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Review Paper

Primary Breast Angiosarcoma: Analysis of a Clinical Case and Review of the Literature

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ABSTRACT:
Breast angiosarcoma is a rare malignant vascular tumor that accounts for less than 1% of all breast sarcomas. Angiosarcoma of the breast is part of a heterogeneous group of non-epithelial tumors, primary or secondary to radiotherapy, originating from the mesenchymal tissue of the breast. We report the case of a primary angiosarcoma in a 68-year-old patient, with no personal history of breast cancer or radiotherapy, in whom we describe the radiological, histological, immunohistochemical and prognostic aspects of breast angiosarcoma. Followed by a review of the literature on the clinical, diagnostic, therapeutic and prognostic characteristics of this unusual pathology.

Keywords: Breast angiosarcoma, vascular sarcoma, malignant breast tumor, mammography, ultrasound, MRI, biopsy treatment.

INTRODUCTION:

Mammary angiosarcoma is a rare breast cancer that develops from endothelial cells in blood or lymphatic vessels. Although rare, it is important for radiologists to recognize this pathology due to its aggressive potential and poor prognosis. This document describes a representative clinical case, supplemented by an analysis of current literature.

Observation:

Mrs. Who consults following the appearance of a mass rapidly increasing in volume. Clinical examination reveals a palpable formation in the middle quadrant of the right breast measuring 4.5 cm with apparently normal skin. No axillary lymphadenopathy is palpated. The tumor classification was established as T2 N0 M0. A breast mammogram is performed, showing a mass, high density, oval in shape, with circumscribed contours, homogeneous, without microcalcifications within it (figure 1). The ultrasound complement confirms the presence of a highly vascularized lesion with an irregular, heterogeneous shape and contours (figure 2). The radiological file classified BI-RADS 4 from the ACR. A microbiopsy using a 14 gauge needle is performed, and the histopathological analysis reveals a grade II angiosarcoma. Breast MRI carried out as part of a local regional extension assessment found a mass of irregular shape, with irregular contours in T1 hyposignal, T2 hypersignal, heterogeneous necrotic, in contact with the skin covering which is infiltrated (figure 3) . . A mastectomy was performed. The extension assessment was normal, including a thoraco-abdominal CT scan and a bone scintigraphy. The patient died after 18 months of survival.

