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Radiotherapy-Induced Scalp Angiosarcoma

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To the Editor:

We describe a 57-year-old man with multiple basal cell carcinomas on the scalp, where he had undergone radiation therapy in childhood. He consulted for a pearly mass adjacent to a violaceous mass of 5 cm that was poorly defined, indurated, asymptomatic, and with several peripheral nodules (Figure 1), but no local or regional lymph node enlargement. The biopsy showed a basal cell carcinoma and a highly malignant angiosarcoma, with mixed epithelioid and fusiform cell type, high mitotic index, and considerable vascular invasion



Figure 1. Violaceous, indurated, and poorly delimited lesion, with peripheral nodules, in the left parietal region of the scalp.

(Figure 2). Immunohistochemistry showed strong positivity for CD31 (Figure 3), partial for cytokeratins, and low for CD34 and VIII antigen. The computed tomography scans and magnetic resonance imaging revealed infiltration of the subcutaneous cellular tissue and a lesion in the left frontoparietal lobe, the nature of which could not be determined, as the patient declined angiography. Biopsies of the underlying bone and cerebral parenchyma showed no evidence of infiltration. Surgery and local radiation therapy were performed. However, at

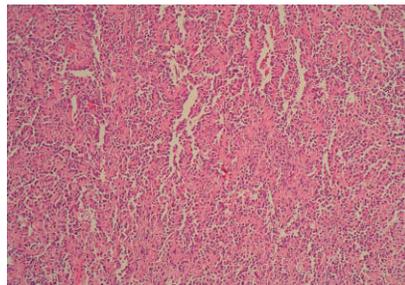


Figure 2. Hematoxylin-eosin stain. Anastomosed, dilated vascular channels with proliferation of atypical endothelial cells.

2 months, new nodules appeared on the scalp as well as enlarged retroauricular lymph nodes; these were treated by local radiation therapy. Pulmonary metastases have appeared recently, and the patient is undergoing systemic chemotherapy at the time of writing.

Angiosarcoma is a rare malignant tumor. A third of these tumors occur in the skin, with a predisposition for superficial soft tissues.¹ The condition is more common in older white men. Lymphedema, chronic radiodermatitis, and immunosuppression are related factors.

The pathogenesis is unknown, although it appears to have a multifocal origin in the lymphatic vessels. As occurs with basal cell carcinomas, gene mutations have been found in the gene for p53, which would induce overexpression of vascular endothelial growth factor.^{2,3}

Angiosarcoma can display 4 clinical presentations: idiopathic angiosarcoma of the scalp and face, angiosarcoma associated with chronic lymphedema, angiosarcoma secondary to radiation therapy, and primary angiosarcoma of the breast. Initially, all of these types

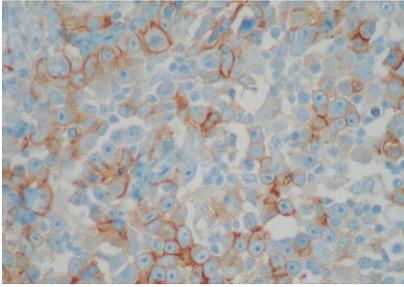


Figure 3. Immunohistochemistry: CD31-positive.

appear as asymptomatic reddish-violaceous lesions that resemble inflammation or ecchymosis. During progression, ulcers that bleed easily and fast-growing nodules appear.

Histology reveals proliferation of atypical endothelial cells with papillary projections toward the lumen; these form irregular vascular channels with a tendency to anastomose, lined by one or more cell layers. The tumor cells infiltrate, dissecting the collagen fibers and adipose tissue. Weibel-Palade bodies are absent and the markers CD31, CD34, Factor VIII-related antigen, and *Ulex europaeus* agglutinin are positive.⁴

Radiation-induced angiosarcoma is the least common form and has been described after treatment of both tumors and benign diseases. The latency period is 12 and 23 years, respectively.⁵ Angiosarcoma of the scalp accounts for

more than 50% of all angiosarcomas, irrespective of previous history of irradiation. Only 1 case similar to ours has been reported, in which a woman was diagnosed with an angiosarcoma 80 years after she received radiation therapy for tinea in childhood, with several previous basal cell carcinomas.⁶

Mean survival is low, and tumor size at diagnosis is the main prognostic factor. There are no treatment protocols. Surgery associated with postoperative radiation therapy is the treatment of choice in small tumors, although poorly defined margins will hinder treatment. Advanced stages are treated using radiation therapy,⁷ palliative chemotherapy,^{8,9} or immunotherapy, either alone¹⁰ or in combination.¹¹

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Classic Disseminated Histoplasmosis with Cutaneous Involvement

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To the Editor:

Classical histoplasmosis is a fungal infection caused by *Histoplasma capsulatum* var *capsulatum*, most often seen in the United States, Central America, and Southeast Asia.

We describe a 42-year-old patient with human immunodeficiency virus

(HIV) infection from Ecuador who had been residing in Spain for the past 3 years. He consulted for fever, toxic syndrome, and cough that began 2 months earlier.

The physical examination revealed erythematous violaceous papules on the face (Figure 1), fever of 39°C, and

enlarged liver and spleen, but no other findings of interest. The laboratory workup revealed pancytopenia, elevated transaminase levels, and a CD4 count of 111/mm³. The tuberculin intradermal reaction test (purified protein derivative) was negative. A diffuse, bilateral reticular-nodular pattern was seen on