

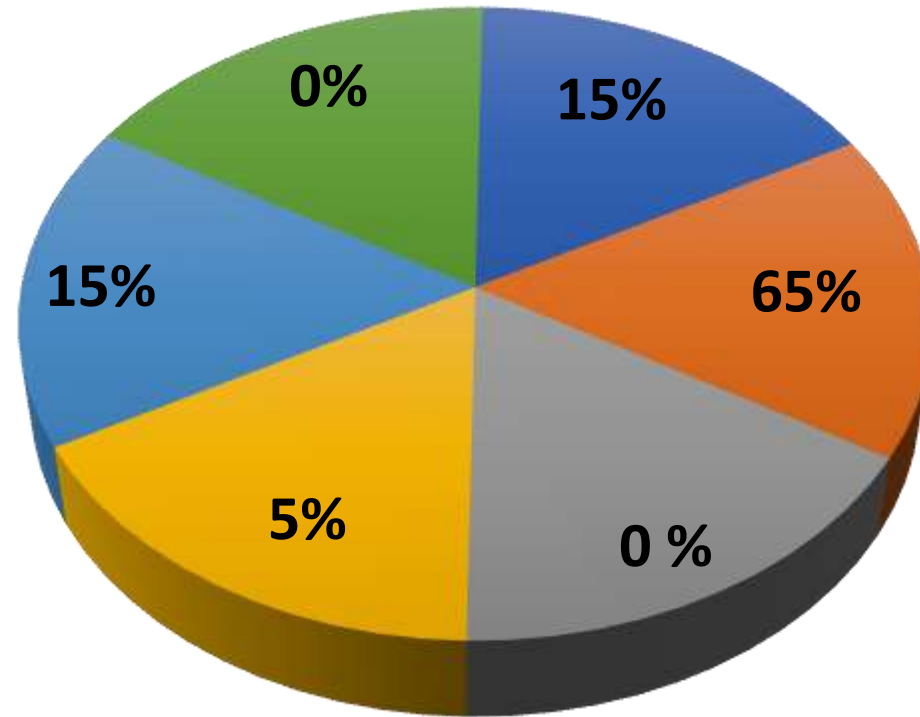
Use of Pharmacotherapy to Rescue Weight Recurrence After Bariatric Surgery

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Honoraria for teaching:

WL Gore, Medtronic, Ethicon, Ezisurge, Stryker, Vivus

CASE MIX DISCLOSURE



RYGB

SG

OAGB

DS/SADI-S

REVISIONAL

ENDOSCOPIC

Total CASE Volume:

- RGB: 1800
- Sleeve: 1900
- Lap Band 2000
- Revisions: 1200

What's Out There?

- Pills and Shots!

Metformin

- Pros:
 - Been around for a long time
 - Anti oxidant and anti aging effects
 - Start with 500mg qd for one week
 - Expect 0-15 lbs weight loss
- Cons:
 - Pts may experience diarrhea and it usually resolves at 1 week but can recur in some with changing doses

Phentermine

- Pros:
 - Appetite suppressant/ Been around for years
 - Doses range from 8mg TID to 37.5mg qd
 - Start low and then go higher
 - EKG needed before starting
 - 5% TBWL
- Cons:
 - Watch in severe hypertensive/CAD
 - Watch in Anxiety
 - Watch in Bipolar and some other mental disorder patients
 - Patients can feel jittery, sleepless, have palpitations



Phentermine/Topiramate (Qsymia)

- Pros:
 - 3.75/23 mg, 7.5/46mg, 11.25/69mg, 15/92mg doses
 - Once Daily
 - Appetite suppression and satiety
 - 10% TBWL
 - Approved in 12 years and up
- Cons:
 - Dry mouth, jittery/sleepless/palpitations higher doses
 - Feel foggy
 - Cost (\$120-160 without insurance)

Contraindications

- Phentermine/Topiramate:
 - watch in child bearing age females, patients w Glaucoma
 - Dry mouth, occasional finger tip tingling, change of taste w certain foods

Naltrexone/ Wellbutrin (Contrave)

- Pros:
 - 8mg Naltrexone/ 90 mg Wellbutrin
 - 10% TBWL
 - \$90-100 without insurance
 - Good for cravings
 - Addresses undiagnosed depression
- Cons:
 - Careful with other psych meds
 - Up to 4 pills daily
 - “Feel weird”, constipation,
 - Hypertension (due to Naltrexone)



