/U for 5 years


Screened Participants
(n= 168)
People Who Declined to Participate
(n= 47)
Randomized Participants
(n= 121)
Participants Allocated to SADI-S (n= 61)
• Received allocated intervention (n=60)
• Did not receive allocated intervention (received SG) (n=1)
Participants Allocated to BPD-DS (n=60)
• Received allocated intervention (n=60)
Participants Followed-up (n=61)
Participants Followed-up (n=60)
Participants Analysed (n= 61)
Participants Analysed (n= 60)

DS Vs SADI 250cm RCT
Preliminary 5 years results

	BPD-DS				SADI				
	Mean	Range			Mean	Range			
n	60				61				
Sex (M :F)	9:51				14:47				NS
Age (y)	42	20	-	60	42	26	-	60	NS
Weight (kg)	132.6	96.2	-	196.4	133.1	90	-	196.4	NS
Height (cm)	164	150	-	180	165	149	-	186	NS
BMI (kg/m^2)	48.8	39.9	-	61.0	48.7	38.9	-	59.8	NS

103/121 patients available for follow-up at 5 years (86%)

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DE QUÉBEC

Peri-operative data

N	BPD-DS 60	SADI 61	p
Hospital Stay	2.9±2.3	2.9±1.5	0.4
Blood loss	25±26	24±23	0.9
Operative time	166±26	152±27	0.004

Post-operative complications

Clavien-Dindo	DS	SADI	p
1	31	35	NS
2	59	52	NS
3 – requiring surgical, endoscopic or radiological intervention			
3a	2	2	NS
3b	4	6	NS
4a	0	0	
4b	0	0	
5	0	0	
Total	96	95	NS
Related to surgery	51	41	NS
Reoperation	2	2	NS

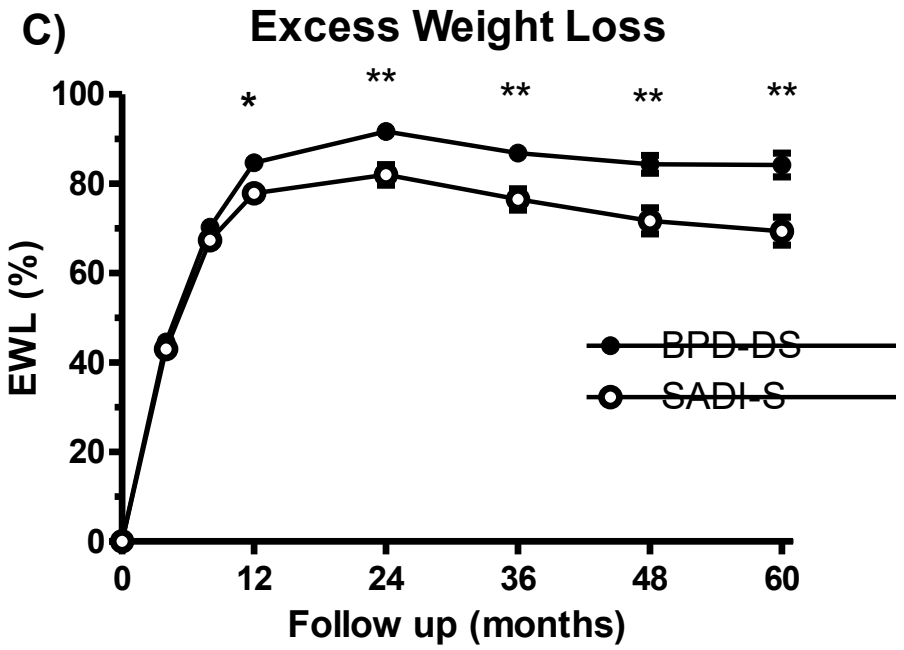
10% vs 13%

SBO (1) leak (1)

Leak (1) Abcess (1)

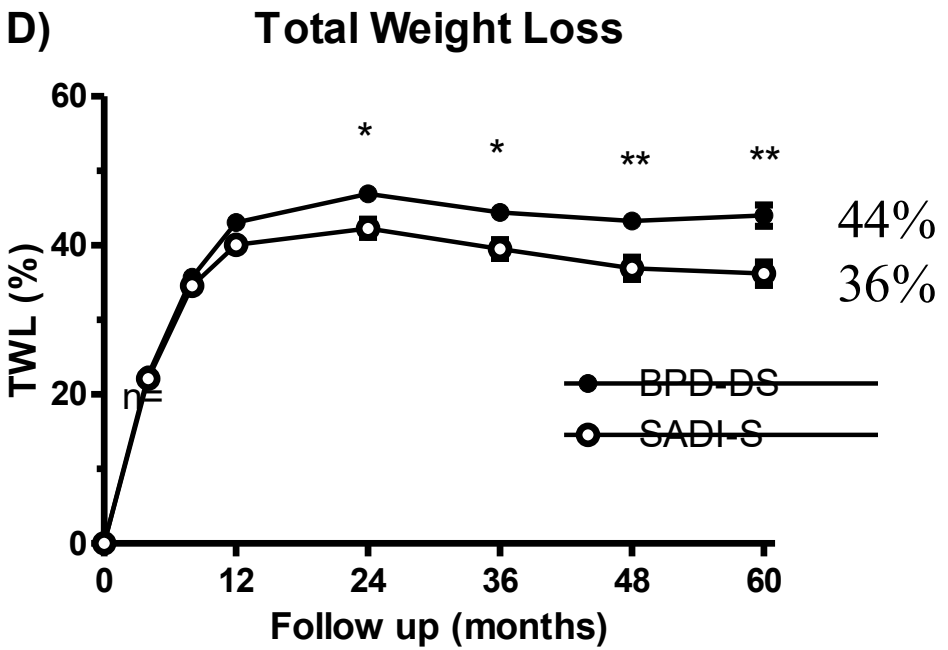
Weight loss

84% versus 69% EWL at 5 years



Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.0002
time*surgery: p = 0.0438

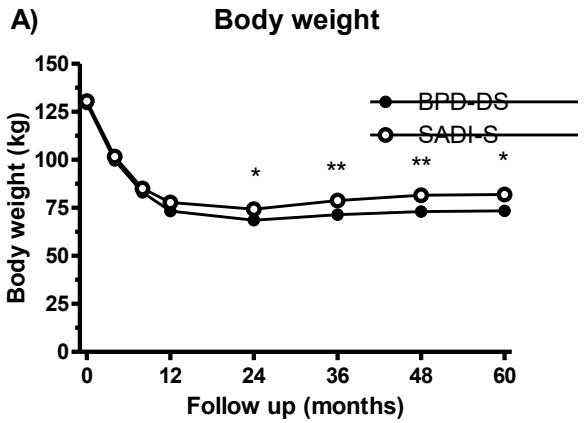
* least square means contrast p value <0.05 after Bonferonni correction
**least square means contrast p value <0.01 after Bonferonni correction



Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.0004
time*surgery: p = 0.0682

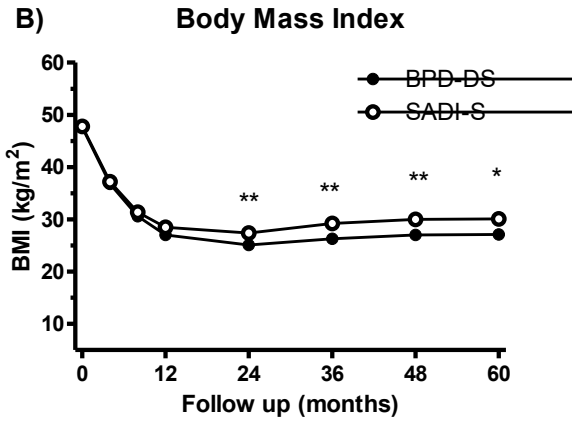
* least square means contrast p value <0.05 after Bonferonni correction
**least square means contrast p value <0.01 after Bonferonni correction

At 5 Years
DS: 131±20 to 73±12kg **(-58kg)**
SADI: 134±18 to 82±16kgADI **(-52kg)**



Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.0071
time*surgery: p = 0.1850

* least square means contrast p value <0.05 after Bonferonni correction
**least square means contrast p value <0.01 after Bonferonni correction



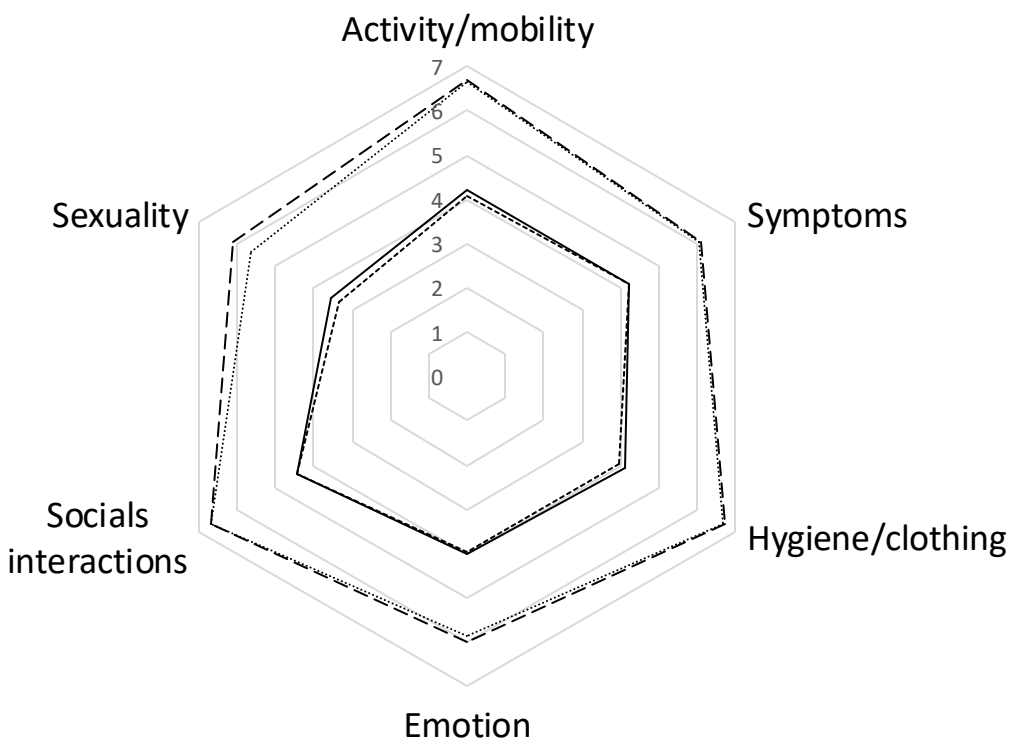
Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.0055
time*surgery: p = 0.0864

* least square means contrast p value <0.05 after Bonferonni correction
**least square means contrast p value <0.01 after Bonferonni correction

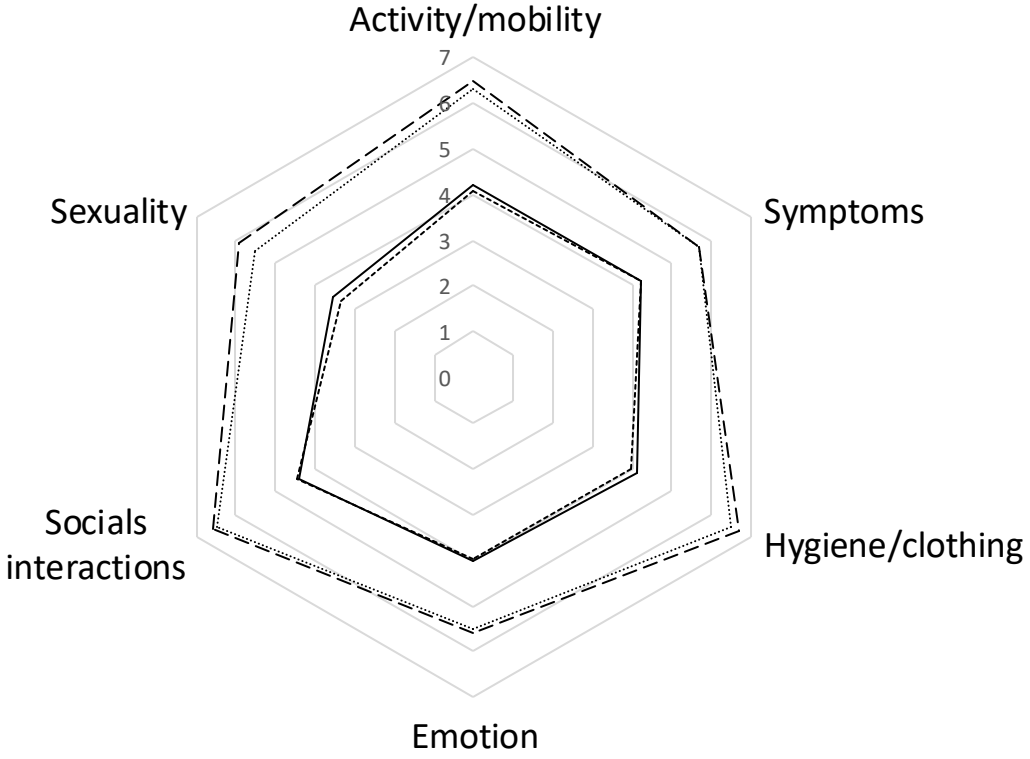
Quality of life and side-effects

Quality of Life
Laval Questionnaire 44 items, 7-points Likert scale

QoL at 0 and 24 months for BPD-DS and SADI-S



QoL at 0 and 60 months for BPD-DS and SADI-S



Quality of Life questionnaire
Laval Questionnaire 44 items, 7-points Likert scale

