

## Evaluation of cosmetic results following Breast conserving surgery and influencing factors in the Iranian Breast Cancer Research Center

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**Background:** Breast conservation surgery (BCS) and subsequent radiotherapy is the standard method for early stage breast cancer. Both retrospective and randomized clinical trials have established that breast-conserving treatment and mastectomy result in equivalent survival rates. Several factors, including factors related to patient or tumor and treatment modalities can affect the cosmetic results of BCS and identification of these factors can be effective in improving results. The aim of this study was to evaluate the cosmetic results of Breast conserving surgery in Iranian Breast Cancer Research Center (BCRC) and to determine factors influencing on the final results.

**Methods:** Photographs were taken from 103 breast cancer patients who had undergone breast conservation surgery with consequent radiotherapy and had post treatment follow-up in BCRC. Three different clinicians evaluated the cosmetic results based on multi-item score system. Demographic characteristics and clinical data were extracted from patient records. Univariate and multivariate regression analysis were used to evaluate the correlation between total cosmetic score and the patient, tumor and treatment factors.

**Results:** In total, 103 patients were enrolled in the study. The Mean age of the patients was 46.8 years and the mean body mass index was 28. Thirty seven patients (35.9%) were classified as good-excellent, 36 as fair (35%) and 30 as bad results (29.1%). In the univariate analysis of factors such as age, body mass index (BMI), breast cup size, tumor size, only BMI, volume of tissue removed and the cup size D had significant correlation with total cosmetic score. In multivariate analysis between these three factors, BMI ( $p=0.022$ ) and cup size D ( $P=0.040$ ) remained as significant factors related to cosmetic results.

**Conclusion:** Both patient and treatment-related factors place women at risk for poor aesthetic outcomes after breast-conserving surgery. Oncoplastic and reconstructive options and symmetrization should be considered for those at a higher risk such as over-weighted patients and those with large cup size at the consultation time.

**Keywords:** Breast Conserving Surgery, Cosmetic Results, Risk Factors.