

Radiation-Associated Sarcoma after Breast Cancer Treatment

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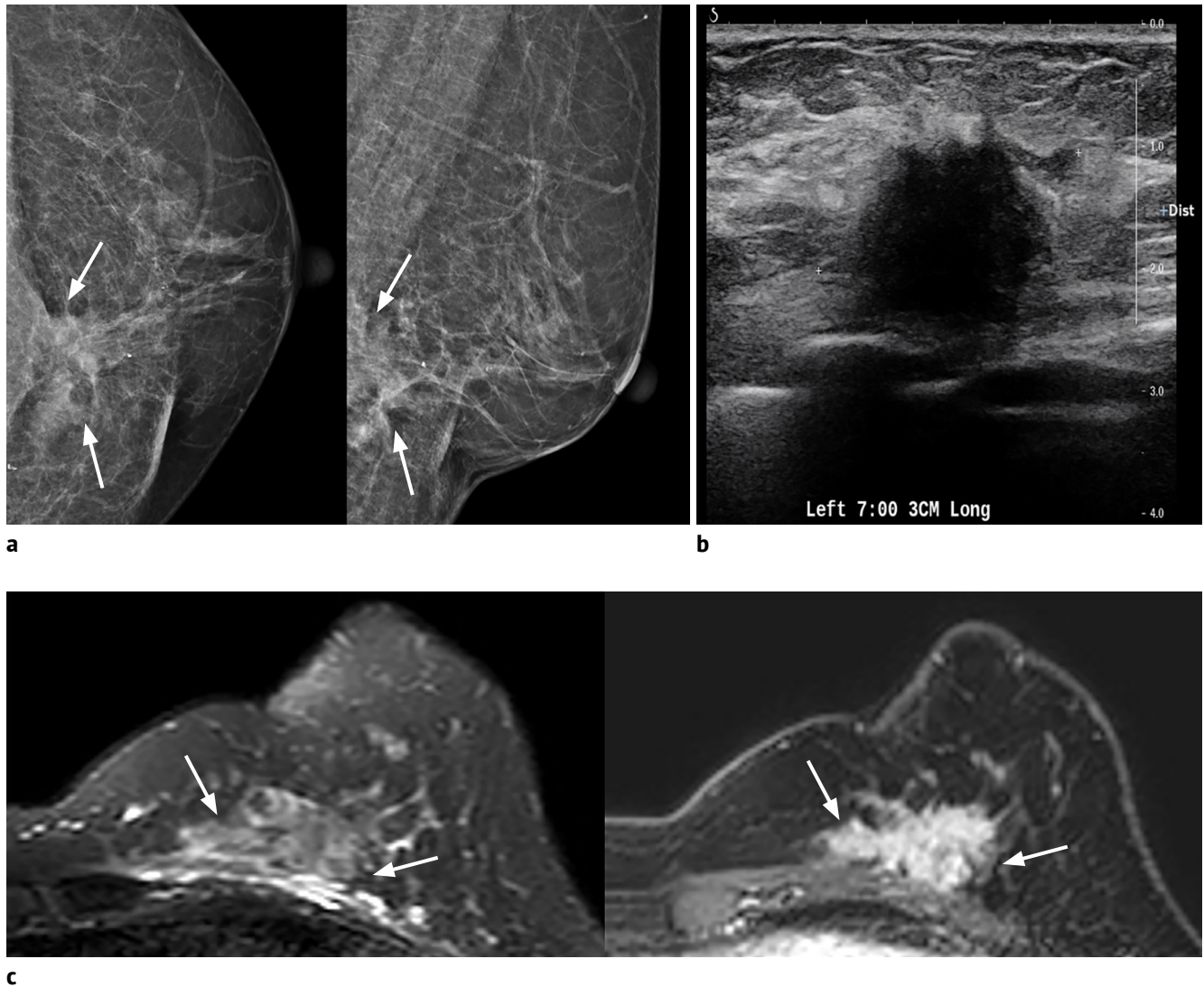


Fig. 1. A 56-year-old woman with a history of breast cancer presented a new mass in the left breast.

a. Left mammograms show an irregular hyperdense mass abutting the pectoralis muscle, close to the postoperative changes in lower inner quadrant of breast. **b.** Ultrasound image shows an irregular microlobulated hypoechoic mass. **c.** On breast MRI, T2 (left) and contrast-enhanced T1 (right) weighted images show an irregular enhancing mass with spiculated margin and pectoralis muscle invasion.

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A 56-year-old woman having a history of breast cancer was admitted for a newly-developed breast mass. Twelve years ago, she had received adjuvant radiation therapy for mucinous carcinoma on her left breast. Her mammograms, ultrasound and magnetic resonance images were presented as Figure 1. The ultrasound-guided core needle biopsy followed by salvage mastectomy confirmed radiation-associated sarcoma favoring myxofibrosarcoma.

The diagnostic criteria of radiation-associated sarcoma were proposed as following: history of radiation therapy; asymptomatic latency period; occurrence of sarcoma within an irradiated field; and histopathological confirmation of sarcoma (1). Radiation dose, age of exposure, radiation site, BRCA-I gene mutation, and several hereditary diseases have been suggested as its risk factors (2). Radiation-associated sarcoma has worse prognosis than primary breast sarcoma because it is usually high-grade tumors, presents at advanced clinical stage, and has fewer treatment option due to the toxicity of previous adjuvant therapy (3). Radiation-associated

sarcoma most commonly occurs on chest wall, and its radiologic findings are usually nonspecific, whereas primary breast sarcoma usually occurs on breast parenchyma (4).

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