Activity and mobility quality of life score

Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.5330
time*surgery: p = 0.2218

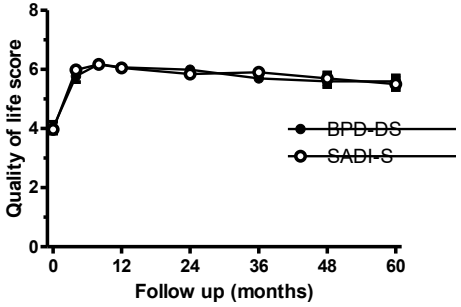
Symptoms quality of life score

Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.5756
time*surgery: p = 0.5365

Hygiene/clothing quality of life score

Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.7196
time*surgery: p = 0.6650

Emotion quality of life score

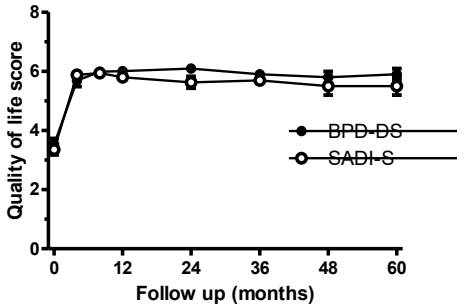


Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.5940
time*surgery: p = 0.5922

Socials interactions quality of life score

Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.5580
time*surgery: p = 0.5581

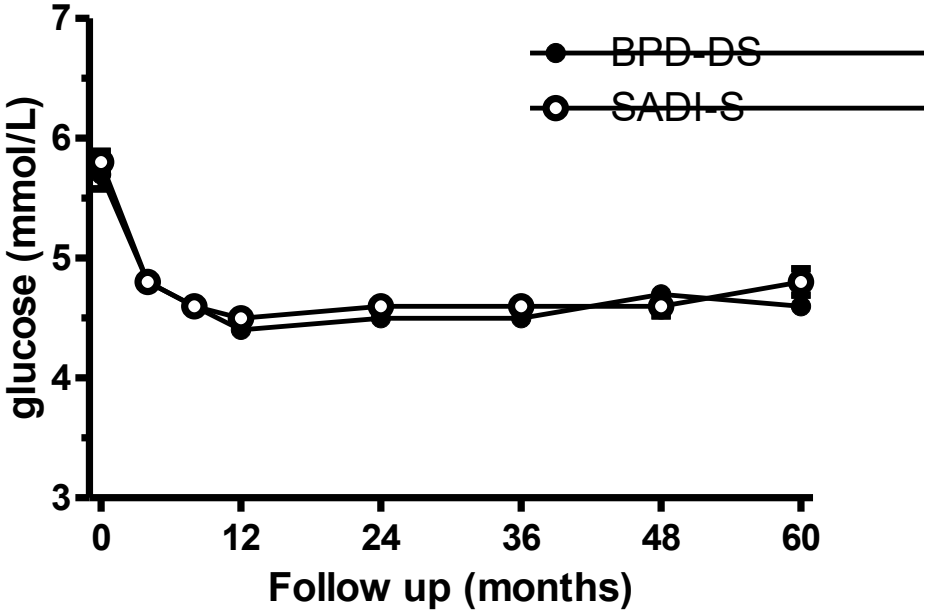
Sexuality quality of life score



Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.8260
time*surgery: p = 0.9677

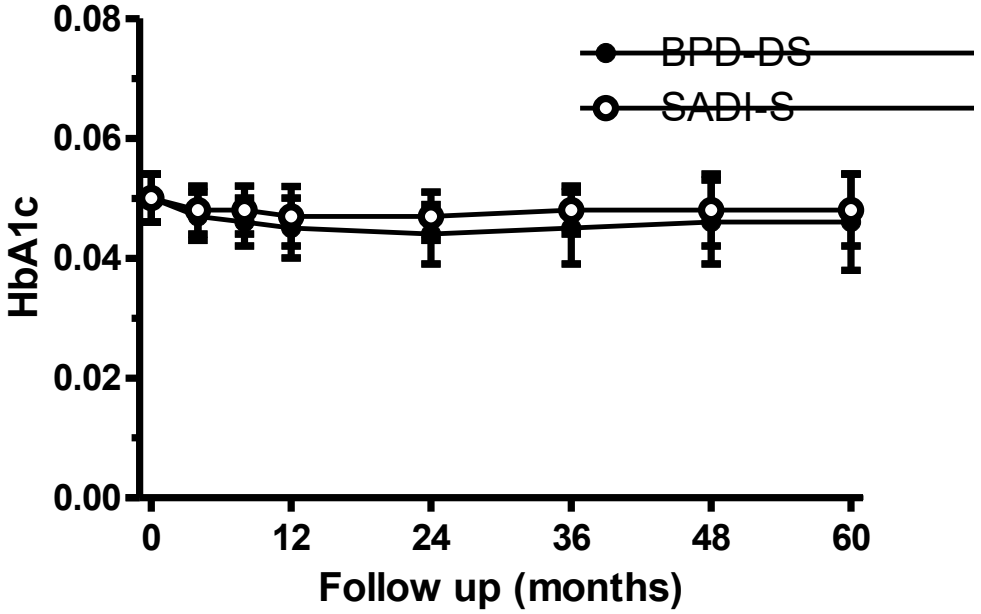
Metabolic outcomes - Glycemia

Fasting blood glucose



Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.0196
time*surgery: p = 0.8599

