

Clinical-Medical Image

Prepectoral Edema: A Specific MRI Finding of Breast Cancer

Olaia Chalh*, Jerguigue H, Latib R and Omor Y

Department of Medical Imaging, National Institute of Oncology, Faculty of Medicine, University Mohammed V, Rabat, Morocco

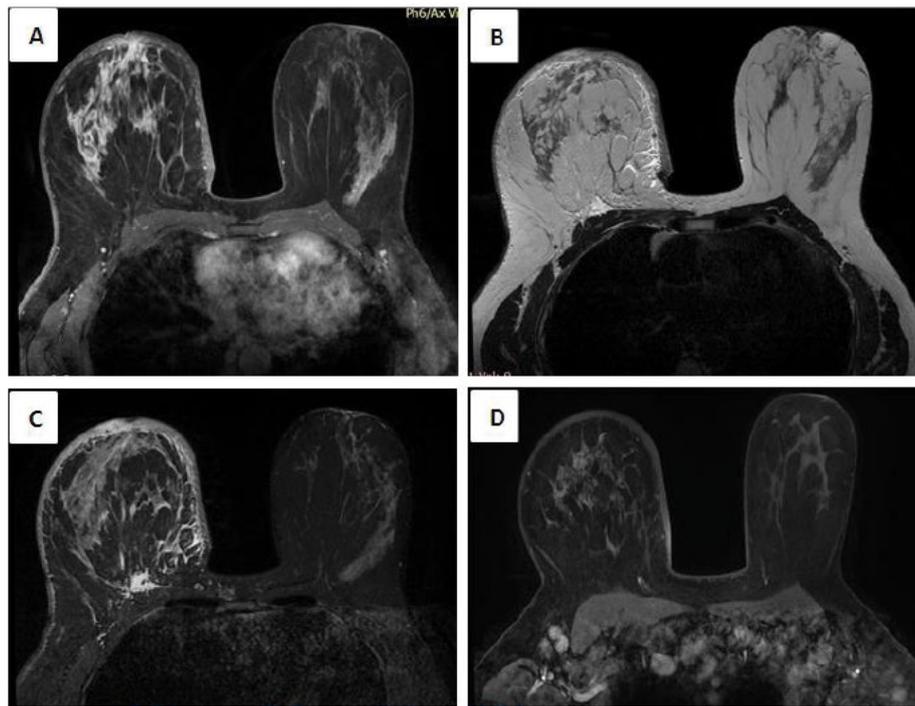


Figure 1: Inflammatory breast cancer with prepectoral and subcutaneous edema, lymph node metastasis. (A) Axial contrast-enhanced MR image in the last dynamic phase shows dendritic segmental enhancement with skin thickening in the right breast. (B) Axial T2-weighted image. (C) Axial T2-weighted image with fat suppression show slight subcutaneous and prepectoral edema as a high signal intensity in the area in front of the right pectoralis muscle. (D) Axial contrast-enhanced MR image in the early dynamic phase shows some right axillary lymph nodes.

Clinical Image

Magnetic Resonance Mammography (MRM) is the most accurate imaging modality in the detection of breast cancer. On the basis of morphologic and kinetic sequences (especially T2-weighted), it may differentiate between benign and malignant lesions, and contributes to the final diagnosis. Some MRI findings have a diagnostic and prognostic value. Defined as high SI on T2WI in the retromammary area, PE is a specific MRI finding of inflammatory breast cancer (IBC) and its occult forms (Figure 1). Besides its low prevalence (9%), PE is considered as a high significant indicator for other malignant tumors with a high specificity (97.3%) and positive predictive value (100%). It is often associated with invasive carcinomas >2 cm in diameter, independent from histological types. Prepectoral edema results from infiltrated lymphovascular system by tumor cells. Breast cancer often affects axillary lymph node leading to an obstruction of lymphatic trails. Drainage to the internal mammary and interpectoral nodes could be the main lymphatic drainage route. After being involved with cancer cells, prepectoral edema appears. In MR-mammography, the presence of prepectoral edema is indicative of advanced stage tumors with extensive lymphovascular invasion and high axillary lymph node positivity. It might predict poor prognosis patients, requiring more intense treatment.

Keywords: Breast cancer; Prepectoral edema; MRI-mammography

*Corresponding author: Olaia Chalh, Department of Medical Imaging, National Institute of Oncology, Faculty of Medicine, University Mohammed V, Rabat, Morocco, E-mail: chalh.olaia@gmail.com

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