

Monitoring Postoperative Weight Changes Following Reduction Mammoplasty in Adolescents



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INTRODUCTION

- Macromastia can limit women’s ability to exercise
- Reduction mammoplasty has been reported to improve exercise capability and stimulate weight loss
- Lack of published, long-term, quantitative data

PURPOSE

- Quantify long term weight and BMI changes in young women following reduction mammoplasty
- Assess for predictors of weight change
- Hypothesis that our study population, and specifically those with obesity preoperatively, would experience long term weight loss

METHODS

- Retrospective chart review of all patients ≤ 21 years old that underwent reduction mammoplasty at Lehigh Valley Health Network between 2015-2019
- Patients that became pregnant during postoperative follow-up were excluded

RESULTS

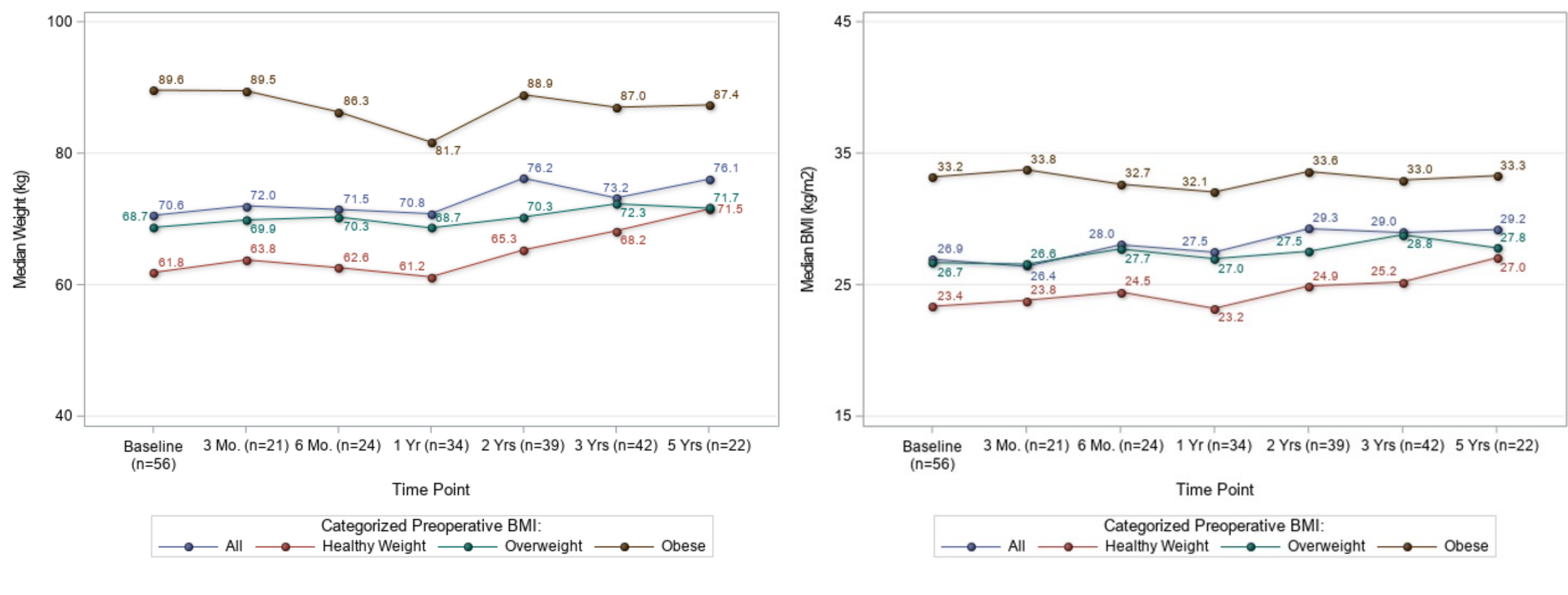
Table 1: Baseline Characteristics (n=56)