Glycated hemoglobin



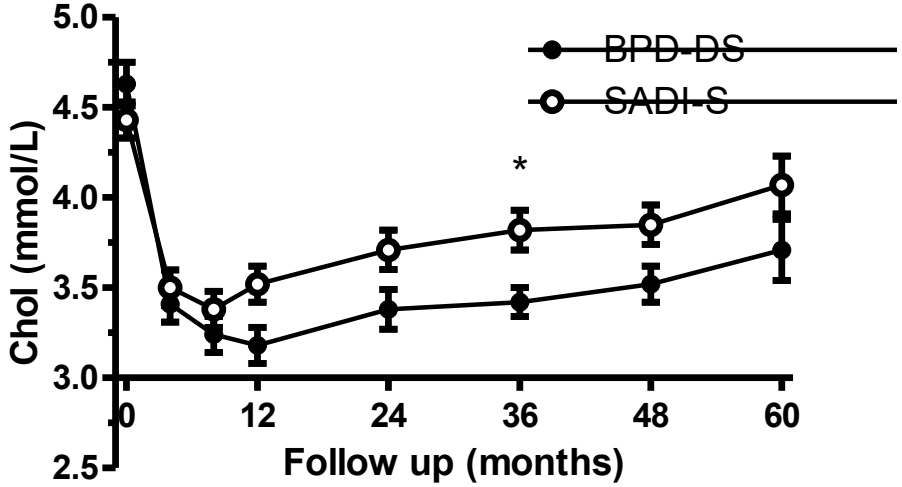
Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.5437
time*surgery: p = 0.0578

Glycated Hb: -1.0% versus -0.8% (ns)

Fasting Plasma Glucose: -1.2 versus -1.3mmol/l (ns)

Lipid level

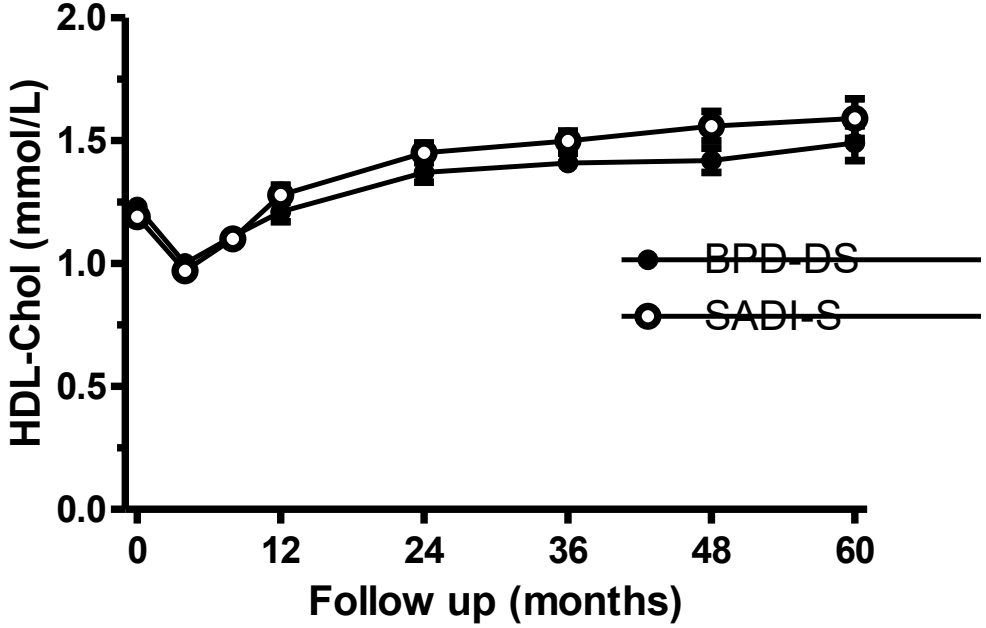
Total cholesterol



Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.2081
time*surgery: p = 0.2293

* least square means contrast p value <0.05 after Bonferonni correction

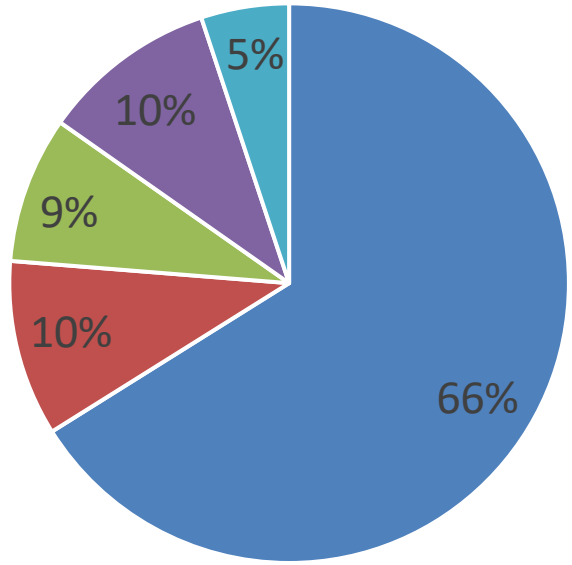
HDL-Cholesterol



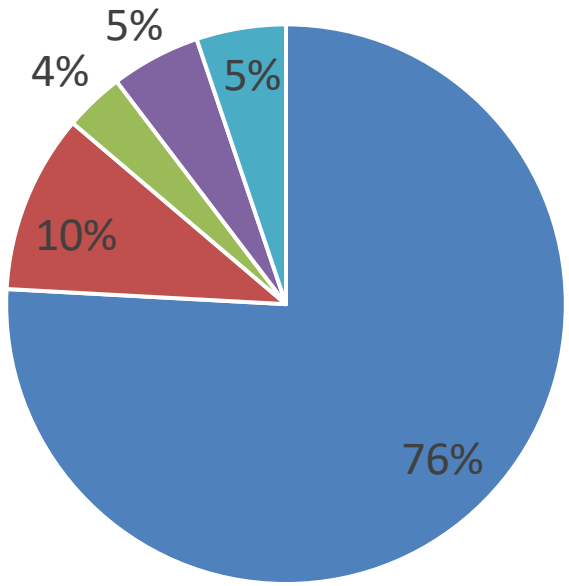
Repeated measures analysis of variance
time: p <0.0001
surgery: p = 0.5820
time*surgery: p = 0.3020

