

Effect of Obesity on Procedure Selection and Satisfaction with Breast Cancer Procedures

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Background:

The incidence and prevalence of breast cancer and obesity continue to rise. Previous studies have shown that body mass index (BMI) predicts patient satisfaction with breast reconstruction (BR). Does BMI influence procedure type and satisfaction with all breast cancer procedures?

Methods:

The Army of Women (AOW) comprises over 360,000 women who voluntarily participate in breast cancer research. Women enrolled with history of breast cancer surgery were recruited to take surveys including; BREAST-Q[®], PTSD checklist, Impact of Cancer scale, and demographic survey. Patient data was classified by BMI. Regression analysis was used to evaluate effect of procedure type on breast satisfaction for each BMI category.

Results:

7,568 women completed all surveys. Distribution of procedure type by BMI differed significantly. As BMI increased rate of mastectomy increased ($p < 0.0001$). Those with higher BMI, had lower rates of BR and higher rates of breast conservation surgery (BCS) ($p < 0.0001$). Overweight, obese, and morbidly obese women reported similar satisfaction with BR and BCS (Table 1). Regression analysis revealed that all women experienced higher satisfaction with BR using abdominal flaps, even when compared to BCS ($p < 0.0001$, Figure 1). Women with mastectomy experienced the lowest satisfaction when compared to BCS ($p < 0.0001$).

Conclusions:

Women with larger BMI experience significantly higher rates of mastectomy alone without reconstruction despite having higher satisfaction with reconstruction and similar satisfaction with breast conservation surgery. This supports the notion that all patients being considered for mastectomy should be referred to a plastic surgeon for evaluation and plastic surgeons should highly consider use of abdominal flap reconstruction in this population, despite increased risk of complications.

Table 1:**Mean Breast Satisfaction Score (0-100) Mean (sd):**

P-values range from 0.0095 to < 0.000.

| BMI | BCS n=3477 | Mastectomy n=1259 | Breast Reconstruction n=2307 | Complex n=509 | Total for BMI category |
|----------------------------|---------------|----------------------|------------------------------------|------------------|---------------------------|
| Low n=108 | 69.4(21.1) | 69.2(28.8) | 62.3(18.5) | 59.8(24.9) | 65.6(21.2) |
| Normal n=3404 | 68.7(20.9) | 60.3(20.2) | 63.9(17.5) | 55.4(21.0) | 64.9(20.1) |
| Overweight n=2301 | 64.7(21.9) | 52.3(19.1) | 63.1(19.3) | 52.4(21.9) | 61.4(21.3) |
| Obese n=1094 | 60.9(21.8) | 48.0(17.4) | 60.2(21.6) | 46.7(22.0) | 57.6(21.7) |
| Morbid Obesity n=645 | 57.8(22.7) | 47.1(21.1) | 57.6(19.3) | 42.4(24.3) | 54.0(22.5) |

