Violaceous haemorrhagic plaque on scalp

A 61-year-old male presented with a violaceous hyperkeratotic plaque protruding from the left side of his scalp [Figure 1]. On physical examination, the lesion was firm and about 10×10 cm in size. There were no significant skin lesions other than the one on the scalp. The patient first noticed a nodule on his scalp two months previously, which had since grown aggressively. There was foul-smelling discharge from the nodule accompanied by haemorrhagic blisters. The patient had been experiencing intermittent fevers of up to 38.5°C and chills for a few weeks. Lab examination showed leukocytosis (13.6×10^9/L) and the C-reactive protein level was 153 mg/L. Microbiological swabs from the discharge and the cultures from the haemorrhagic blister, both grew *Enterococcus faecalis*, which was sensitive to ampicillin/sulbactam. However, there was no bacterial or fungal growth in his peripheral blood culture.

What is Your Diagnosis?

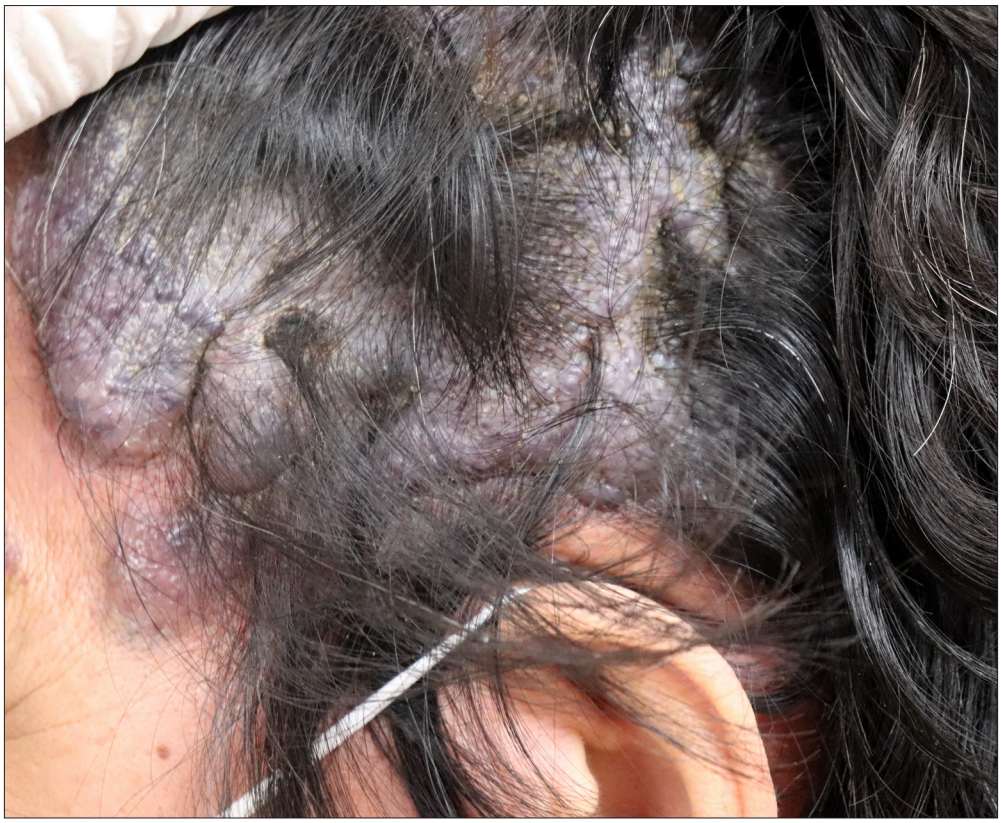

Figure 1: Diffuse, violaceous, and hyperkeratotic haemorrhagic plaque on the left side of the scalp

