

Scalp Epithelioid Glomus Tumor: A Rare Location

Teruki Yanagi and Tetsuri Matsumura

Department of Dermatology, Tonan Hospital NIW6, Chuo-ku, Sapporo 060-0001, Japan. E-mail: yanagi@med.hokudai.ac.jp

Accepted December 12, 2005.

Sir,

Glomus tumours are relatively uncommon neoplastic tumours that arise from modified smooth muscle cells, normally found in specialized arteriovenous shunts, particularly in acral sites, such as the fingertips (1). We report here a case of an epithelioid variant glomus tumour that occurred on the scalp.

CASE REPORT

A 35-year-old Japanese woman was referred to our hospital with a small, asymptomatic tumour on her scalp. The lesion had been present for approximately 3 years and was not associated with any pain or tenderness. Physical examination revealed a 1-cm diameter, firm, and slightly reddish subcutaneous tumour on her scalp (Fig. 1). Clinically, the lesion was initially thought to be a pilomatricoma, epidermal or trichilemmal cyst, osteoma cutis, angiosarcoma or other adnexal tumour, and an excisional biopsy was performed. At biopsy, a well-circumscribed ovoid mass was isolated at the interface of the dermis and subcutis. At low magnification, there were sheets of tumour cells and numerous stenopoeic blood vessels, which were embedded in a fibrous stroma (Fig. 2a). There were no "staghorn" branching capillaries, which are regarded as a characteristic diagnostic feature of haemangiopericytoma (1). Connective tissue was focally hyalinized and small aggregates of tumour cells were isolated. Individual tumour cells were polygonal shaped with indistinct cell borders and abundant, pale, eosinophilic cytoplasm. Most of the nuclei were round-to-oval and had delicate, margined chromatin and distinct small basophilic nucleoli (Fig. 2a inset). Abnormal mitoses were not observed. There was no striking concentric pattern around the numerous blood vessels implicating myopericytoma (2, 3). Immunohistochemically, the tumour cells were positive for alpha smooth muscle actin (Fig. 2b), and negative for CD34, CD31, Factor 8 and desmin (Fig.

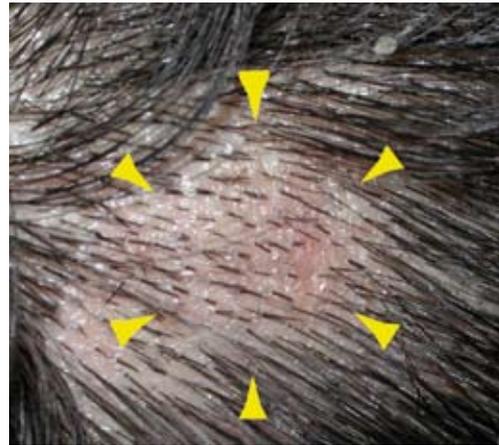


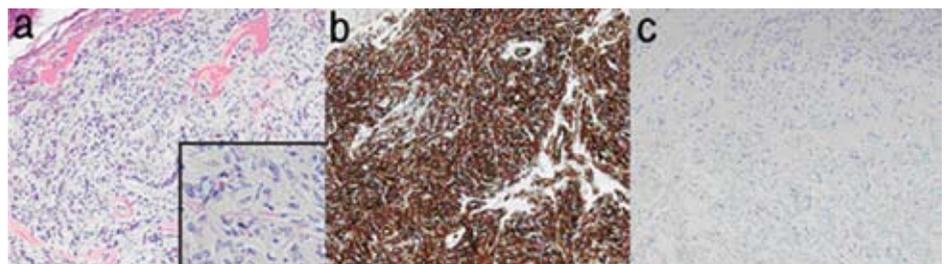
Fig. 1. A 1-cm diameter, firm, non-tender, slightly reddish subcutaneous tumour on the scalp.

2c). From these findings, the diagnosis of epithelioid glomus tumour was finally made. The patient has since had no evidence of recurrence or other complications half a year following her surgery.

DISCUSSION

Glomus tumours are thought to originate from their normal counterparts: the modified smooth muscle cells. Therefore they tend to occur most commonly in acral areas, such as the fingertips (1). However, glomus tumours have also been described in extracutaneous sites, such as bone, stomach, colon, trachea and mediastinum (1). In 1995, Pulitzer et al. (4) reported "epithelioid glomus tumour", as a rare histopathological variant of a solitary glomus tumour. The features of epithelioid glomus tumours were large polygonal to spindle-shaped cells with abundant eosinophilic cytoplasm and large, irregularly shaped nuclei. They suggested that epithelioid changes might represent senescence rather than neoplastic progression (4). Inert clinical course

Fig. 2. Histopathological features. (a) Sheets of tumour cells and numerous stenopoeic blood vessels. Hyalinization of the connective tissue was also noted (HE stain; $\times 40$). Inset shows that individual tumour cells had pale, eosinophilic cytoplasm and round to oval nuclei with delicate, margined chromatin at the nuclear periphery and distinct small basophilic nucleoli ($\times 100$). (b) Perivascular tumour cells were positive for alpha smooth muscle actin ($\times 40$). (c) All of the tumour cells were negative for desmin staining ($\times 40$).



and hyalinization in histology as in our case may support their view.

The body site locations of epithelioid glomus tumours in the 5 reported cases were on the legs, on the arms and on the shoulder (4). These were different from the predilection sites of conventional solitary glomus tumours, such as on the fingertips and subungual regions. Our tumour showed a unique location, which may be related to its histopathological epithelioid pattern. As far as we know, there have been no previous reports of glomus tumours occurring on the scalp.

REFERENCES

1. Requena L, Sanguenza OP. Cutaneous vascular proliferation. Part II. Hyperplasia and benign neoplasms. *J Am Acad Dermatol* 1997; 37: 887–919.
2. McMenamin ME, Calonje E. Intravascular myopericytoma. *J Cutan Pathol* 2002; 29: 557–561.
3. Granter SR, Badizadegan K, Fletcher CD. Myofibromatosis in adults, glomangiopericytoma, and myopericytoma: a spectrum of tumors showing perivascular myoid differentiation. *Am J Surg Pathol* 1998; 22: 513–525.
4. Pulitzer DR, Martin PC, Reed RJ. Epithelioid glomus tumor. *Hum Pathol* 1995; 26: 1022–1027.