

Glomus tumor: An unusual cause of a lump in the upper lip

Liam Monaghan, Stuart Clark

ABSTRACT

Introduction: Glomus tumors are rare, benign vascular neoplasms seen most often in the nail beds of the hands. We report a rare case of a glomus tumor presenting as a painless lump in the upper lip. **Case Report:** A 73-year-old male was referred with a three-month history of a soft, round, painless lump of around 1 cm, within the labial mucosa adjacent to his upper right central incisor. The patient had a history of adenocarcinoma of the lung, managed successfully with upper lobe resection and chemotherapy. He had peripheral vascular disease and COPD. A differential diagnoses included a mucocele, hemangioma or salivary gland neoplasia. Histology of the excisional biopsy showed benign spindle cells and thin walled blood vessels favoring a glomus tumor. On review the biopsy site was well healed with no sign of recurrence. Unfortunately, further follow-up was declined by the patient. **Conclusion:** Glomus tumors arise from glomus bodies, which are arteriovenous anastomosis involved in thermoregulation. They are not to be confused with carotid body tumors, which historically shared the same name. Glomus tumors are classically found in the digits in the hands where greatest numbers of glomus bodies exist. They

are rare in the oral cavity, with few reported cases. Age distribution is similar between tumors of the hand and oral tissues, however the strong female predilection seen in subungual tumors is not mirrored in oral lesions. Recurrence is seen in up to a third of digital tumors, although there is no available data on recurrence rates in oral tumors.

Keywords: Biopsy, Glomus tumor, Lip, Oral mucosa, Oral surgery, Vascular neoplasms

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INTRODUCTION

Glomus tumors are rare, benign neoplasms usually arising from glomus bodies found in the nail beds of the digits. They should not be confused with paragangliomas, or carotid body tumors, which are neuroendocrine neoplasms which have historically shared the name glomus tumor [1]. Glomus bodies are arteriovenous anastomoses, which play a role in thermoregulation through the shunting of blood in response to changes in temperature [2]. Whilst these tumors do occur throughout the body, they remain rare in the oral region. We report a case of a glomus tumor presenting as a painless lump in the upper lip.

CASE REPORT

A 73-year-old male was referred by his general medical practitioner with a three-month history of a painless lump on the upper left labial mucosa. On presentation the lesion was around 1 cm in diameter, soft, round and freely mobile. There was no evidence of bleeding or ulceration and the patient reported a gradual increase in size over the preceding weeks.

The patient had a history of T2bN1 adenocarcinoma of the lung three years previously. This was managed successfully with a right upper lobe resection and four cycles of vinorelbine/cisplatin. He was in remission and under six monthly review with an oncologist. He also had a history of peripheral vascular disease and chronic obstructive pulmonary disease. Medications included atorvastatin, clopidogrel, tiotropium bromide, fluticasone and salbutamol.

The patient was an ex-smoker, having smoked heavily up until five years previously and drank alcohol only occasionally.

Differential diagnosis included; mucocele, hemangioma or a salivary gland neoplasm. An excisional biopsy was undertaken under local anesthesia where the lesion was excised intact.

Histological examination of the specimen revealed oral mucous membrane, with underlying stroma showing a well-defined lesion (Figure 1). CD31 was positive, highlighting thin walled blood vessels. The lesion was positive for smooth muscle actin (Figure 2) and negative for S100. There was no atypia or malignancy, with features and immunostaining favoring a benign glomus tumor.

On review at eighth week post-surgery, the patient had no complaints and the biopsy site was well healed, with only a small amount of scarring remaining. The patient was advised of the benign histology but uncertain prognosis in terms of recurrence. Unfortunately, the patient refused any further follow-up.

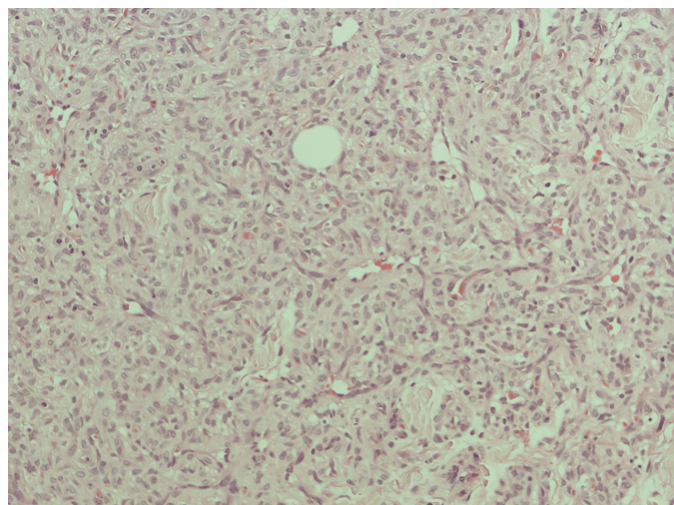


Figure 1: Hematoxylin and eosin stain (x100) tumor.

