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Atypical Presentation of Cutaneous Angiosarcoma of the Scalp Mimicking Benign Hematoma in an Elderly Patient

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Abstract

Cutaneous angiosarcoma (CAS) is a rare and aggressive malignant vascular tumor that predominantly affects the head and neck region of elderly individuals. Due to its variable and subtle clinical manifestations early in the disease course, diagnostic delays are frequent. We present a case of a 76-year-old male who initially presented with a persistent, non-tender violaceous macule on the scalp following minor trauma, clinically resembling a benign hematoma. Histopathological evaluation and immunohistochemical staining confirmed the diagnosis of primary cutaneous angiosarcoma. The patient underwent wide local excision followed by adjuvant radiation therapy. This report highlights the importance of maintaining a high index of suspicion for malignant lesions in elderly patients presenting with persistent ecchymotic or hematoma-like scalp lesions.

Keywords: Cutaneous angiosarcoma; Scalp Malignancy; Dermato-Oncology; Vascular neoplasm; Histopathology

Introduction

Cutaneous angiosarcoma (CAS) accounts for less than 1% of all soft tissue sarcomas. Despite its rarity, it is characterized by high local recurrence rates and a strong propensity for early distant metastasis, resulting in a poor overall prognosis. The clinical presentation of CAS can be remarkably heterogenous, often masquerading as benign dermatological conditions such as ecchymosis, hematoma, rosacea, or hemangioma. Consequently, patients are frequently managed conservatively prior to biopsy, leading to advanced stage at diagnosis [1,2]. We discuss a case of scalp angiosarcoma that presented deceptively as a resolving traumatic hematoma.

Case Presentation

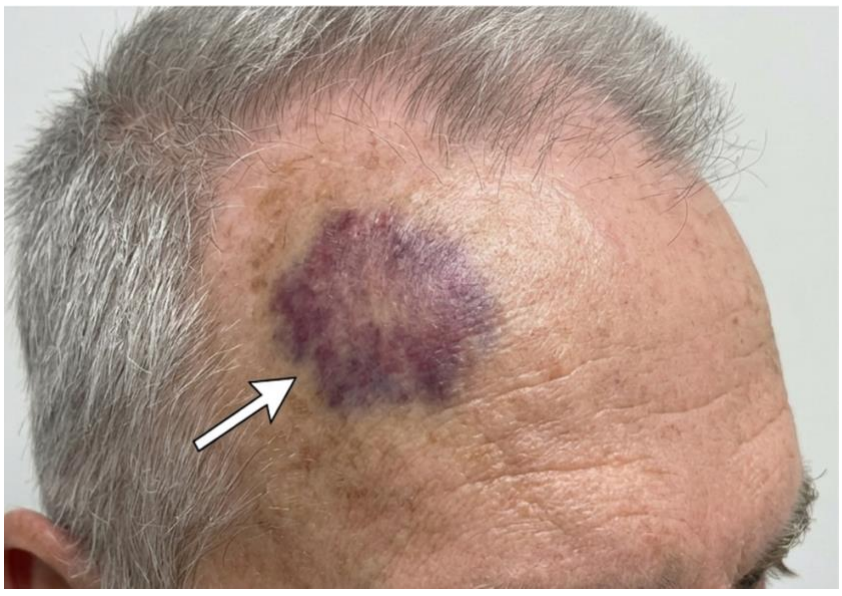
A 76-year-old Caucasian male presented to the outpatient dermatology clinic with a 3-month history of an asymptomatic, enlarging purple patch on his frontal scalp. The patient recalled bumping his head on a cabinet door approximately one month prior to noticing the lesion, leading his primary physician to suspect a persistent subcutaneous hematoma [3].

Dermatological examination revealed an ill-defined, non-tender, violaceous-to-bluish macule measuring 3.5 × 2.8 cm on the left frontal region of the scalp. The surrounding skin showed mild actinic damage without ulceration, induration, or palpable cervical lymphadenopathy [4]. Dermoscopy demonstrated structureless violaceous areas interspersed with delicate white lines (appearing as sign-like patterns) and subtle vascular structures without classical pigment networks.