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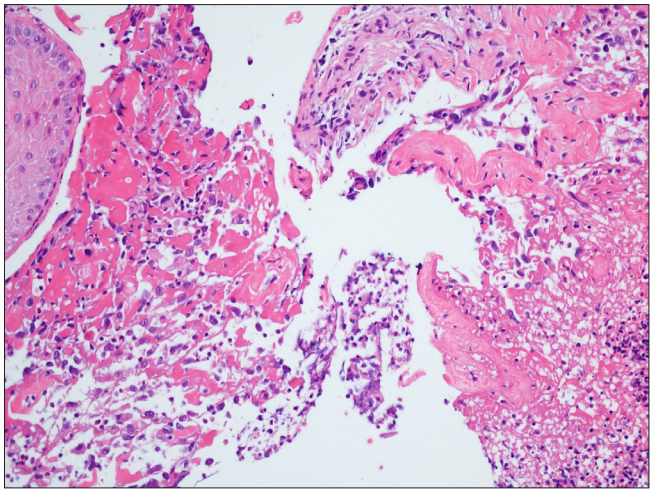

Figure 2a: Irregularly anastomosing vascular channels lined by atypical endothelial cells dissecting between the collagen bundles (H&E, ×200)

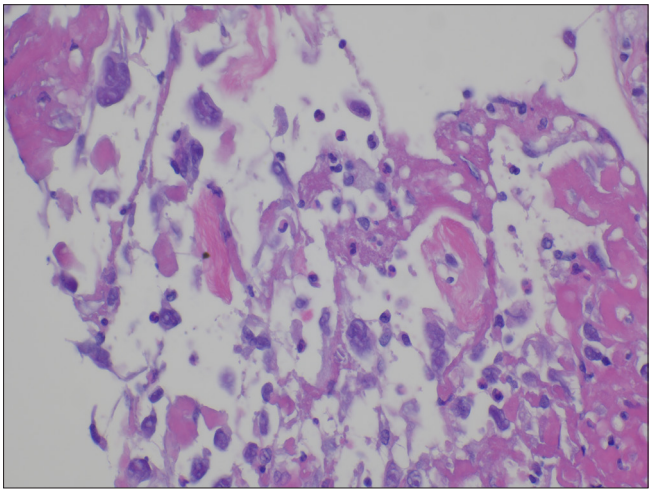

Figure 2b: Tumour cells were plump and pleomorphic, showing prominent nucleoli (H&E, ×400)

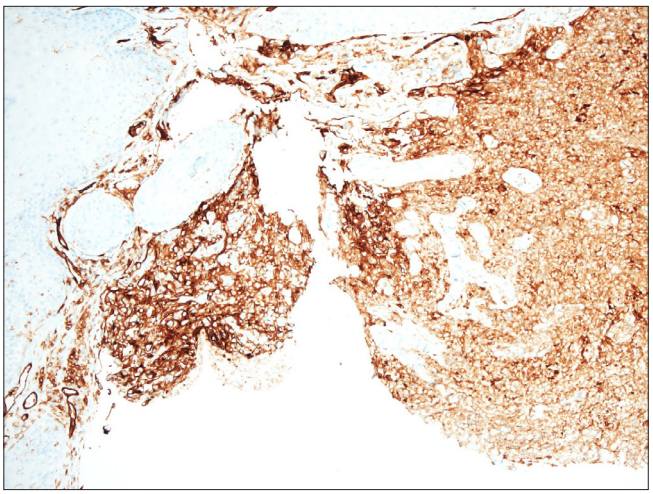

Figure 2c: Tumour cells were positive for CD31 (×200)