GERD evolution – DS

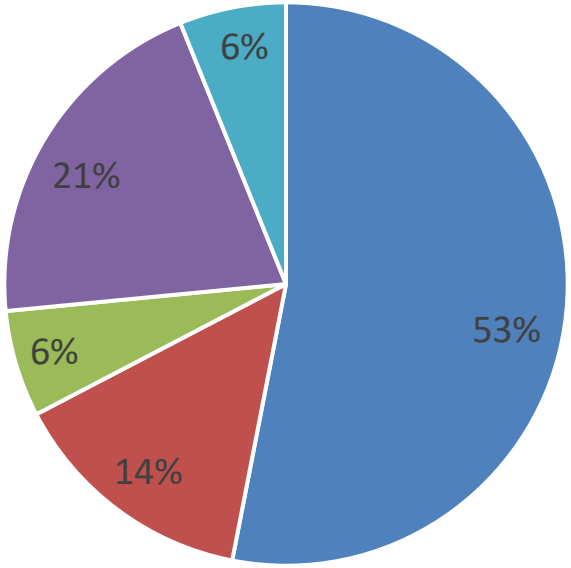
Baseline



24 months*



60 months

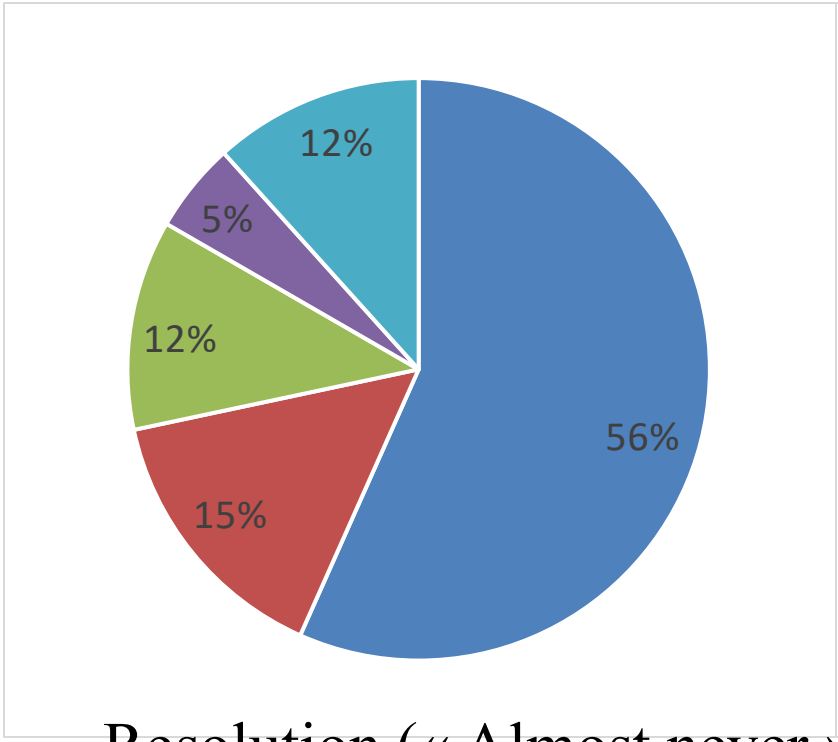


Resolution (« Almost never »)
- Significant increase at 2 Yrs (p=0.02)
- No difference at 5 Yrs

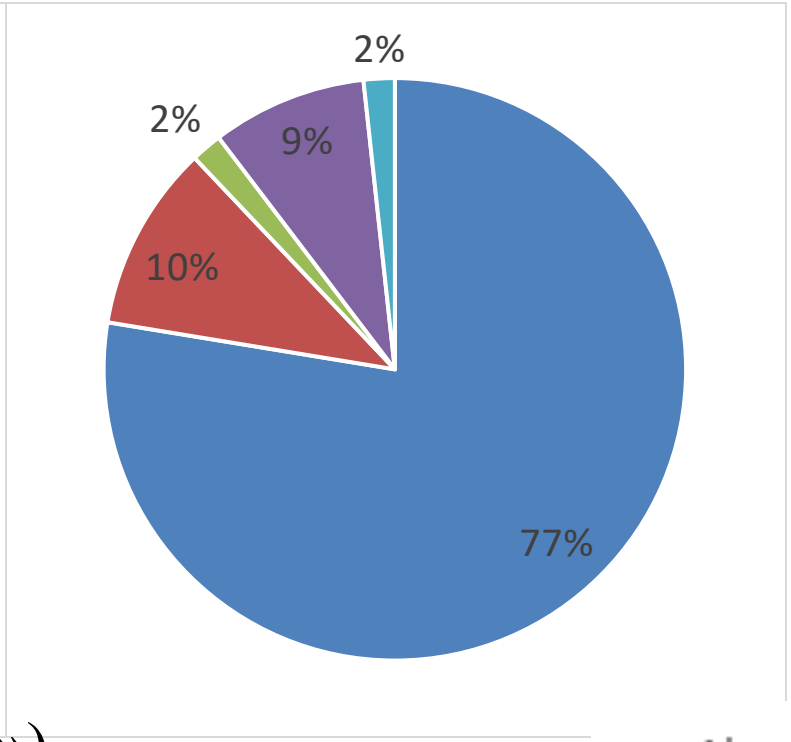
- Almost never
- Once a month
- Once a week
- More than once a week
- Daily