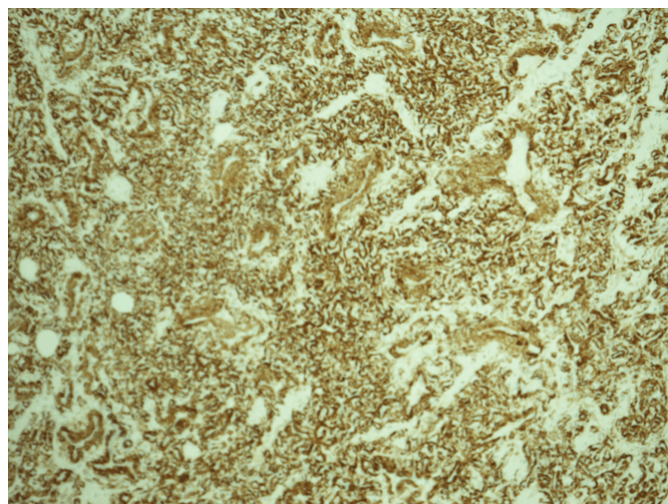


Figure 2: Positive smooth muscle actin stain of tumor cells.

DISCUSSION

Glomus tumors can be subcategorized into; solid glomus tumors, glomangiomas and glomangiomyomas, depending on the relative proportions of glomus cells, vascular structures or smooth muscle within histological samples. Solid glomus tumors are most common, making up 75% of cases. Malignant glomus tumors, known as glomangiosarcomas, are exceedingly rare, with fewer than 22 reported prior to the year 2000 [3].

These tumors are usually found in the hands, where there are the highest numbers of glomus bodies. Symptoms classically involve a triad of well localized stabbing pain, tenderness of the fingertips, and intolerance to cold stimuli [4]. Glomus tumors can affect a wide range of sites, occurring throughout the body, usually in skin or superficial soft tissue [3]. They are more rarely found in deep visceral locations and along the gastrointestinal and genitourinary tracts [5]. Aetiology is uncertain, however familial variants of multiple glomus tumors have been identified [6]. There is also a link between subungual tumors and neurofibromatosis type 1 [7, 8].

Whilst uncommon, glomus tumors of the hands are seen relatively frequently when compared to those found in the oral region. A recent review found only 22 cases of glomus tumors affecting oral tissues, the first case being reported in 1943 [9]. A PubMed/Medline search confirmed this case to be one of eight labial glomus tumors reported in English literature [9–16].

Glomus tumors are reported to present most commonly in the fourth to sixth decades of life [5], a finding mirrored in labial tumors, which had an average age of 58 on presentation [9]. In the subungual region, there is a strong female predilection, however there is an even distribution between sexes at other sites [3], and 55% of labial glomus tumors have occurred in males [9]. In contrast to glomus tumors presenting at other sites,

where pain is a frequent presenting symptom [4], none of the reported cases of labial tumors involved a painful history. This makes tumors difficult to distinguish from other, more common painless swellings of the lips.

The management of these tumors is surgical, with recurrence rates in tumors of the digits reported to be in the range of 4–15% [17]. There is insufficient data available from previously reported cases to comment on recurrence rates in labial glomus tumors. However, the easily accessible nature of the lips makes routine follow up by general dentists or the patient themselves simple.

CONCLUSION

In conclusion, glomus tumors affecting the labial mucosa are rare, but should be considered in a differential diagnosis of small, painless swellings of the oral cavity. Solitary glomus tumors of the oral cavity are rarely reported, and we hope this case increases awareness of such lesions to clinicians.

Author Contributions

Liam Monaghan – Substantial contributions to conception and design, Acquisition of data, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Stuart Clark – Substantial contributions to conception and design, Acquisition of data, Acquisition of data, Analysis and interpretation of data, Drafting the article, Critical revision of the article, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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