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Unique Case Presentation of Synchronous Invasive Lobular Carcinoma of Breast and Marginal Zone Lymphoma of Ipsilateral Breast

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Abstract

Purpose

To present a unique case, treatment paradigm and literature review of synchronous early-stage right breast invasive lobular carcinoma (ILC) and right breast marginal zone lymphoma (MZL).

Methodology

We present a 78-year-old female, who presented with mammographically detected right breast masses. Diagnostic mammogram showed two masses within the right breast: biopsy of one lesion showed MZL, measuring 1cm, at 10 o'clock. Second lesion showed ILC, ER+/PR+/HER2-, measuring 2.3cm, at 1 o'clock. PET showed no other locoregional or distant metastases. Final stage of the lymphoma was Stage IE.

Breast conservation therapy with involved site radiation therapy (ISRT) to the right breast was pursued to address both cancers. Final stage of ILC was Stage IA pT1a, pN0, cM0, G1. Right whole breast irradiation was performed, using UK START fractionation. Although 24-30Gy is the recommended dosing to treat MZL within the breast, due to the synchronous breast cancer on the ipsilateral breast, dose of 40.05Gy in 15 fractions per UK START fractionation was used to treat both forms of cancer.

PubMed was searched for thorough literature review of synchronous breast cancer and Non-Hodgkin Lymphoma of the breast.

Results

Patient did not have clinical or radiographic evidence of disease on follow-up mammogram, obtained five months after treatment. She was without clinical evidence of recurrence of lymphoma on the ipsilateral breast on follow-up, per NCCN guidelines.

Woo et al. found only 37 cases of synchronous breast cancer with Non-Hodgkin Lymphoma of all types, of which 5.4% was MZL and 10.8% was ILC, with only one person having MZL and ILC, but the stage of MZL for that patient being Stage IV. Often second tumor is discovered after initiation of the first treatment, therefore treatment occurring in stepwise fashion.

However, our case was unique in that the breast cancer and the synchronous MZL was discovered at early stage, and at the same time on the ipsilateral breast.

Per International Lymphoma Radiation Oncology Group Guidelines, recommendations have been made regarding involved site radiation therapy (ISRT) to treat various types of lymphomas. ISRT involves radiologically evident disease sites plus an expansion to encompass potential adjacent microscopic disease sites. For localized extranodal MZL, such as the breast, the GTV includes PET-positive lesion, and CTV includes the entire involved organ or compartment, such as the breast. Involved adjuvant lymph nodes should be included in the CTV. Currently 24-30Gy is the standard for MZL. However, due to the synchronous nature of the malignancies in our patient, UK START fractionation was used to treat both the ILC and lymphoma definitively.

In our case, because both malignancies were discovered simultaneously at an early stage, our treatment

strategy was to treat both simultaneously, first with breast conservation surgery to address ILC, and then with adjuvant whole breast RT, to address ILC and MZL.

Conclusion

In the case of synchronous early-stage breast cancer and lymphoma involving the ipsilateral breast, combined approach of breast conservation therapy and involved site radiation therapy may be an effective treatment paradigm to treat both cancers.