Contraindications and Side Effects

- Naltrexone/
Wellbutrin :
 - Cannot take narcotics
 - Watch other antidepressants
 - Constipation and nausea

Liraglutide (Saxenda)

- Pros:
 - 0.6mg-3mg daily injection
 - 10%TBWL
 - GLP1 agonist
 - Modulates insulin sensitivity and decreases gastric emptying
 - Approved in 12 yrs and up
- Cons:
 - Constipation
 - GERD
 - Personal hx of pancreatitis/familial medullary thyroid cancer



Other GLP1 agonists

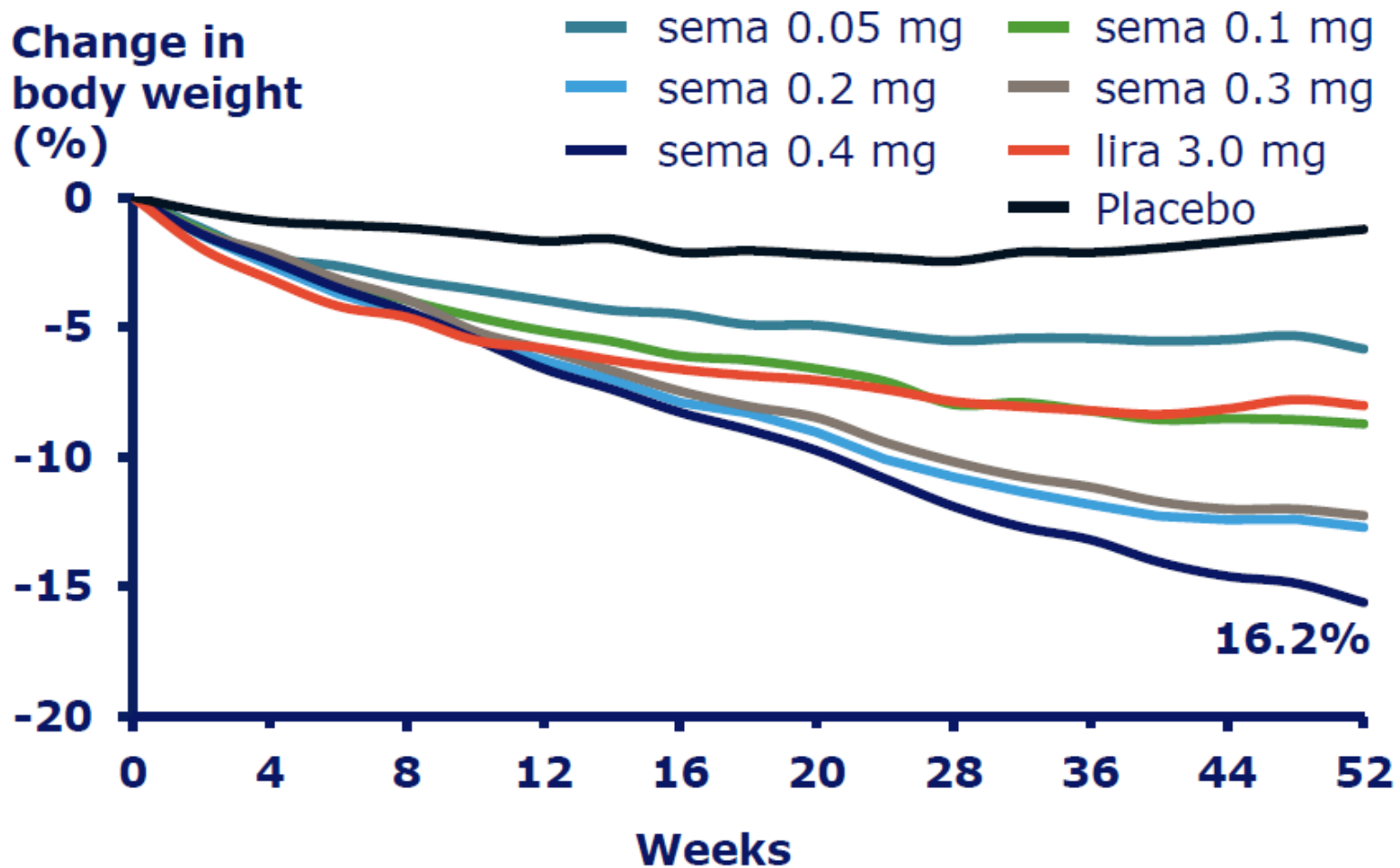
- Byetta (Exenatide), Bydureon (Exenatide ER), Trulicity (Dulaglutide), Victoza (Liraglutide), Saxenda (Liraglutide), Ozempic (Semaglutide)(Wegovy), Tirzepatide (Mounjaro-GLP1/GIP),
- Can give in patients w diabetes
 - Saxenda, Wegovy, And Tirzepatide coming soon for Obesity RX
- Variable weight loss but at least 3-15%TBWL
- Cost is variable depending on insurance coverage



