

Assessing the Relationship between Breast Reconstruction and Psychiatric Comorbidities Among Breast Cancer Patients

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Background: Breast cancer patients experience significant changes in psychosocial and sexual health after undergoing mastectomies. Previous studies have focused on the psychosocial effect of breast reconstruction and its impact on quality of life. However, there is a paucity of information regarding the prevalence of psychiatric disorders following breast reconstruction. In this study, we aimed to (i) compare postoperative onset of psychiatric disorders among previously healthy patients undergoing different forms of breast reconstruction, and (ii) identify the probability of a psychiatric outcome among all breast reconstruction patients based on procedure.

Methods: PearlDiver, a commercially available database with 153 million unique patients, was queried from 2010-2020. Post-mastectomy patients with a history of breast cancer or increased risk of breast cancer and those who underwent breast reconstruction, implant-based or autologous tissue using deep inferior epigastric perforator (DIEP) free flap, were included utilizing International Classification Codes 9 and 10 and Current Procedural Terminology codes. Prevalence of each disorder, timing of diagnosis (preoperative or postoperative) and differences in postoperative prevalence were reviewed. Retrospective analysis was performed, and binomial outcomes were compared using Pearson's Chi-square. Logistic regression was used to identify procedures associated with developing a psychiatric disorder up to 3-years post-operatively.

Results: Of the 204,860 post-mastectomy cancer patients, 111,804 underwent mastectomy alone while 81,786 underwent either DIEP free flap or implant-based reconstruction. Sub-analysis of patients with no pre-operative psychiatric disorder showed mastectomy-alone (31.0%) was associated with a significantly increased onset of a psychiatric disorder when compared to all forms of breast reconstructions ($P < 0.01$). Primary analysis included all breast cancer patients regardless of psychiatric history. Using logistic regression analysis of all breast cancer patients up to 3 years postoperatively, type of surgery was predictive of specific psychiatric diagnosis.

Conclusion: In patients undergoing breast reconstruction, anxiety and depression were not only the most prevalent diagnoses pre-operatively, but also the most common diagnoses post-operatively in individuals with no prior psychiatric comorbidity. Sub-analysis trends were supported by primary outcomes among all post-mastectomy patients, showing delayed DIEP and implant-based reconstructions were associated with an increased probability of a postoperative anxiety and trauma- and stressor-related diagnoses. Interestingly, regression analysis showed that mastectomy alone was significantly predictive of bipolar related disorder onset and protective against anxiety and trauma- and stress-related disorders. These results are possibly suggestive of the inherent challenges faced by patients undergoing complex breast reconstruction.