GERD evolution – SADI-S

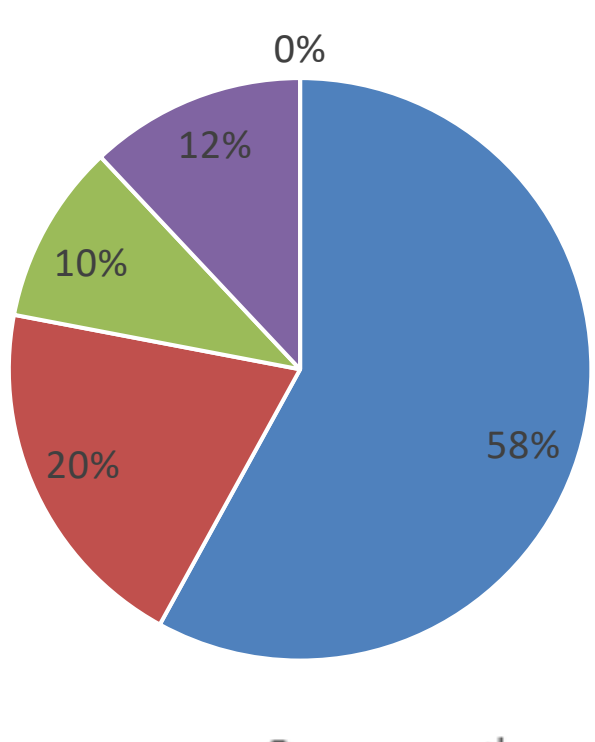
Baseline



24 months



60 months

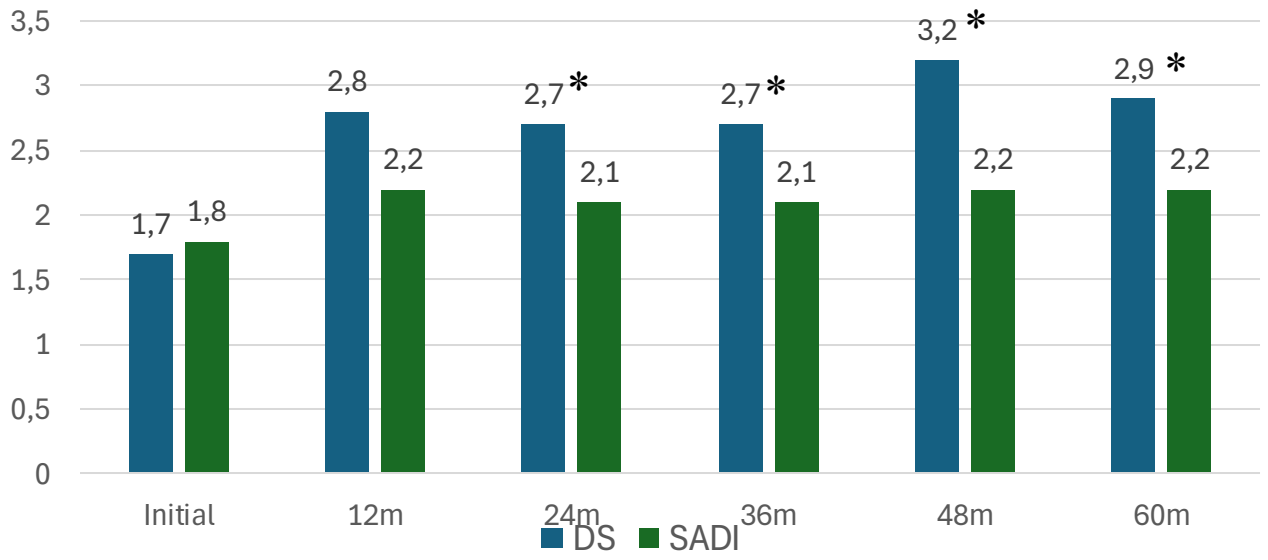


Resolution (« Almost never »)
- Significant increase at 2 Y (p=0.02)
- No difference at 5 Yr (p=0.3)