A 4 mm punch biopsy from the central, darker portion of the lesion was performed. Histopathological examination revealed an infiltrative dermal neoplasm composed of anastomosing vascular channels dissecting through collagen bundles. Endothelial cells lining the vascular lumina exhibited moderate nuclear atypia and hyperchromasia (Figure 1) [5].

Immunohistochemical analysis demonstrated strong positivity for vascular markers CD31, CD34, and ERG (Ets-related gene), while cytokeratin and S100 stains were negative, confirming a vascular malignancy consistent with cutaneous angiosarcoma.

Systemic staging via fluorodeoxyglucose positron emission tomography-computed tomography (FDG-PET/CT) demonstrated localized hypermetabolic activity in the scalp lesion without evidence of regional nodal or distant metastatic disease [6,7].



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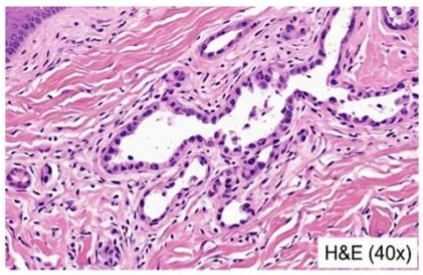

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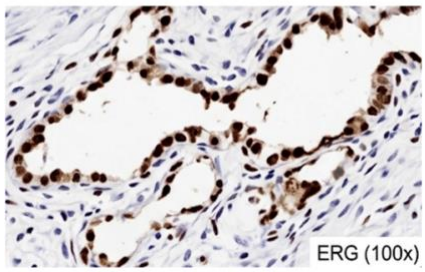

C

Figure 1(A): Clinical Presentation, 76-year-old Caucasian male, with scalp. Ill-defined, non-tender, violaceous-to-bluish macule, appo. 3.5 × 2.8 cm in size. Subtle peripheral ecchymosis, mimicking a benign hematoma. Surrounding hematoma, skins mild actinic damage; **(B):** Histopathology; **(C):** Immunohistochemistry

The patient was managed by a multidisciplinary dermato-oncology team. He underwent a wide local excision with 2 cm radial margin down to the galea aponeurotica. Frozen section margins were clear. Reconstruction was achieved using a split-thickness skin graft. Following surgical healing, the patient completed external beam radiation therapy (60 Gy in 30 fractions) directed at the surgical bed and surrounding margins to reduce the risk of local recurrence [8,9].

At the 12-month post-treatment follow-up, physical examination and surveillance PET/CT imaging showed no evidence of local recurrence or distant metastases. The patient remains under close quarterly clinical monitoring [10].

Discussion

Cutaneous angiosarcoma of the head and neck predominantly impacts Caucasian males in their 7th and 8th decades of life. Chronic sun exposure, lymphedema, and prior radiation therapy are recognized risk factors. The deceptive early presentation of CAS as a benign traumatic lesion or bruised area is a classical diagnostic pitfall.

Histologically, CAS can range from well-differentiated tumors with subtle vascular channels to poorly differentiated, epithelioid, or spindle-cell patterns that require immunohistochemistry for definitive classification. ERG and CD31 are highly sensitive endothelial markers used to differentiate CAS from other poorly differentiated neoplasms.

Treatment protocols favor complete surgical excision with wide margins combined with postoperative radiotherapy, given the infiltrative nature of the disease and microscopic skip lesions beyond gross margins. In advanced or metastatic cases, systemic chemotherapy (e.g., paclitaxel) or targeted agents may be utilized.

Conclusion

This case emphasizes that any persistent ecchymotic or bruised lesion on the head or neck of an elderly patient that fails to resolve within a standard clinical timeframe should undergo prompt histopathological evaluation. Early tissue biopsy remains the definitive tool to avoid delays in treating cutaneous angiosarcoma.

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