

Weight loss following semaglutide use in patients with type 2 diabetes who have had bariatric surgery: a retrospective study

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IFS0 2023

No disclosures

Background

Semaglutide 1mg

licensed for DM2 in Dec 2017

Semaglutide 2.4mg

licensed for treatment of obesity in June 2021

Trial data weight loss:

STEP 2

patients **with** DM2

1mg

-7.0%

2.4mg

-9.6%

68 weeks

STEP 1 without DM2

2.4mg

-14.9%

68 weeks

Phase 2 without DM2

0.7mg

-8.6%

52 weeks

without DM2

1.4mg

-11.6%

52 weeks

Few data after bariatric surgery

None for semaglutide from clinical trials

RCT: BARISTEP n=70 randomized to placebo or semaglutide 2.4mg

Expected completion March 2024

Retrospective reviews:

<i>Lautenbach et al 2022</i>	TWL	-6.0% at 3m (n=32), -10.2% at 6m (n=20)	0.5mg	no DM2
<i>Jensen et al 2023</i>	TWL	-9.8% at 6m (n=21)	1mg	18% DM2
<i>Murvelashvili et al 2023</i>	TWL	-12.9% at 12m (n=115)	1mg	8% DM2

Imperial College London Diabetes Centre (ICLDC)

70 physicians – inc 40 endocrinologists

3 branches across Abu Dhabi Emirate

Seeing 500+ patients daily with diabetes who come from all over the UAE

During covid pandemic many visits and medication refills done remotely, attendance patchy

Semaglutide available in UAE from May 2020

In UAE semaglutide is licensed and funded for DM2 up to 1mg weekly

Semaglutide is not licensed in UAE for obesity treatment

Weight loss medications are not funded by insurance

Aims

To assess efficacy of continuous semaglutide therapy for 6 months or more in patients with DM2 who had history of BS

Compare to those without history of BS

Method

Search of electronic medical record at ICLDC

1st Oct 2020 to 30 Sep 2022

Patients with DM2 (ICD10: E11)

History and type of bariatric surgery

Collected minimum 6 months continuous semaglutide from pharmacy

Baseline data then follow-up data at 6, 12 and 18 months (Demographic, anthropometric, metabolic)

included only if attending within 1 month before or after each time interval.

Exclusions:

patients who had treatment gap of 1 month or more

Patients without weight and blood test at baseline and follow-up were excluded from the efficacy analysis

Results - Baseline

3,590 patients with DM2 completed minimum 6 months semaglutide

325 had bariatric surgery before semaglutide

For the BS group at start of therapy:

mean **age** 48.5 ± 9.8 years

mean **BMI** 35.6 ± 6.6 kg m⁻²

mean **HbA1c** $6.5 \pm 1.3\%$

74.8% female

90% Emirati, 8% other Arab, 2% non-Arab

72.3% had sleeve gastrectomy, 24.3 % gastric bypass and 3.4% others including revision surgeries

Change in Weight and A1c after 6 months semaglutide, BS and non-BS groups

6 months	N	Mean Baseline BMI	Mean Baseline HbA1c	Average dose mg/wk	Mean %TWL	Mean Change in HbA1c
BS	185	34.7	6.3	0.89	-5.3%	-0.42
no BS	1863	33.8	7.2	0.87	-3.2%	-0.62
p value				0.0921	<0.0001	0.0128

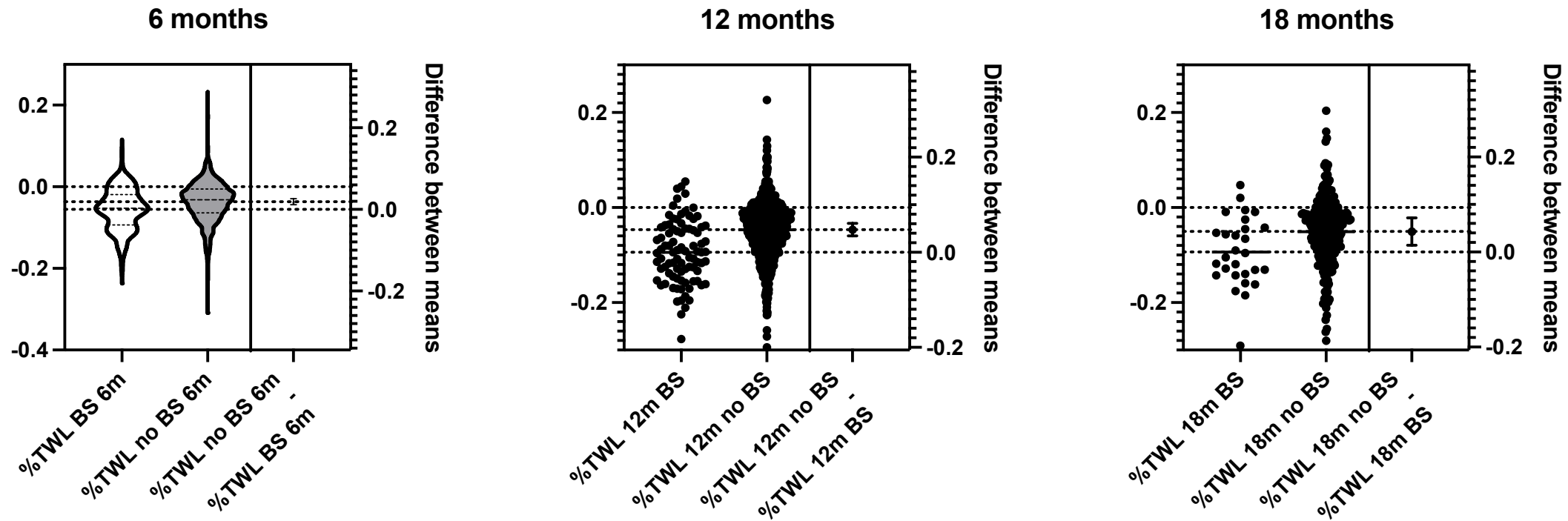
Change in Weight and A1c after 12 months semaglutide, BS and nonBS groups