- Almost never
- Once a month
- Once a week
- More than once a week
- Daily

Side-effects

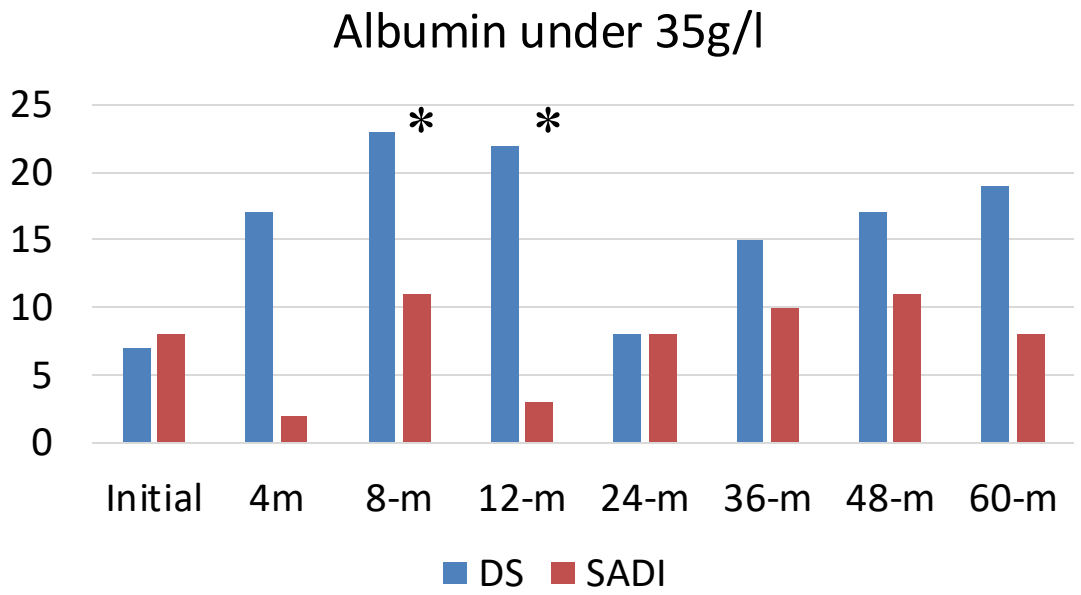
Number of daily bowel movements

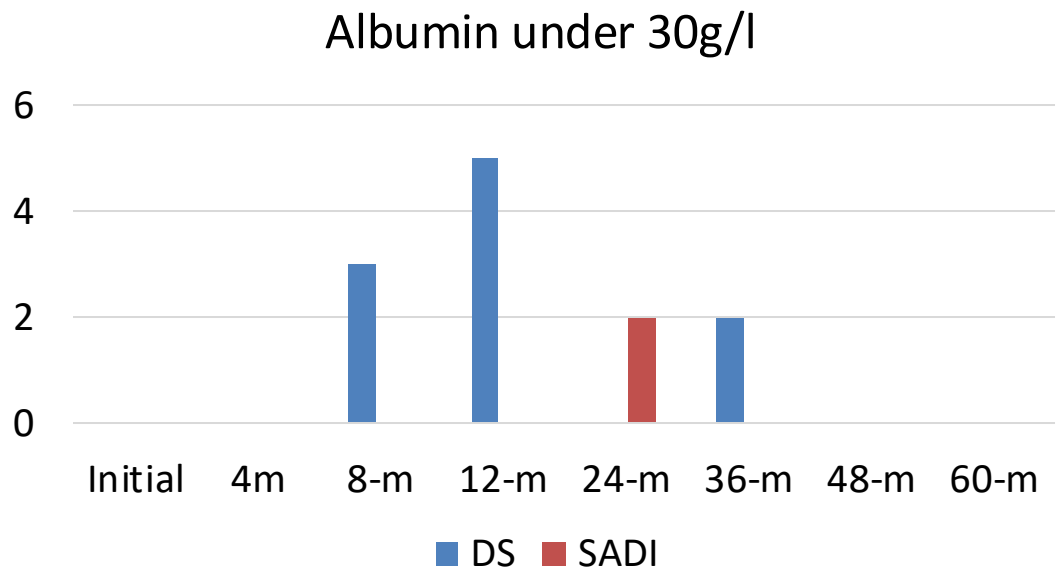


Significant increase from baseline, in both groups

* Significant difference between groups - $P<0.05$

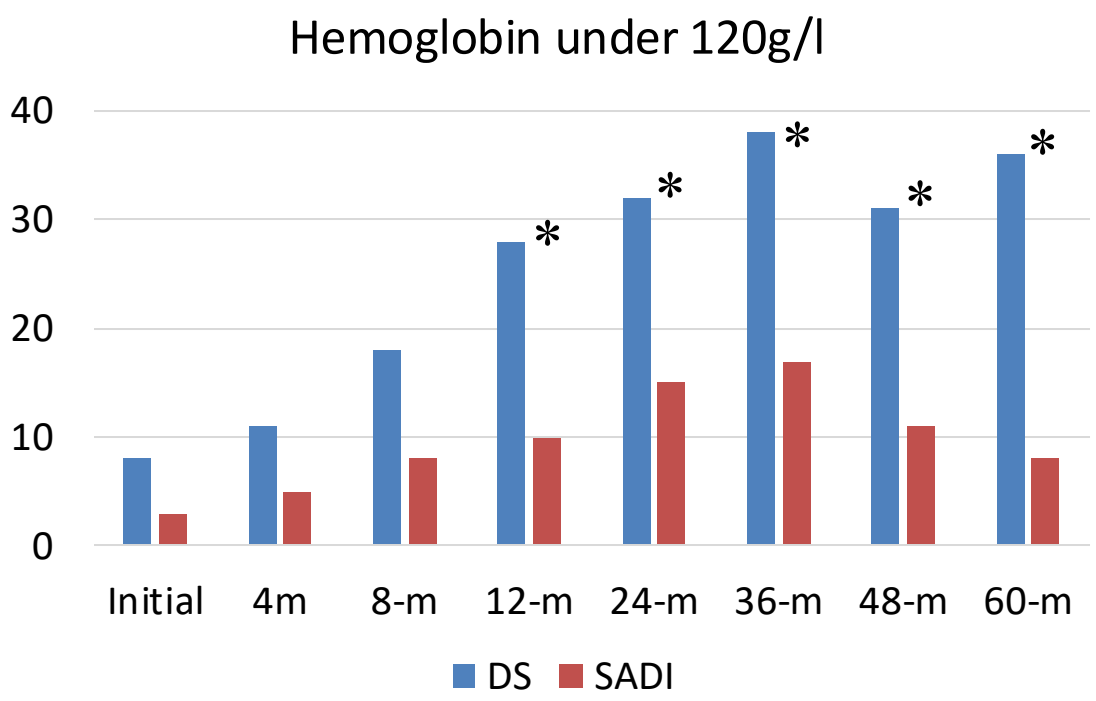
Albumin level

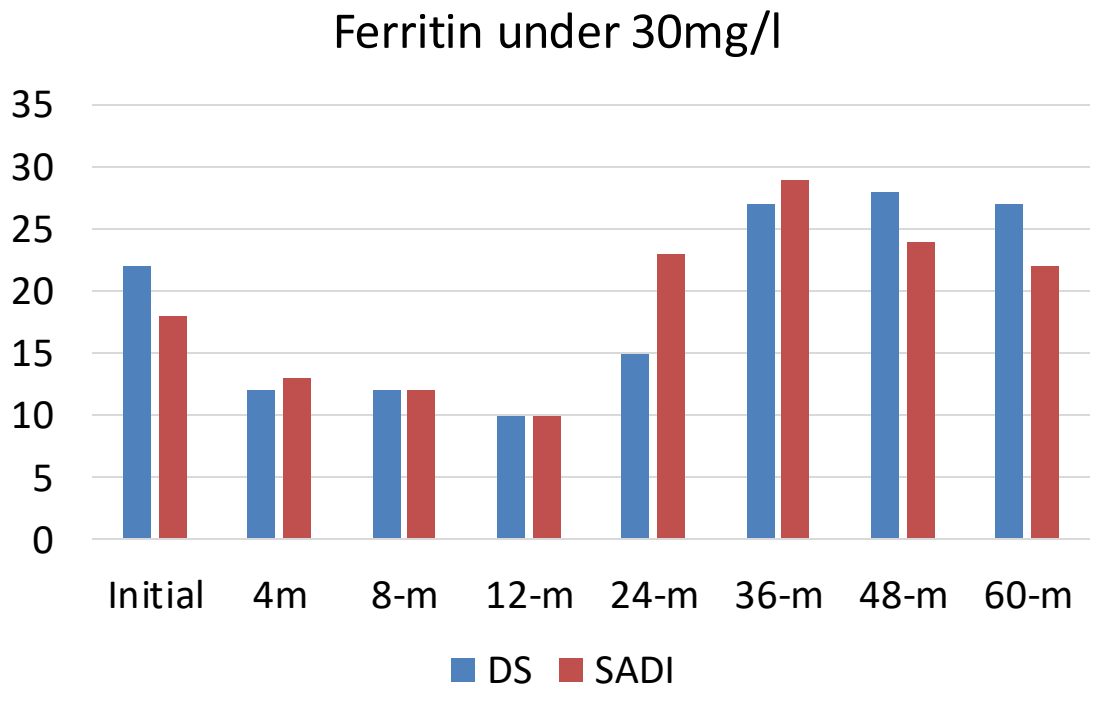




- Significant increase after DS at 8 and 12m
- No significant difference in patients with an albumin under 30
- No patient with an albumin level under 25 during study period

