Bilateral Breast Sarcoidosis Mimicking Synchronous Primary Breast Cancer
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This 59-year-old woman was found to have new focal lesions on routine screening mammography. Targeted ultrasound demonstrated corresponding hypoechoic masses. Both were suspicious for malignancy (BI-RADS 4) and ultrasound-guided core needle biopsy was performed. Three 12-gauge core specimen were submitted to pathology for each lesion.

Hematoxylin and eosin staining revealed non-necrotizing granulomatous inflammation. Immunohistochemical cytokeratin staining revealed residual benign ductal profiles within areas of granulomatous inflammation. Acid-fast and silver stains were negative for microorganisms. No malignancy was seen after examining multiple levels.

The patient had a longstanding history of mediastinal adenopathy and cutaneous sarcoidosis. The imaging and histologic findings were also consistent with sarcoid.

Sarcoidosis is a rare inflammatory disease of unknown etiology characterized by non-necrotizing granulomatous inflammation involving multiple organ systems. Lung involvement and associated interstitial lung disease is the most common presentation, but extrapulmonary involvement occurs in up to 30% of patients with the disorder. Cutaneous involvement is also common.

Figure 1. A and B, Bilateral mammography in the mediolateral oblique (MLO) and craniocaudal (CC) projections demonstrates bilateral focal asymmetries (arrow on right; circle on left). C and D, Targeted ultrasound (US) demonstrates a corresponding oval hypoechoic mass in each breast.
Breast involvement is rare, occurring in less than 1% of patients. These lesions may be palpable or not. When found on routine screening mammography, they usually have features suspicious for malignancy, such as architectural distortion, spiculations, lesions taller than wide, or are associated with skin changes. Because sarcoidosis has been reported to co-present in the breast with malignant neoplasms, biopsy of these lesions is always indicated.

Treatment includes glucocorticoid therapy, but due to the adverse effects of long-term steroid use, the decision to treat is based on the degree of impairment in the affected tissues. Glucocorticoid-refractory treatment is typically treated with immunosuppressive agents such as azathioprine, methotrexate, or leflunomide.

Six-month follow-up mammogram and ultrasound was recommended in this case, which demonstrated regression of findings, consistent with interval response to methotrexate.

References

Authors
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Figure 2. Hematoxylin and eosin stains. A, Low-power (20x) show a mass-like lesion mimicking invasive carcinoma. B, Intermediate-high power view (100x) demonstrates a non-necrotizing granuloma involving the mammary lobule (∗) with surrounding lymphoplasmocytic infiltration (arrow). C, High-power view (200x) demonstrates multinucleated giant cells (^).