

# Dermoscopy rainbow pattern as a diagnostic clue for early angiosarcoma

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Angiosarcomas of the scalp are aggressive invasive tumors that, more often than not, mimic benign painless skin lesions. We here report a case of angiosarcoma that was timely diagnosed and treated thanks to the dermoscopic rainbow pattern.

**Keywords:** angiosarcoma, tumor, dermoscopy

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## INTRODUCCION

Cutaneous angiosarcoma (CAS) is a rare malignancy of vascular origin that usually occurs on the scalp or face of elderly males <sup>1</sup>. Patients develop a lesion that resembles a "spreading bruise", varying from blue to red in color <sup>1</sup>. The initially harmless clinical symptoms usually conceal the aggressive course of such tumors <sup>1</sup>. We report a case of CAS that was diagnosed and treated in time thanks to the presence of the dermoscopic rainbow pattern (DRP).

## CASE PRESENTATION

A 78-year-old man with an asymptomatic, slow-growing lesion on his scalp was the case of the present study. He had reported the appearance of

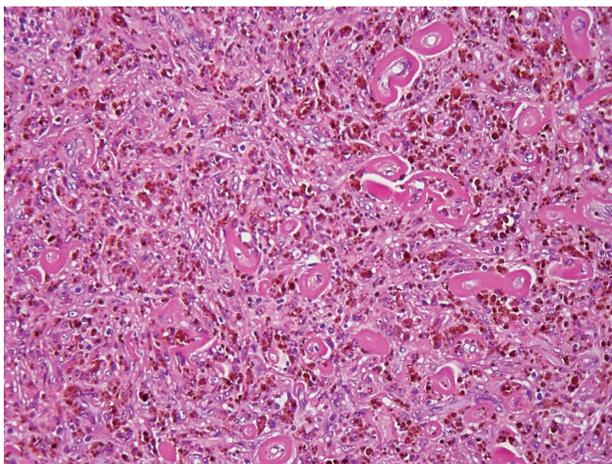
the lesion 5 years prior to the research. The lesion had enlarged more rapidly over the last year. The clinical examination revealed a well-defined border violet tumor (15mm diameter), nonulcerated and depressible to palpation, showing a mild scaling in the periphery (Figure 1). Dermoscopic examination revealed a cluster of violet areas and areas with a combination of colors within the visible light spectrum (rainbow pattern). Further observed was a scaly surface in the peripheral area (Figure 2). Histopathologic study of the lesion showed a low-grade epithelioid CAS (Figure 3). A complete excision of the lesion was performed through Mohs surgery. Patient follow-up was conducted by clinical examination every three months, and an annual chest and abdominal computed tomography scan. The patient was asymptomatic five years following the diagnosis.



**Figure 1.** Tumor on the scalp. Well-defined violet lesion, nonulcerated, with mild scaling in the periphery.



**Figure 2.** Dermoscopic image, obtained using a polarized light dermoscope, showing a cluster of violet and rainbow pattern areas.



**Figure 3.** Vasoformative areas consist of ramifying channels lined by atypical endothelial cells forming intraluminal buds and papillations (H&E  $\times 50$ ).

## DISCUSSION

Angiosarcomas of the scalp are aggressive invasive tumors that often mimic benign painless skin lesions as hematomas or “simple” hemangiomas. The underestimated aggressive course of such tumors usually means that they are not infrequently diagnosed too late, with inadequate treatment in the initial presentation. Several studies have reported 5-year survival rates of 10% to 20%<sup>1</sup>.

Dermoscopic rainbow pattern has been described mainly in Kaposi Sarcoma, and it seems to be caused by the optical phenomenon known as diffraction<sup>2,3</sup>. Close and small vessels mimic a diffraction device, causing white light to split into different wavelengths (thus producing a ‘rainbow effect’). Other lesions with important angiogenetic activities can further show DRP. They has been reported in scars, atypical fibroxanthoma, angiokeratoma and basal cell carcinoma, but have not been previously described in CAS<sup>4-11</sup>.

We propose that DRP, as an adjunct to clinical examination, possibly enhances accuracy in the early diagnosis of CAS.

**Conflict of Interest:** None declared.

## REFERENCES

1. Pawlik TM, Paulino AF, McGinn CJ, et al. Cutaneous angiosarcoma of the scalp: a multidisciplinary approach. *Cancer*. 2003;98(8):1716-26.
2. Cheng ST, Ke CL, Lee CH, et al. Rainbow pattern in Kaposi's sarcoma under polarized dermoscopy: a dermoscopic pathological study. *Br J Dermatol*. 2009;160(4):801-9.
3. Hu SC, Ke CL, Lee CH, et al. Dermoscopy of Kaposi's sarcoma: areas exhibiting the multicoloured 'rainbow pattern'. *J Eur Acad Dermatol Venereol*. 2009;23(10):1128-32.
4. Vazquez-Lopez F, Garcia-Garcia B, Rajadhyaksha M, et al. Dermoscopic rainbow pattern in non-Kaposi sarcoma lesions. *Br J Dermatol*. 2009;161(2):474-5.
5. Garcia-Garcia B, Perez-Oliva N. Dermoscopic rainbow pattern in basal cell carcinoma. *J Eur Acad Dermatol Venereol*. 2010;24(4):499-500; author reply 500-1.
6. Zalaudek I, Argenziano G. Dermoscopy subpatterns of inflammatory skin disorders. *Arch Dermatol*. 2006;142(6):808.
7. Pitarch G. Dermoscopic rainbow pattern in atypical fibroxanthoma. *Actas Dermosifiliogr*. 2014;105(1):97-9.

8. Perez-Perez L, Garcia-Gavin J, Allegue F, et al. The rainbow pattern and rosettes in cutaneous scars. *Actas Dermosifiliogr*. 2014;105(1):96-7.
9. Kunz M, Svensson H, Paoli J. Dermoscopic rainbow pattern: A clue to diagnosing aneurysmal atypical fibroxanthoma. *JAAD Case Rep*. 2018;4(4):292-4.
10. Pinos Leon VH, Granizo Rubio JD. Acral pseudolymphomatous angiokeratoma of children with rainbow pattern: A mimicker of Kaposi sarcoma. *J Am Acad Dermatol*. 2017;76(2S1):S25-S7.
11. Uzuncakmak TK, Ozkanli S, Karadag AS. Dermoscopic rainbow pattern in blue nevus. *Dermatol Pract Concept*. 2017;7(3):60-2.