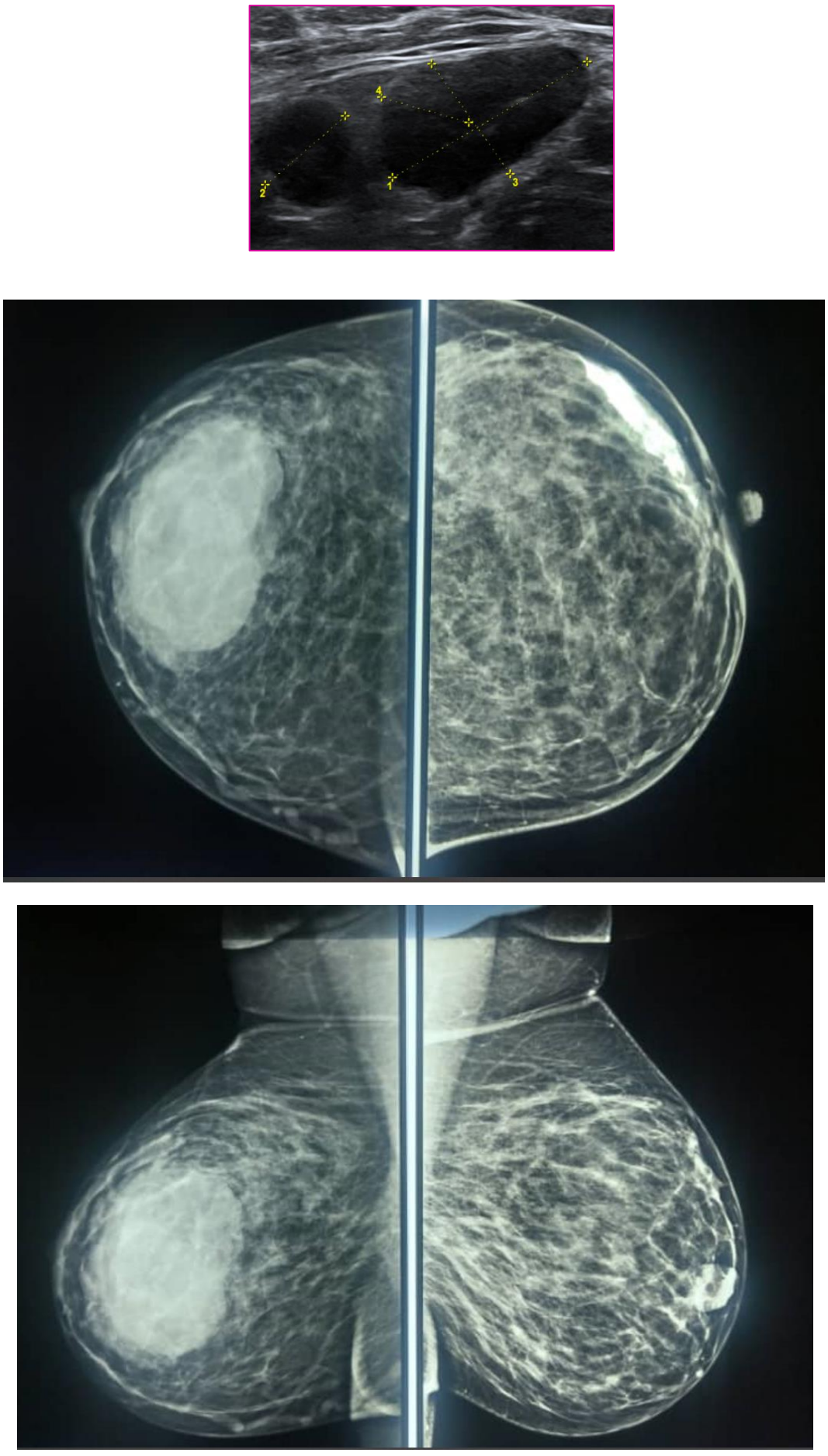

Figure 1. Bilateral mammography, facial and external oblique incidences: Mass at the union of the right middle quadrants, oval, circumscribed in places masks in other places homogeneous classified BI-RADS 3 of the ACR

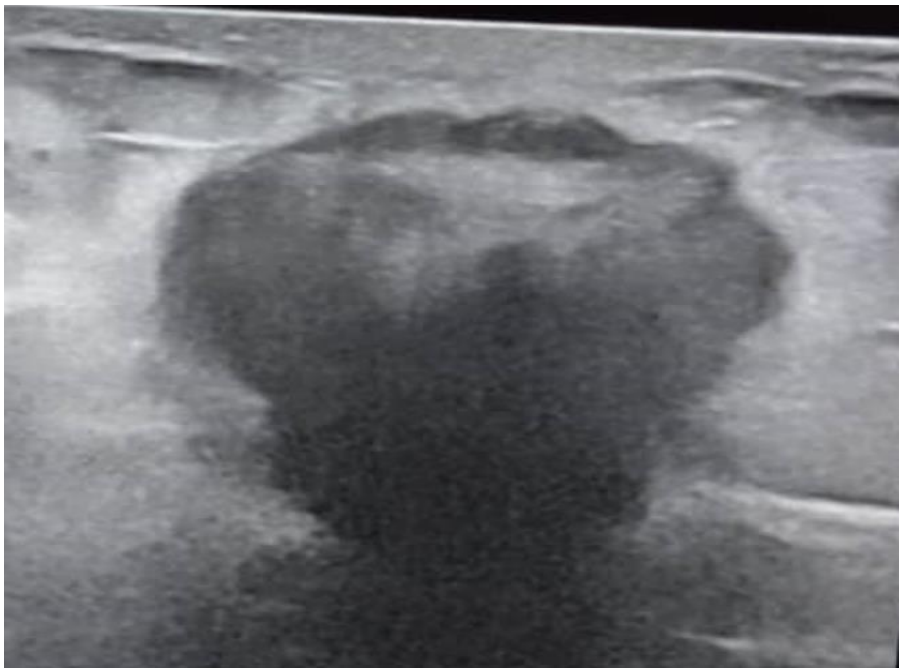

Figure 2. Breast ultrasound: Shaped mass with irregular contours, heterogeneous by the presence of hyper-echoic and hypo-echoic zones, attenuating in places classified BI-RADS 4 of the ACR