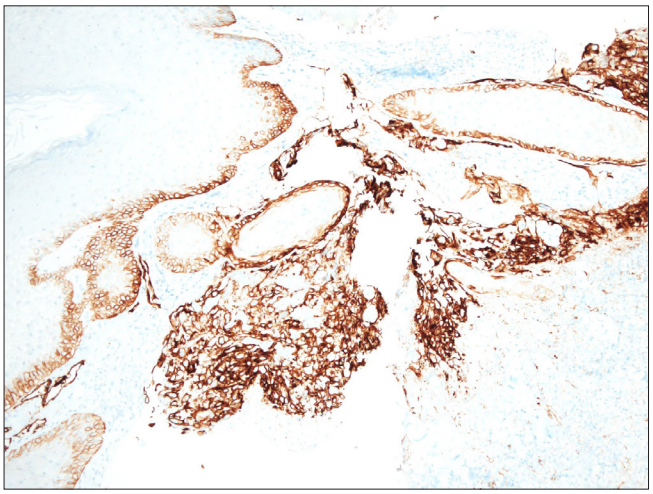

Figure 2d: Tumour cells were positive for D2-40 (×200)

Diagnosis

Cutaneous angiosarcoma.

Histopathological examination revealed irregularly anastomosing vascular channels lined by atypical endothelial cells dissecting between the collagen bundles [Figure 2a]. Lining cells were plump and pleomorphic, showing prominent nucleoli [Figure 2b]. The lining cells were positive for both CD31 [Figure 2c] and D2-40 [Figure 2d].

Magnetic resonance imaging (MRI) showed involvement of subcutaneous tissue with internal haemorrhage and necrosis. Two weeks after debridement of the necrotic tissue and treatment with systemic antibiotics, the lesion showed improvement with normalised leukocyte count and c-reactive protein (CRP). However, on staging workup, image showed multiple metastatic lesions in both lungs and the thoracic and cervical spine. Despite palliative weekly paclitaxel, the patient passed away.

In our case, MRI of the lesion showed involvement of subcutaneous tissue with internal haemorrhage and necrosis. The patient was referred to the department of plastic surgery. Two weeks after debridement of the necrotic tissue and treatment with systemic antibiotics (ampicillin/sulbactam), the lesion showed improvement with a normalised leukocyte count (5.64 × 109/L) and CRP (0.9 mg/L).

On oncology evaluation and staging workup, imaging showed multiple metastatic lesions in both lungs and the thoracic and cervical spine. Due to the poor survival rate of metastatic angiosarcoma, the patient received palliative weekly paclitaxel.

Discussion

Angiosarcomas are rare malignant tumours of endothelial cell origin with poor prognosis, frequent recurrence and high metastatic potential. Cutaneous angiosarcomas typically appear as single or multiple erythematous patches or plaques, most frequently on the face, scalp, and neck. However, histopathologic evaluation is essential for the diagnosis because clinical manifestations of cutaneous angiosarcomas vary and the diagnosis is often delayed.[1,2]

Complicated skin and soft tissue infections may result from an invasion of pathogens through disruptions of the skin or soft tissue structure.[3] Factors such as damage to the epidermis, high concentrations of bacteria and inadequate blood supply may contribute to an increased risk of infection, making the skin and soft tissue more vulnerable to microbial invasion.[4] In our case, the angiosarcoma had grown aggressively in two months and there was discharge from an ulcerative lesion on the tumour. Consequently, the skin barrier would have been damaged and this along with the inadequate blood supply to the tumour could have been pre-disposing factors for microbial invasion.

Accurate diagnosis involving assessment of severity, risk factors and identification of causative microorganisms are important for the prevention of further complications. Aggressive surgical debridement of the necrotic tissue is preferred to arrest the spread of infection and promote wound healing.[5] Together with surgical intervention, broad-spectrum antibiotic therapy and physiological supportive care are fundamental pillars of complicated skin and soft tissue infection management.[6]

The diagnosis of angiosarcoma can be delayed because of its rarity and varied clinical presentations. Prompt evaluation with histological examination and immunohistochemical staining is important if angiosarcoma is suspected. Furthermore, clinicians must be aware that the tumour can lead to a complicated soft tissue infection and appropriate management is necessary to improve the patient's quality of life.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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