

POSTER 49

Prevalence and Risk Factors for Frozen Shoulder in Breast Cancer Survivors

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INTRODUCTION

Frozen shoulder (FS) is characterized by pain and decreased shoulder motion. It most commonly affects middle-aged women and is associated with medical comorbidities such as diabetes, atherosclerosis, and thyroid disease. An association between breast cancer and FS has been suggested. However, it is not clear whether there is a causal relationship because both conditions affect middle-aged women. To our knowledge, no risk-matched case-control study has been performed to determine whether there is an association between breast cancer and development of FS.

METHODS

A retrospective case-control study of women seeking care at a large academic medical center between 2011 and 2021 was performed. ICD-10 codes were used to identify women who have been diagnosed with FS (n=1116) and a random sample of women who have never been diagnosed with FS (n=3298). Propensity score-matching was used to create case and control groups matched by FS risk factors. Odds ratios (OR) for FS following breast cancer diagnosis and treatment were calculated, and adjusted odds ratios (aOR) for specific treatment modalities were generated using multivariate regression.

RESULTS

Propensity score-matching generated risk-matched case and control groups of 901 patients each. Breast cancer diagnosis (OR 3.62), lumpectomy or partial mastectomy (OR 3.65), radical mastectomy (OR 3.71), radiation therapy (OR 3.65), and hormonal therapy (OR 4.05) were all significantly associated with increased odds of developing FS. Multivariate regression adjusted for breast cancer diagnosis determined that radiation (aOR 2.20) was the only treatment modality significantly associated with increased odds of developing FS.

CONCLUSION

This propensity score-matched case-control study found that a diagnosis of breast cancer and all treatment modalities increased the odds of developing FS compared to matched controls. In patients with breast cancer, treatment with radiation therapy significantly increased odds of developing FS. Further research is planned to investigate the effect of various radiation protocols and the efficacy of pre- and post-treatment physical therapy to reduce the risk of FS development.