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BREAST IMAGING

LETTER TO THE EDITOR

Reply: Diagnostic value of the flare sign in predicting extracapsular extension in metastatic axillary lymph nodes and nodal status on breast magnetic resonance imaging

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Dear Editor,

We would like to thank the authors for their interest in our study entitled "Diagnostic value of the flare sign in predicting extracapsular extension in metastatic axillary lymph nodes and nodal status on breast magnetic resonance imaging".[1] We appreciate their thoughtful comments[2] and the opportunity to respond.

Our study was designed as a preliminary one focusing on the radiologic–pathologic correlation of extracapsular extension (ECE) using breast magnetic resonance imaging (MRI). In our study, we evaluated the flare sign as a practical imaging marker that could be interpreted easily in routine clinical settings, independent of advanced multiparametric analysis. Rather than analyzing extensive dynamic or functional parameters, our aim was to assess whether a single, morphologic feature—interpreted globally across the axilla—could predict ECE with acceptable diagnostic performance.

Regarding the patient population, it is important to clarify that the frequent use of neoadjuvant chemotherapy (NAC) in locally advanced, triple-negative and HER-2 positive breast cancers substantially influenced the composition of our cohort. In our institutional experience, patients referred for NAC exhibited pronounced flare signs and/or direct extracapsular spread on MRI. However, we made a deliberate methodological decision to exclude patients who received NAC, as NAC is known to significantly alter both the imaging and histopathologic appearance of nodal structures (Figure 1). Including such patients would have introduced bias and obscured the natural imaging–pathology relationship.

As shown in our study flow diagram, the majority of excluded cases had received NAC. Furthermore, the strong tendency to refer patients with triple-negative and HER-2 positive breast cancers for NAC resulted in an inhomogeneous distribution across molecular subtypes, making meaningful group comparisons unfeasible.

Although we did not assess inter-reader variability statistically, all imaging was interpreted in consensus by two experienced radiologists who were blinded to histopathologic results. This methodology is consistent with previous studies in the literature, such as those by Kimura et al.[3] and Bode et al.[4], both of which adopted consensus reading protocols in similar diagnostic settings.

We believe that these design choices were essential to preserve internal consistency and to enable a clear and reliable radiologic–pathologic correlation. We acknowledge that the variability in the MRI-to-surgery interval and the absence of ECE size categorization are among the main limitations of our study. Further prospective research involving multiparametric imaging and molecular subtype analysis will be essential to confirm and extend these early observations.

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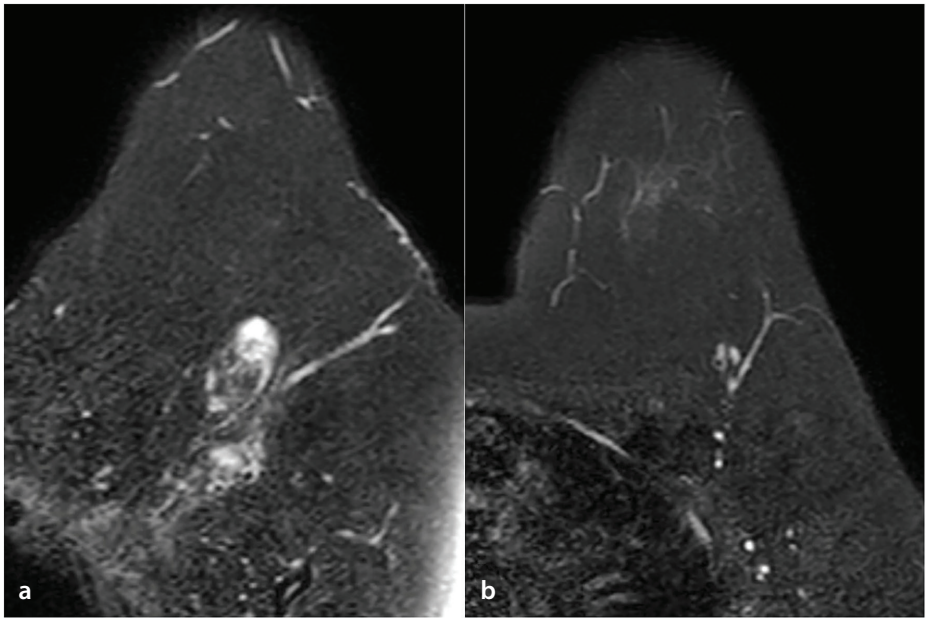

Figure 1. Axillary lymph node response to neoadjuvant chemotherapy in a patient with invasive ductal carcinoma. **(a)** Pre-treatment axial fat-suppressed T2-weighted breast MRI demonstrates multiple axillary lymphadenopathies with perinodal T2 hyperintensity (flare sign). **(b)** Post-treatment image shows complete nodal radiologic response, with resolution of lymphadenopathies and disappearance of the flare sign. Pathologic staging following mastectomy revealed ypT1a, ypN0 disease with residual cancer burden class II. Four axillary lymph nodes showed reactive hyperplasia without metastasis. Pathologic confirmation of possible extracapsular extension was not feasible due to complete nodal response. This case is presented for illustrative purposes and was not part of the analyzed study cohort. MRI, magnetic resonance imaging.

Footnotes

Conflict of interest disclosure

The authors declared no conflicts of interest.

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