

**Project Title:** Choosing Between Mastectomy and Breast Conserving Therapy: Is Patient Distress an Influencing Factor?

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**Background/Objective:** Breast conserving therapy (BCT) offers similar oncologic outcomes when compared to mastectomy. Additionally, patients undergoing BCT have reported improved postoperative satisfaction and cosmetic outcomes. Yet, when presented with BCT or mastectomy, many patients will still opt to undergo mastectomy. Distress at the time of diagnosis has broad impacts – including quality of life and treatment adherence – and may be related to patients’ surgical decision making. We sought (1) to evaluate the relationship between patient-reported distress at the time of diagnosis and surgical treatment pursued in those who were eligible for BCT and (2) to determine sociodemographic and clinicopathologic factors predictive of choosing BCT versus mastectomy.

**Method:** Newly diagnosed breast cancer patients who completed a distress screening tool at their initial clinic visit at an academic institution and were deemed candidates for BCT were retrospectively evaluated between 2016 and 2019. The screening tool captured self-reported distress levels in emotional, social, health, and practical domains on a scale of 0-10, with 10 being high distress. Overall distress was calculated by adding all domains (0-40). Relevant sociodemographic and clinicopathologic details, along with surgery performed, were reviewed. Clinical presentation (palpable lump, nipple discharge, screen-detected) and consultation as a second opinion were also noted. Distress scores were compared against surgical decisions using nonparametric Wilcoxon rank sums test. Remaining categorical variables were analyzed by either Chi-square or Fisher’s exact tests and continuous variables by Student’s t-test. A two-sided p-value < 0.05 was considered significant.

**Results:** Of 459 patients who were candidates for BCT, 71(15.5%) elected to have mastectomy and 388(84.5%) pursued BCT. There were no significant differences in overall distress or the separate domains of distress in patients undergoing BCT versus mastectomy (Table 1). Patients who opted to undergo mastectomy were on average significantly younger (50.7 years vs 60.4 years,  $P<0.0001$ ), more likely to have sought a second opinion (19.7% vs 8.6%,  $P=0.0032$ ), and more often presented with a palpable mass (59.2% vs 34.7%,  $P<0.0001$ ). Clinical anatomic stage was also significantly associated with surgical decision, with stage 0 and II patients more frequently pursued mastectomy, while stage I, and III favored lumpectomy. There was no association between family history of breast cancer in a first degree relative and the choice of lumpectomy or mastectomy ( $P=0.55$ ).

Table 1. Relationship between Distress and Surgical Decision

Distress Domain	Breast Conserving Therapy Median (IQR)	Mastectomy Median (IQR)	P-value
Emotional	5 (3-7)	5 (3-7)	0.1844

Practical	2 (0-5)	2 (0-5)	0.6666
Social	2 (0-4.5)	2 (0-3)	0.3731
Health	5 (3-7)	5 (2-8)	0.4094
Overall	15 (8-21)	15 (8-19)	0.7986

### **Conclusion:**

Patient-reported distress was not associated with the decision between BCT and mastectomy. Rather, younger age, seeking a second opinion, and having a palpable mass on presentation were associated with more aggressive surgical decision making. Understanding the factors that influence surgical decision making is crucial – not only in delineating patient populations that may benefit from more education regarding BCT versus mastectomy, but also in guiding informed, shared treatment decisions between patient and provider.