Glomus Tumour : A Rare Presentation

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Introduction

Glomus is a physiological arteriovenous anastomosis with a thermoregulatory function and is common in the extremities. Glomus tumours are small benign neoplasms that commonly arise in the dermis or subcutaneous tissues of extremities [1]. Most subungual glomus tumours present with the classical triad of pain disproportionate to the lesion, exquisite tenderness and hypersensitivity to cold. They may rarely present in atypical locations and with unusual features. We present a hitherto unreported site and characteristics of a recurrent giant glomus tumour of the occipital scalp.

Case Report

A 30 year old male presented with a recurrent lesion of the occipital scalp of eight years duration. The chief complaint was of inexorable growth since onset, with repeated episodes of bleeding. He had undergone excision of the tumour on three occasions elsewhere with recurrences. The tumour surface had ulcerated with episodes of severe bleeding on trivial trauma during the last six months.

Clinical examination revealed a 6 x 8 cm ulcerated nodular lesion over the occiput (Fig.1). The lesion was nontender, friable and bled on touch. The underlying occipital bone appeared eroded with no features of intracranial involvement. No thrill or bruit was appreciated. The patient had haemoglobin of 8 gm%. Relevant biochemical parameters were normal. Radiograph revealed erosion of the underlying skull with computed tomography scan confirming a 3 x 5 cm defect of the occipital bone. The tumour was apparently adherent to the dura but there were no features of dural involvement. The patient was taken up for surgical excision of the tumour using a three centimeter wide margin for excision. The tumour was found abutting over the dura with no evidence of adhesion or penetration. The skull defect was primarily closed with a transposition flap. The secondary defect created by the scalp flap was split skin grafted. The patient had an uneventful recovery with primary healing. Histopathology of the tumour had typical features of glomus tumour. The patient is recurrence free on regular follow up after one year.

Discussion

Glomus tumours are rare tumours called paragangliomas and also known by a variety of names such as chemodectomas, glomangioma, receptomas etc. [2]. The cells of origin are part of the diffuse neuroendocrine system with similar functions and histological appearance. The neuromyoarterial glomus is a normal arteriovenous shunt supplied by nerve fibres and fulfilling a temperature controlling function [3]. Sympathetic paragangliomas arise from the adrenal medulla and visceral autonomic ganglia whereas parasympathetic paragangliomas are found throughout the body. They give rise to almost all the head and neck tumours. Head and neck paragangliomas are subclassified as

1. Branchiogenic comprising the temporal bone, carotid

Fig 1 : Recurrent glomus tumour presenting as a nodular ulcerated growth over the occipital scalp with cranial invasion.

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Fig 2: Low magnification histological section showing a pleomorphic cellular vascular tumour with dense lymphoplasmacytic infiltrate.

body, orbit and larynx

2. Intravagal or upper mediastinal
3. Aorticosympathetic and retroperitoneal
4. Visceral

Familial and nonfamilial forms are known with functional catecholamine secreting paragangliomas contributing only 1-3%. The classical location is subungual and it is very rare to see a glomus tumour in soft tissues of other parts of the body [4]. Very rarely glomus tumours may display unusual features of large size or infiltrative growth. Local invasion is rare and metastasis has not been reported. There are rare reports of metastatic glomus tumours but are not accepted as convincing [5]. Our patient had a recurrence after three prior surgeries and had a large superficial tumour in a hitherto unreported location. The tumour had eroded the occipital bone and was overlying the dura. Nuclear atypia, pleomorphic and mitotic activity with necrosis are uncommon histological findings [6]. In our case histology is of a pleomorphic type of glomus (Fig.2). The cellular tumour has many vascular spaces surrounded by cells which at foci are epithelioid with vesicular nuclei and prominent nucleoli. The intervening stroma has dense lymphoplasmacytic infiltrate. Mitotic and apoptotic activity is seen (Fig. 3). The overall features reported are of a cellular glomus tumour sometimes classified as glomangiosarcoma, which is unlikely to metastasize. Surgery forms the mainstay of treatment although

Fig. 3: High magnification image with evidence of mitotic and apoptotic activity.

radiotherapy is claimed to offer similar local control [7]. The decision of surgery or radiotherapy should be based on individual patient profile. In our patient the multiple recurrences could be due to the uncertain pathology and limited excision.

Conflicts of Interest

None identified

References

1. Bhaskaranand K, Navadgi BC. Glomus tumour of the hand. *Hand Surg [Br]* 2002 ;27:229-31.
2. Million RR, Cassisi NJ, Mancuso AA. Chemodectomas (Glomus body tumors) In: Million RR, Cassisi NJ, editors. *Management of head and neck cancers*. Philadelphia: JB Lippincott, 1994 :765.
3. Neoplasms of the central nervous system. Louis DN, Cavenee WK. In: Devita VT, Hellman S, Rosenberg SA, editors. *Cancer: Principles and practice of oncology*. 7th ed. Philadelphia : Lippincott-Raven, 2005;1875-6.
4. Kessaris P, Klimis T, Zanakis S. Glomus tumour of the hard palate: case report and review. *Br J Oral Maxillofac Surg* 2001;39:478-9.
5. Kayal JD, Hampton RW, Sheehan DJ, Washington CV. Malignant glomus tumour: a case report and review of the literature. *Dermatol Surg* 2001;27:837-40.
6. Folpe AL, Fanburg-Smith JC, Miettinen M, Weiss SW. Atypical and malignant glomus tumors: analysis of 52 cases, with a proposal for the reclassification of glomus tumors. *Am J Surg Pathol* 2001;25:1-12.
7. Singhal S, Sharma S, Dixit S, De S, Chander S, Rath GK. Primary radiation therapy in the management of glomus tumours. *Indian J Cancer* 1993;30:120-4.