Semaglutide (Wegovy)

- New higher dose: up to 2.4mg sq weekly
- Randomized to medication or placebo
- 5000 patients, multi center
- 15% TBW loss at 68 weeks
- Better than all previous medications
- Approved in 12years and up

16.2% weight reduction with the highest semaglutide dose in phase 2 obesity trial



Note: All treatment arms are adjunct to diet and exercise
QD: Once-daily; sema: Semaglutide; lira: Liraglutide

Source: Novo Nordisk investor presentations

Tirzepatide (Mounjaro)

GLP1/GIP Receptor Agonist

2.5, 5.0, 7.5, 10, 12.5, 15 mg
incrementally increase each month

Weekly shots

22% TBWL at over 1 year

Common side effects: nausea,
diarrhea

Medication Class	Weight Loss Mechanism	Food Intake	Expected Weight Loss
Phentermine	indirect sympathomimetic	↓	5% TBW
Qysmia (phentermine and topiramate)	indirect sympathomimetic and increased satiety	↓	5% TBW at low dose 10% TBW at high dose
Orlistat	decreased fat absorption	↔	>5% TBW
Contrave (naltrexone/bupropion)	affects hypothalamus and dopamine pathways of CNS	↓	10% TBW
GLP-1 Receptor Agonists (incretin hormones)	act on GLP-1 receptor to delay gastric emptying and reduce food intake	↓	4-15% TBW
Tirzepatide (GLP-1, GIP dual agonist)	Acts on GLP-1 receptor and GIP, delays gastric emptying and reduces food intake	↓	20% TBW

Weight Loss Trajectory

- 2918 RYGB patients from a comprehensive medical center used data up to year 7 post-surgery.
- Three weight change trajectories were identified (above average, average, and below average). Mean percentage weight change: **above average group was -42.85% compared with -31.57% in the average group and -22.74% in the below average group**
- Below average group was more likely to be male and have diabetes
- Lower initial weight loss post-surgery was associated with a greater chance of a poorer weight outcomes (OR = 1.64, P < .0001).
 - Surg Obes Relat Dis. 2018 Nov;14(11):1680-1685. Demographic, clinical, and behavioral determinants of 7-year weight change trajectories in Roux-en-Y gastric bypass patients. Lent MR



Obesogenic Medications and Weight Loss Trajectory

- 32 commonly prescribed medications that have weight gain as a side effect were identified.
- (%EWL) of patients divided into two groups based on post-LSG exposure to obesogenic medications
- 150 patients (Meds group) were prescribed obesogenic medications within the one-year post-LSG follow up period, whereas 173 patients (Control group) were not prescribed obesogenic medications.
- The Meds group lost significantly less weight compared to the Control group (**%EWL \pm SEM at 12 months 53.8 ± 2.4 n = 78, 65.0 ± 2.6 , n = 84 respectively, P = 0.002).**)
- obesogenic medications were associated with worse weight loss outcomes post-LSG. Closer scrutiny of patient medications is needed

Meds that Can Cause Weight Gain

**Antihistamines:
Benadryl, allergy
meds**

**Tricyclic
AntiDepressants:
Elavil, Pamelor**

**SSRI: Paxil >> Prozac/ Zoloft
(wt gain over time)**

- Remeron, Effexor and Cymbalta weight neutral but in some patients cause significant weight gain

**Beta Blockers (Coreg
and Bystolic less likely
to cause weight gain)**

**Diabetes Medications:
Glucotrol, Glipizide,
Amaryl, Actos and
Avandia**

**Seizure Medications:
Valproic Acid,
Neurontin, Tegretol,
Lyrica**

**Antipsychotics:
Lithium, Clozapine,
Zyprexa, Risperidone,
Seroquel**

**Abilify causes weight
gain in some**

Weight Loss Nadir or Weight Regain?

