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Case Report

Unresolved, atraumatic breast hematoma: Post-irradiation or secondary breast angiosarcoma

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Abstract. Post-irradiation or secondary angiosarcoma of the breast was first described in the 1980s in patients treated with breast conserving therapy for cancer. The primary management of radiation-induced breast angiosarcoma has focused on surgical resection with an emphasis on achieving negative tumor margins. While surgery remains a key component of treatment, novel therapeutic approaches have surfaced. Despite such advances in treatment, prognosis remains poor.

Keywords: Breast cancer, breast conservation therapy, secondary angiosarcoma

1. Clinical scenario

A 64-year-old post-menopausal Caucasian female presented to our institution with a seven month history of an unresolved left breast hematoma. Of note, she had a history of left breast infiltrating ductal carcinoma that was Her-2/Neu negative with estrogen and progesterone receptor positivity seven years prior. She had undergone left breast partial mastectomy with axillary lymph node dissection (no metastases identified) and adjuvant radiation therapy (50 Gy). She also had undergone hormonal therapy with Tamoxifen and Arimidex following resection. The tumor was pathologically staged as T1 N0 MX.

Seven years following her initial operation she presented with a rapidly expanding hematoma, skin nodularity and skin necrosis, with local tenderness and bleeding on the lateral aspect of her left breast (Fig. 1). She denied any inciting breast trauma or injury. Examination showed the left breast to be larger than the right, with a 10 × 15 cm area of a clinical hematoma located in the superior and inferior outer quadrants. The overlying skin was hemorrhagic, necrotic and had indurated features with areas of active bleeding. Initially, no discrete underlying mass was identified on physical examination. Areas of peau de orange surrounded the lesion. She had no palpable lymphadenopathy.

The patient underwent a left breast diagnostic mammogram showing generalized skin thickening, edema, and multiple vague nodular densities in the lateral region of the breast. A left breast ultrasound was performed showing a 2.3 × 1.6 × 3.6 cm heterogeneous mass, which showed peripheral hyperechogenicity and central hypoechoic regions, with moderate vascularity. She underwent an ultrasound-guided core needle biopsy which demonstrated a poorly differentiated malignant tumor with epithelioid features, consistent with angiosarcoma. MR imaging of the left breast revealed an area of irregular enhancement measuring 11 × 8.5 × 7.7 cm in the upper outer quadrant extending medially, with three dominant masses, with nodular features and surrounding skin thickening. There was also a focal

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