

Fatal Lymphangiosarcoma Revealed by Lymphoedema of the Neck

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Sir,

Angiosarcoma (AS) is a rare malignant vascular tumour of the head and neck, which may present as bruise, cellulitis-like plaque, infiltrated plaque, or nodules (1). We report here an unusual patient, who presented with a progressive infiltrated and oedematous plaque of the neck.

CASE REPORT

A 90-year old man presented with a 6-month history of a progressive infiltrated and oedematous plaque of the neck. His medical history was unremarkable except for a 10 kg weight loss over the past year. There was no history of surgery or radiotherapy. Physical examination revealed a pale-reddish, sharply-defined, oedematous infiltrated plaque of the neck (Fig. 1a). No lymph nodes or nodules were palpable. Radiological investigations failed to reveal cava superior syndrome or cervical and intra-thoracic compressive tumour. Positron emission tomography revealed a diffuse hypermetabolism of subcutaneous neck tissues infiltrating the underlying muscles. A cutaneous biopsy of the lesion showed an atypical vascular proliferation of the dermis (Fig. 1b) with a meshwork of anastomosing dilated vessels between normal collagen bundles. Tumour cells were CD31, CD34, D2-40 (Fig. 1c) positive, but HHV8 negative. The patient died before the beginning of any therapy.

DISCUSSION

Malignant vascular tumours were formerly divided into hemangiosarcomas (HAS) and lymphangiosarcomas (LAS) depending on whether the malignant endothelial cells were thought to originate from blood or lymph vessels (2). Clinically, typical cutaneous AS show a noticeable predilection for the head and neck region and often affect elderly male adults, whereas typical LAS usually occurs in chronic lymphoedema or areas treated with radiotherapy. Furthermore, a lymphatic component could be suspected on a white to pale-red coloured oedematous infiltrated plaque, as seen in our patient, whereas typical AS is often intense-red to violaceous coloured (3). However, the clinical distinction between these two entities is usually difficult.

These tumours are considered as highly aggressive tumours with a poor prognosis. Routinely used immunohistochemical markers for the condition include factor VIII, CD34 or CD31. However, recent studies have drawn attention on the fact that malignant endothelial cells in AS express a mixed immunophenotype of both blood and lymphatic vessel endothelium. Indeed, some grade 3 AS co-express blood and lymphatic markers (6). Moreover, Kahn et al. (5) have shown that D2-40 monoclonal antibody stains all benign lymphatic tumours but not benign proliferations of blood vessel origin. They concluded that a subset of AS, with positive D2-40 cells, can bear partial differentiation along the

