PD8-02: Evaluating weight loss outcomes in patients with hormone receptor-positive breast cancer on endocrine therapy receiving concurrent weight loss medications

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Introduction

- Estrogen plays a critical role in regulating metabolism, body composition and glucose control. Its decline after menopause increases the risk of metabolic disorders, such as type 2 diabetes & obesity.[1,2]
- Endocrine therapies (ET) (tamoxifen and aromatase inhibitors (AI's)), improve survival in patients with hormone receptor positive (HR+) breast cancer, but may impact metabolic health by contributing to increased insulin resistance and weight changes. [2,3]
- The use of pharmacologic weight loss agents, especially GLP-1 receptor agonists (GLP-1 RA's), is rising but data in patients on ET is limited.[5]
- Some studies suggest that patients on AI's experience less weight loss with GLP-1 RA's than the general population. [3,4]
- This retrospective study evaluated weight loss and metabolic outcomes in patients with stage 0-IV HR+ breast cancer receiving ET and weight loss medications.

Methods

- A retrospective chart review of ~ 150 patients with HR+ breast cancer evaluated at our institution's metabolic and weight loss center identified 38 eligible patients with stage 0-IV HR+ breast cancer.
- Key inclusion criteria: ≥3 months of ET before starting pharmacologic weight loss medication and ≥2 follow-up visits.
- Key exclusion criteria: <3 months of ET prior to starting weight loss med, and <2 follow-up visits.
- Data collected: demographics, cancer history, menopausal status, comorbidities, weight loss medications used and metabolic outcomes (weight, body composition using body composition analyzer scale, A1c, bone density).
- De-identified data were stored in REDCap.
- Categorical variables summarized as percentages; paired t-tests and repeated measures analysis assessed longitudinal changes.

Results

Table 1. Study Population Characteristics

Patient Characteristics		n	%
Sex	Female	38	100%
	Male	0	0%
Age at BC Diagnosis	30-50 years	14	36.8%
	51-70 years	24	63.2%
Race	White	33	86.8%
	Filipino	2	5.3%
	Hispanic/Other	2	5.3%
	Asian Indian	1	2.6%
Ethnicity	Not Hispanic or Latino	36	94.7%
	Hispanic or Latino	2	5.3%
BC Stage	0	4	10.5%
	I	27	71.1%
	II	5	13.2%
	III	1	2.6%
	IV	1	2.6%
BC Subtype	HR+/HER-2-	33	86.8%
	HR+/HER-2+	5	13.2%
Menopause Status	Post-Menopausal	35	92.1%
	Pre-Menopausal	3	7.9%
Receipt of Chemo?	No	21	55.3%
	Yes	17	44.7%
ET at time of weight loss medication initiation	Anastrozole	25	65.8%
	Tamoxifen	7	18.4%
	Exemestane	4	10.5%
	Letrozole	2	5.3%
Comorbidities	Hyperlipidemia	27	71.1%
	Hypertension	19	50%
	Pre-Diabetes	14	36.8%
	Type II Diabetes	4	10.5%
History of Bariatric Surgery?	No	36	94.7%
	Yes	2	5.3%

- Prior to initiation of weight loss medication, mean weight was 195.3 lbs (n=38), and mean body fat percentage was 45.9% (n=37).
- Median time on ET at start of weight loss meds: 39.5 mo (5-108).
- Median age: 53 years (range 38-69).

Figure 1. Percent Usage of Weight Loss Medication by Study Population

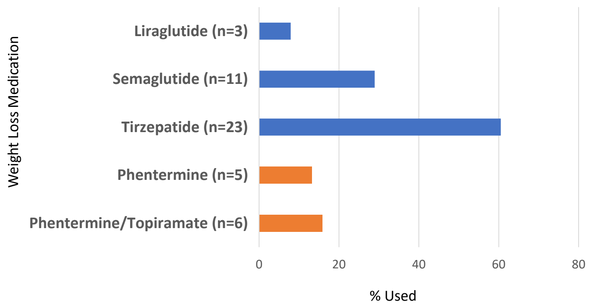


Figure 2. Mean Percent Weight Change Over Time

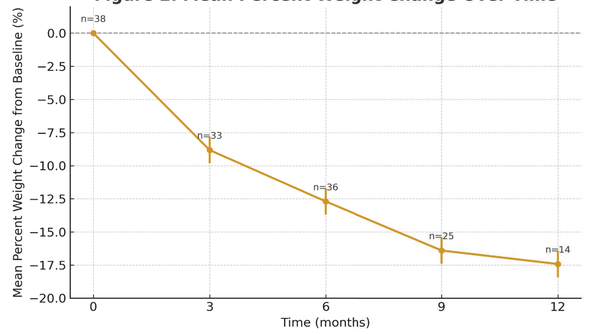
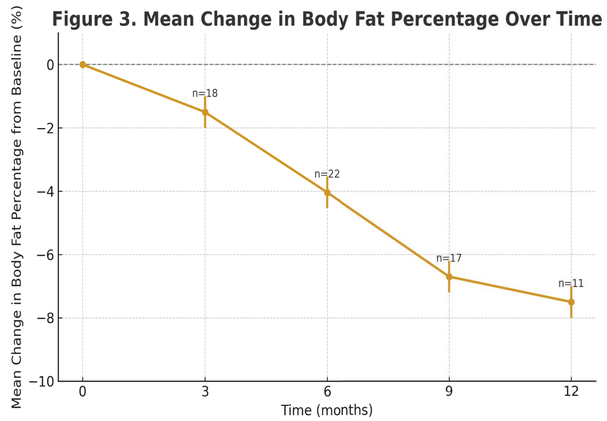


Figure 3. Mean Change in Body Fat Percentage Over Time



- Paired analyses demonstrated significant reductions in weight and body fat percentage at each time point relative to baseline, particularly up to 9 months ($p<0.001$).*
- There was still significant reduction in both weight loss ($p=0.034$) and body fat percentage ($p<0.001$) at 12 months, despite the plateau in loss after month 9*
- On average, 36 patients had 12.7% weight loss from month 0 to month 6, and 14 pts had 17.4% weight loss from month 0 to month 12.
- There was no significant difference in mean weight or percent weight loss between those receiving GLP-1 RA's and those on oral weight loss medications.
- Body fat percentage also decreased significantly at each follow-up, with an average 4% reduction from baseline to 6 months (n=22) and 7.5% from baseline to 12 months (n=11) ($p<0.001$).

Discussion/Conclusions

- The use of GLP-1 RA's and oral weight loss meds in patients with HR+ BC on ET resulted in meaningful weight and body fat reduction, with most loss occurring within the first nine months and plateauing thereafter.
- The degree of weight loss observed was comparable to outcomes reported in the general population using these medications, although it is not possible to make any direct comparisons.
- Limitations include small sample size, treatment heterogeneity and use of multiple agents.
- Future analysis will expand sample population and report on hemoglobin A1c and bone density.
- These results suggest that pharmacologic weight management approaches may be feasible and beneficial in this population.
- Prospective studies are warranted to confirm long-term efficacy and metabolic outcomes.

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*Sample sizes differ at each timepoint as data is not available for all patients at each timepoint.

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