Sonographic findings and clinicopathological characteristics of primary breast lymphoma

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Objective:
To investigate the sonography and clinicopathological characteristics of primary breast lymphoma (PBL).

Methods:
Eight cases with a histological diagnosis of primary breast lymphoma between April 2013 and Feb 2019 were identified and the clinical features and imaging findings on sonography were investigated. Pathological confirmation of PBL was obtained in all cases.

Results:
The median age was 59 years (range, 29–73). Breast symptoms in all patients were present as palpable lumps. Pain was present in only 1 patient. Clinical evidence of skin retraction and nipple dischargewere absent in all patients. The right breast was involved in 3 patients (37.5%), whereas the left was involved in 5 (62.5%). All patients were diagnosed as having non-Hodgkin lymphoma, with the most common subtype being diffuse large B-cell lymphoma (5/8, 62.5%). One patient had a small lymphocytic B-cell lymphoma (1/8, 20%), and two had a Burkitt-like high-grade B-cell lymphoma (2/8, 25%).

There were 1 case of diffuse type (1/8, 12.5%), 7 cases of mass type (7/8, 87.5%). The maximum diameter of masses ranged from 2.3 to 8.3 cm (mean diameter = 4.2 ± 1.7 cm). All of the masses were horizontal orientation, The shape of masses appeared mostly as oval (5/7 71.4%), and round (2/7 28.6%). Circumscribed margins were in (4/7 57.1%), and microlobulated margins were in (3/7 42.8%). The echo pattern of the mass was hypoechoic in 6 (6/8, 75%) but hyperechoic in (2/8, 25%). Posterior enhancement was observed in six patients (75%), no posterior acoustic feature was observed in two (25%), and posterior acoustic shadowing was not observed in any patient. No mass had spiculate margins or calcifications. The degree of vascularization on color Doppler imaging varied from minimal to high degree.

Conclusion:
Most PBL as oval-shaped and hypoechoic masses with circumscribed or microlobulated margins on sonography. Some imaging features may alert the diagnosis of primary breast lymphoma, but final diagnosis depends on histopathology. Early diagnosis is helpful for selecting appropriate treatment regimens.