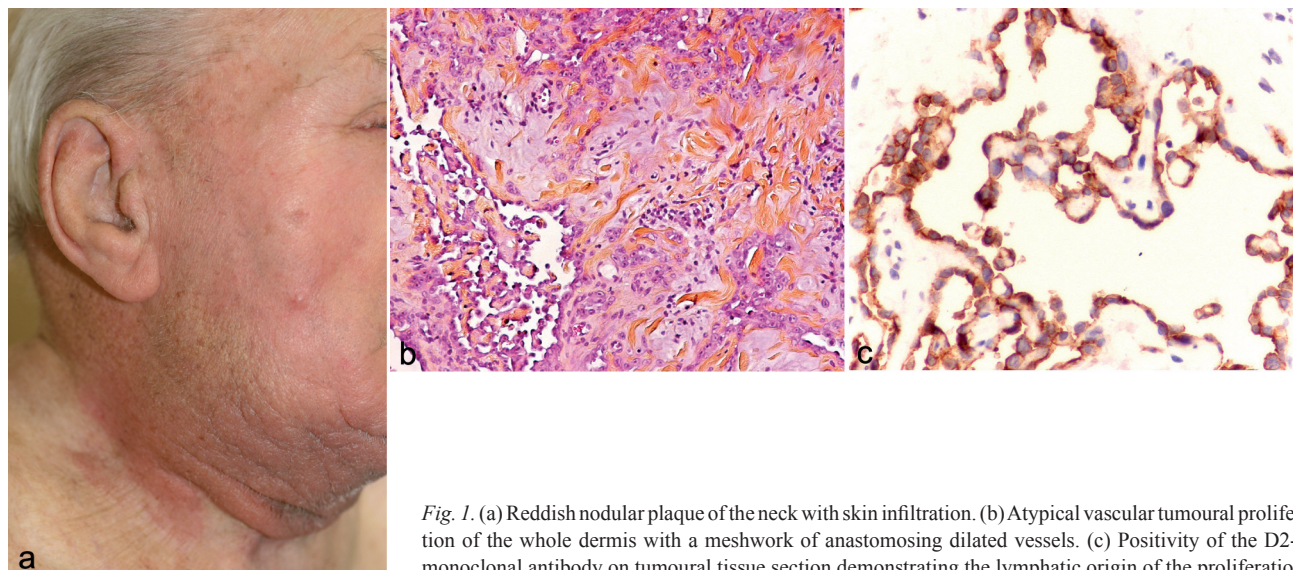


Fig. 1. (a) Reddish nodule plaque of the neck with skin infiltration. (b) Atypical vascular tumoural proliferation of the whole dermis with a meshwork of anastomosing dilated vessels. (c) Positivity of the D2-40 monoclonal antibody on tumoural tissue section demonstrating the lymphatic origin of the proliferation.

lymphatic endothelial lineage and should be classified as LAS as seen in our patient (5). However, the value of this immunohistochemical marker needs further confirmation.

Treatment of AS is not consensual. A majority of authors give priority to wide-margin surgical excision with adjuvant radiotherapy, but radiotherapy alone has been proposed when the surgery cannot be performed due to the patient's age-related comorbidities or anatomical limits. Additionally, various chemotherapy regimens have been proposed in neo-adjuvant, adjuvant or metastatic situations with controversial results. Recent observations have led to an interest in liposomal doxorubicin (6).

This case highlights the difficulty of differentiating AS clinically and histologically from LAS. Indeed, our patient presented with an uncommon form of LAS that occurred in the absence of chronic lymphoedema or past radiotherapy. Moreover, the case described here combined typical patterns owing to AS (elderly male patient) and clinical and histological patterns of LAS with an oedematous infiltrated plaque associated with a positivity of D2-40 immunostaining.

In conclusion, our patient presented with subacute oedematous infiltrated plaque of the face as the only

clinical sign of the LAS. Therefore, differential diagnosis of unexplained facial lymphoedema should include LAS, and a biopsy is warranted in order to avoid delay in diagnosis.

REFERENCES

1. Spieth K, Gille J, Kaufmann R. Therapeutic efficacy of interferon alfa-2a and 13-cis retinoic acid in recurrent angiosarcoma of the head. *Arch Dermatol* 1999; 135: 1035–1037.
2. Fletcher CD, Unni KK, Mertens F, editors. World Health Organization. Classification of tumors. Tumors of soft tissue and bone. Lyon: IARC Press, 2002.
3. Mark RJ, Poen JC, Tran LM, Fu YS, Juillard GF. Angiosarcoma: a report of 67 patients and a review of the literature. *Cancer* 1996; 77: 2400–2406.
4. Breiteneder-Geleff S, Soleiman A, Kowalski H, Horvat R, Amann G, Kriehuber G, et al. Angiosarcomas express mixed endothelial phenotypes of blood and lymphatic capillaries: podoplanin as a specific marker for lymphatic endothelium. *Am J Pathol* 1999; 154: 385–394.
5. Kahn HJ, Bailey D, Marks A. Monoclonal antibody D2-40, a new marker of lymphatic endothelium, reacts with Kaposi's sarcoma and a subset of angiosarcomas. *Mod Pathol* 2002; 15: 434–440.
6. Verdier E, Carvalho E, Young P, Musette P, Courville P, Joly P. Lymphangiosarcoma treated with liposomal doxorubicin (Caelyx). *Ann Dermatol Venereol* 2007; 134: 760–763.