LETTERS TO THE EDITOR

MR Imaging of Breast Lymphoma

From
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Editor:
We read with great interest the article by Dr Yang and colleagues on imaging findings in breast lymphoma in the December 2007 issue of Radiology (1).

We appreciate the thorough assessment of imaging findings of primary and secondary lymphoma lesions on mammographic, ultrasonographic (US), and positron emission tomographic/computed tomographic (PET/CT) images, an assessment that comprised studies of 25, 29, and 13 tumors, respectively. The authors described breast lymphoma lesions as lobular or irregular masses with indistinct margins on mammograms, as solid hypervascular irregular masses with indistinct margins on US images, as lesions with homogeneous hypermetabolism on PET/CT images, and as large heterogeneous lobular masses with rapid initial enhancement and washout on magnetic resonance (MR) images. However, we are concerned that the report of MR imaging features was limited to a single case.

The authors stated that kinetic analysis of the lesion studied with MR imaging showed rapid initial enhancement and subsequent washout that is typical of malignancy. However, figure 4 of their article clearly shows that only one of four regions of interest evaluated showed a type III curve; the other three regions demonstrated a plateau, which indicates type II kinetics.

In our unpublished experience with seven MR examinations of seven primary breast lymphomas (six of which were large B-cell lymphomas), all of the lesions were unifocal (as were the primary lymphomas described by Dr Yang and colleagues), and five (71%) of the seven demonstrated type II kinetics. We noted a type III curve in only one (14%) lesion.

The kinetics of malignancy described by Dr Yang and colleagues might have been related to the large size of the lesion (11.6 cm), which almost replaced the entire breast. This makes findings suggestive of malignancy more likely (2).

In view of the kinetics described, the American College of Radiology Breast Imaging Reporting and Data System (BI-RADS) score for breast lymphoma lesions may be placed in categories 2 and 3 (benign and probably benign) or in category 4 (suggesive of malignancy). These characteristics of breast lymphoma kinetics should be kept in mind because, even in presence of type II kinetic curves, a malignant lesion such as lymphoma can be present; therefore, morphologic features such as skin thickening, lymphadenopathy, and large lesion diameter should not be underestimated.

References

Response
From
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We thank Dr Preda and colleagues for their interest in our article and for sharing their unpublished experience with MR imaging of seven primary breast lymphomas.

We thank the authors for reminding readers that large heterogeneous masses, like the single lymphoma case in our series, may demonstrate all three patterns of kinetic enhancement (washout, plateau, and progressive). We stand by our assessment of this lesion as highly suspicious for malignancy for the following reasons: The BI-RADS lexicon for MR imaging includes both morphology and kinetic curve assessment (1). In kinetic curve assessment, “sampling for and reporting on the worst looking kinetic curve shape” is recommended (1). The morphology of this tumor, which showed a large, solid, heterogeneous intense, mass-like area of enhancement, and the enhancement kinetics, which demonstrated at least one washout curve, justify the BI-RADS 5 assessment, in our opinion. We do not believe that a BI-RADS 2 or 3 assignment is appropriate for this case, despite the plateau kinetic curves. While we agree that malignancy may be associated with a plateau and progressive enhancement kinetics (2), the varied kinetics of this single case of lymphoma reflect heterogeneity secondary to size and do not typify or characterize the MR imaging features of breast lymphoma.

We agree with the authors that the weakness of a single case with MR imaging deserves mention. However, this reflects the true scarcity of imaging findings on this rather uncommon disease and the emergence of MR imaging as a breast imaging tool that is becoming more prevalent, but was not readily accessible a decade ago.

We appreciate the authors’ comments and look forward to larger series on the MR imaging findings in patients with breast lymphoma, an uncommon tumor of the breast.

References