- Young adults aged 21 to 30 following Roux-en-Y gastric bypass (RYGB) and sleeve gastrectomy (SG) between November 2000 and June 2014.
- Patients who used **topiramate, phentermine, and/or metformin** postoperatively
- 54.1% of study patients lost $\geq 5\%$ of their postsurgical weight; 34.3% and 22.9% lost $\geq 10\%$ and $\geq 15\%$, respectively. RYGB had higher median percent weight loss (-8.1%) than SG (-3.3%) ($p = 0.0515$).
- **No difference was found in median percent weight loss with medications started at weight plateau (-6.0%) versus after weight regain (-5.4%) ($p = 0.5304$).**

- Children (Basel). 2018 Aug 29;5(9). pii: E116. Weight Loss Medications in Young Adults after Bariatric Surgery for Weight Regain or Inadequate Weight Loss: A Multi-Center Study. *Topiramate, Phentermine, and Metformin*

Weight Loss Nadir or Weight Regain?

- **BUT!!!** Patients taking medications at weight loss plateau lost **41.2% of total body weight from before surgery versus 27.1% after weight regain** ($p = 0.076$).
- Median percent weight change on metformin was -2.9% compared to the rest of the cohort at -7.7% ($p = 0.0241$)
- RYGB patients achieve more weight loss on medications but both RYGB and SG benefit.
- **Median total body weight loss from pre-surgical weight may be higher in patients that start medication at postsurgical nadir weight.**

- Children (Basel). 2018 Aug 29;5(9). pii: E116. Weight Loss Medications in Young Adults after Bariatric Surgery for Weight Regain or Inadequate Weight Loss: A Multi-Center Study. Toth AT

Weight Loss post Weight Recurrence

- Patients entering the weight management program had weight recurrence 20% above nadir and time since surgery averaged 6 years (range = 1 to 20 years)
- mean weight loss of - 2.3 kg after 3 months and - 4.4 kg at 6 months into the program.
- **Individuals most successful with weight loss were those treated with anorexigenic pharmaceuticals**
 - Obes Surg. 2018 Aug;28(8):2241-2246. A Specialized Medical Management Program to Address Post-operative Weight Regain in Bariatric Patients. Srivastava G(1)(2)(3), Buffington C(4).

More in Post Bariatric Patients

- Retrospective chart review of 20 patients, aged 18-65
- 3mg Liraglutide
- At 16 weeks median percentage weight loss was 7.1%, and at 28 weeks 9.7%.
- Median BMI change was 3.5 kg/m² (16 weeks) and 4.7 kg/m² (28 weeks).
 - Obes Surg. 2018 Nov;28(11):3553-3558. Efficacy of High-Dose Liraglutide as an Adjunct for Weight Loss in Patients with Prior Bariatric Surgery. Rye P

Intravene Early: My Strategy



First Fall off

Only lost 2
lbs in 3
months



First Weight Gain



Increase frequency of visits

How to Maximize?

What is diet that worked best for you?

- Make sure you have a strategy before the procedure

How to calculate REE

Assess level of activity

Track postoperative trajectory

Counteract the “Eat Less of What I Want” mentality

Layering Medications

GLP1 agonist and Phentermine work well together

I have patients on Qsymia and I add GLP1 agonist

Woman 52 yo: Qsymia 15mg qd, Naltrexone 50 mg qd and semaglutide 1 mg weekly

Male 56, 15yrs p rgb: phentermine, Trulicity, naltrexone

Conclusions

- Indications for initial medical weight loss, as well as maintenance of surgical weight loss and/or further weight loss
- History and medication history as well as cost of meds impact patient options
- Intervene early
- Increase frequency of visits
- Don't be afraid to layer therapies
 - I got my Diplomate American Board of Obesity Medicine



Conclusions

Need to Motivate Medical and Surgical Patients

Dietary change is necessary

Eat less of what you want does not work

Movement is helpful

Medications are excellent augments

Simultaneous use is better if not on a good trajectory

Medication	Route	%TBWL- average	\$Cost- self pay
Lomaira	Oral, TID	variable	\$50/month
Phentermine	Oral Daily	Variable	<\$50/month
Qsymia	Oral Daily	>10%	\$110-140/month
Contrave	Oral BID- ish	>10%	\$90/month
Saxenda/Liraglutide	Daily Inj	>10%	\$1100/month
Ozempic/Semaglutide	Weekly Inj or daily pill	>>10%	\$1000/month
Wegovy		15%	\$1400/month
Mounjaro/Tirzepatide	Weekly Inj	>22%	\$1000/month