12 months	N	Mean Baseline BMI	Mean Baseline HbA1c	Average dose mg/wk	Mean %TWL	Mean Change in HbA1c
BS	84	34.3	6.3	0.93	-10.0%	-0.43
no BS	733	34.2	7.2	0.89	-4.7%	-0.62
p value				0.0304	<0.0001	0.150

Change in Weight and A1c after 18 months semaglutide, BS and non-BS groups

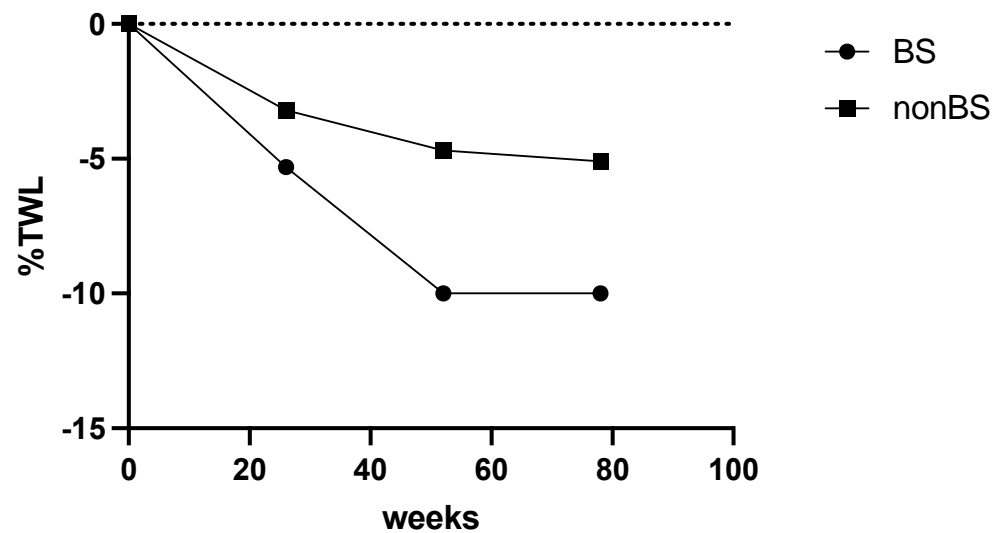
18 months	N	Mean Baseline BMI	Mean Baseline HbA1c	Avg dose mg/wk	Mean %TWL	Mean change in HbA1c %
BS	24	34.0	6.4	0.94	-10.0%	-0.30
no BS	239	33.3	7.3	0.90	-5.1%	-0.66
p value				0.111	0.0034	0.109

Estimation plots with difference between means for %TWL in BS and non-BS groups at 6, 12 and 18 months of semaglutide

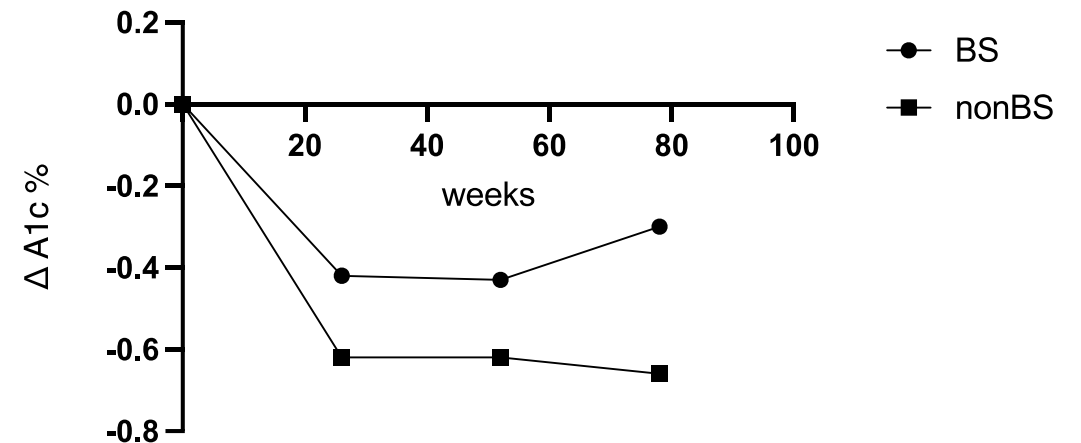


Change in weight and HbA1c in BS and non-BS groups after 6, 12 and 18 months semaglutide

% Change in weight at 6, 12 and 18 months



Change in HbA1c at 6, 12 and 18 months



No predictors in BS group, similar discontinuation

- In patients with history of BS, weight loss was not associated with type of BS, initial BMI, age, starting HbA1c, insulin use, number of oral hypoglycaemic medications or use of alternative GLP1RA in the preceding 3 months.
- Semaglutide discontinuation rate before study end was not significantly different between BS and non-BS groups.

Conclusions

- A relatively low dose of semaglutide was associated with significant weight loss in our cohort of postsurgical patients with history of DM2
- BS patients lost significantly more weight than non-BS patients
- Starting A1c was significantly lower in the BS group than non-BS group
- However, regression did not show significant association between weight loss and starting A1c in the 6-month BS group ($n=185$, $p=0.07$)
- Other factors affecting weight outcomes in BS patients might include:
 - Higher motivation for weight loss
 - Post-surgical changes in GLP1 physiology affecting response