Age, years, mean±SD	18.6±1.7
Preoperative Height, cm, mean±SD	162.0±8.0
Preoperative Weight, kg, median(IQR)	70.6 (63.5-81.7)
Preoperative BMI, kg/m², median(IQR)	26.9 (24.9-31.6)
Preoperative BMI Class, n(%)	
Underweight	0
Healthy Weight	16 (28.6)
Overweight	20 (35.7)
Obese	20 (35.7)
Total Breast Tissue Removed, g, median(IQR) (n=54)	1082.0 (772.0-1373.0)

Table 2: BMI and Weight Change from Baseline to Follow-Up

Preop BMI Class	Change in BMI, kg/m², mean diff. (95% CI)						Final
	3 Mo. (n=21)	6 Mo. (n=24)	1 Yr. (n=34)	2 Yr. (n=39)	3 Yr. (n=42)	5 Yr. (n=22)	
Healthy Weight	0.17 (-0.7, 1.0)	0.77 (-0.2, 1.8)	0.53 (-0.7, 1.8)	1.4 (0.1, 2.8)*	1.8 (0.4, 3.1)*	3.1 (0.4, 5.8)*	2.2 (0.6, 3.8)*
Overweight	0.03 (-0.8, 0.8)	0.85 (0.1, 1.6)*	0.12 (-0.6, 0.9)	0.62 (-0.2, 1.5)	1.3 (-0.20, 2.7)	2.0 (-1.0, 4.9)	1.6 (-0.2, 3.4)
Obese	0.02 (-1.3, 1.3)	-0.05 (-1.2, 1.1)	-0.5 (-2.1, 1.2)	-0.91 (-3.1, 1.3)	-0.24 (-2.4, 1.9)	-0.09 (-5.0, 4.8)	0.30 (-1.6, 2.3)
Preop BMI Class	Change in Weight, kg, mean diff. (95% CI)						Final
	3 Mo. (n=21)	6 Mo. (n=24)	1 Yr. (n=34)	2 Yr. (n=39)	3 Yr. (n=42)	5 Yr. (n=22)	
Healthy Weight	-0.06 (-1.6, 1.5)	1.4 (-1.2, 4.0)	1.0 (-2.6, 4.7)	3.4 (0.0, 6.9)	4.5 (1.4, 7.6)*	8.6 (1.0, 16.1)*	5.5 (1.3, 9.7)*
Overweight	0.19 (-2.0, 2.4)	2.5 (0.2, 4.8)*	0.70 (-0.93, 2.3)	1.1 (-1.1, 3.4)	3.4 (-0.35, 7.1)	6.4 (-1.7, 14.4)	5.0 (0.4, 9.6)*
Obese	-0.33 (-3.3, 2.6)	0.45 (-2.2, 3.1)	-0.87 (-5.5, 3.7)	-2.1 (-8.0, 3.8)	-0.31 (-6.5, 5.9)	0.92 (-11.6, 13.5)	1.2 (-4.2, 6.6)

Figures 1A/1B: Median Weight and BMI Across Follow-Up Stratified by Preoperative BMI Classification



- 1 year follow-up: 52.9% of patients of patients experienced weight loss and 55.9% had a decrease in BMI
- Final follow-up: 35.7% of patients experienced weight loss and 39.3% had a decrease in BMI
 - Median follow-up time of our sample was 46.0 (38.5-62.5) months
- Neither age, total tissue removed, or preoperative BMI classification were predictive of weight or BMI change at 1-year in our linear regression model

CONCLUSION

- Patients classified as healthy weight preoperatively experienced significant increases in BMI and weight at multiple time points postoperatively (Table 2)
- Patients with obesity at baseline experienced initial decrease in weight/BMI (Figure 1A)
 - Trend did not reach statistical significance
- Reduction mammoplasty alone is not enough to promote sustained weight loss for adolescent females
- Patient education and managing expectations regarding postoperative weight loss is crucial