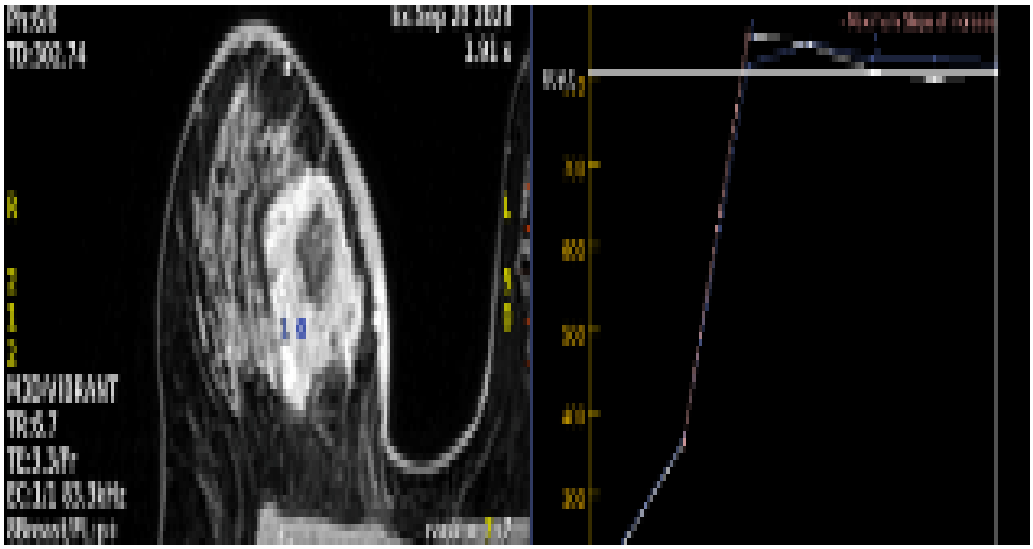

Figure 3. Breast MRI: Shaped mass with irregular contours, heterogeneous by the presence of areas of hyposignal necrosis, enhancing heterogeneously after injection of contrast products producing a type 3 hemodynamic curve.

DISCUSSION:

Angiosarcoma of the breast, also known by several other names such as hemangiosarcoma or malignant hemangioendothelioma [1], is a rare but aggressive tumor, representing 0.04% of malignant breast tumors and 8 to 10% of breast sarcomas [2]. This tumor can occur at any age, mainly affecting young women between 30 and 40 years old [3]. Clinically, angiosarcoma often manifests itself by the rapid appearance of a breast nodule which can be alarming due to its rapid increase in volume, as is the case of our patient. Indeed, the size of the tumor is often large, it is generally between 2 and 11 cm, with an average of 5 cm [4.5]. Distinctive signs include the pulsatile nature of the tumor and a purplish color of the skin at the - above the tumor, indicating a dense vascular network. Diagnostically, mammographic and ultrasound imaging often offer few specific clues, sometimes suggesting a benign lesion. The mammographic appearance is therefore not very specific and can even be misleading, simulating a benign lesion; the tumor appears as a rounded or even lobulated mass, not very dense, homogeneous, of large size and with often blurred, indistinct boundaries. Unlike carcinomas, there are no spicules and microcalcifications are often exceptional. On ultrasound, the mass has a heterogeneous echostructure combining both hyper and hypoechoic zones, with circumscribed contours.

On magnetic resonance imaging (MRI), angiosarcoma appears as a mass with hypointensity on T1 and hyperintensity on T2 with tubulated areas in the periphery showing more intense hyperintensity on T2, suggesting the presence of blood vessels [6-8]. The definitive diagnosis is histological, revealing a tumor composed of irregularly anastomosed vascular cavities lined with endothelial cells. Breast angiosarcomas are graded into three levels (I, II, III).

The predominant treatment for angiosarcoma of the breast is total mastectomy, with simple lumpectomy possible for small tumors. Axillary dissection is generally avoided due to the rarity of lymph node invasion. Adjuvant treatments such as radiotherapy and chemotherapy have shown limited effectiveness in preventing recurrence and metastases [9,10]. Angiosarcoma has a poor prognosis, with a median survival after metastasis of only 24 months [11-14].

CONCLUSION:

Breast angiosarcoma is a rare disease entity with significant diagnostic and treatment challenges. The presented case illustrates the typical stages of diagnosis and management, highlighting the importance of a multidisciplinary approach. The literature review reaffirms that although treatment options have evolved, prognosis remains relatively poor, highlighting the urgent need for continued research to improve outcomes for patients with this rare disease.

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