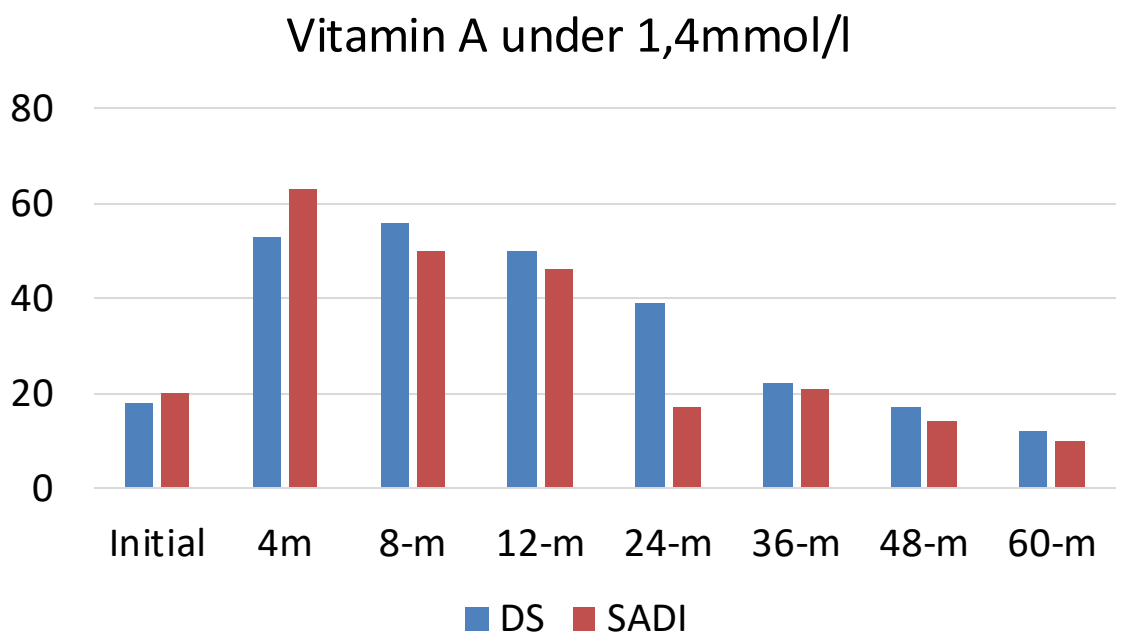
Hemoglobin and Ferritin levels

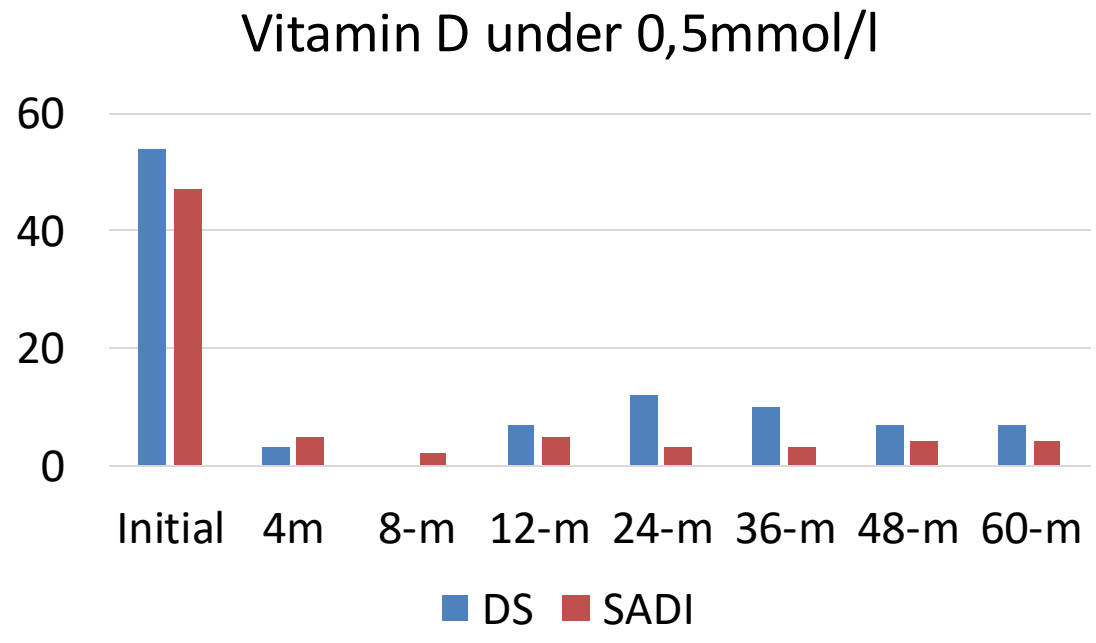




Higher rate of patients with anemia after DS

Vitamin A and Vitamin D levels





No differences between the two groups
Inceased rate of Vitamin A deficiency in both groups up to 2 years
Decreased rate of Vitamin D deficiency

Deficiencies at 2 and 5 Years

	DS	SADI	p
Hemoglobin <120			
Baseline	8%	3%	0,2
2 Yrs	32%	10%	0,05
5 Yrs	36%	8%	0,0007
Ferritin <30			
Baseline	22%	18%	0,6
2 Yrs	15%	23%	0,4
5 Yrs	27%	22%	0,7
Vitamin A<1,4			
Baseline	18%	20%	0,8
2 Yrs	38%	25%	0,2
5Yrs	12%	10%	0,8
Vitamin D <50			
Baseline	54%	48%	0,6
2 Yrs	12%	3%	0,2
5 Yrs	8%	4%	0,7

Nutritional supplements

	BPD-DS	SADI	p
Vitamin D	26,000± 25,000	19,000±21,000	0,01
Vitamin A	42,000± 17,000	39,000±17,800	NS
Iron	340±160	345±217	NS
IV Iron	3/56	0/61	NS
Calcium	1100±400	1000±400	NS
Multivitamin	1,5±0,5	1,4±0,6	NS
Pancreatic enzymes	13/46 (22%)	8/53 (13%)	NS
Proteines	3/56 (5%)	1/60 (2%)	NS

Conclusion - DS versus SADI

- SADI-S and DS offer sustained excess weight loss at 5 years: **84% (DS) vs. 69% (SADI)**
- Comparable improvements in metabolic outcomes and Quality of life
- No difference in post-operative complication

Additional outcomes – DS versus SADI

- Increased bowel movements after DS (2.9 Vs 2.2, p=0.006)
- Higher incidence of mild protein deficiency (albumin under 35g/L) in the first year following DS
- Higher anemia rate after DS and no significant difference in vitamin A or D levels between groups

DS vs. SADI-S – Weighing the Options

- Single Anastomosis DS
  - Technically easier and a shorter operative time
  - Likely minor differences in complication rate
  - Potential for fewer GI side effects and reduced nutritional deficiencies
  - Protein malnutrition risk remains, although lower

Must balance side effects with the risk of weight regain

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"Advancing Multimodal Obesity Care"

24-27 August 2027

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PARIS