



## Glomus Tumor of Face

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### Abstract:

Glomus tumor is a neoplastic proliferation of glomus body, which is a thermoregulatory neuromyoarterial unit seen predominantly in the subungual regions. These tumors are found mainly in the digits. Extra digital location is uncommon and involvement of face is rare. However, possibility of glomus tumor in a subcutaneous nodule of face should be considered particularly if it shows typical triad of intense paroxysmal pain, exquisite tenderness and sensitivity to cold. Though, the typical findings may be absent. Diagnosis depends upon high index of suspicion. Histopathological examination of the lesion confirms the diagnosis. Here, we present a case of 29 years old male who presented with a small painless subcutaneous nodule on the face.

**Key words:** Glomus Tumor, Neoplasms, Face, Pain, Humans.

### Introduction

Glomus tumor arises from glomus body, a neuromyoarterial unit located in stratum reticularis of dermis [1]. It accounts for 1-2% of soft tissue tumor and is seen predominantly in subungual region of digits [2]. Extra digital location for the tumor has been described, but face is considered to be rare site. In a study, out of 56 cases of extra digital glomus tumor seen at Mayo clinic over a period of 20 years (1985-2005), only one case was reported in cheek [3]. Clinical presentation includes triad of intense paroxysmal pain, exquisite tenderness and sensitivity to cold [4]. These features may or may not be present in cases of glomus tumor of face and patient may present with asymptomatic subcutaneous nodule or chronic facial pain. Biopsy is needed

for diagnosis and is therapeutic as well in many cases.

### Case Report

29 years old male presented with a painless swelling over left cheek since 4 months. Examination revealed a non-tender, well defined, smooth, soft and bluish swelling of about 2x2 cm on left side of face [Fig.1]. There was no clinically palpable node in the neck. Examination of oral cavity was within normal limits. Fine needle aspiration cytology (FNAC) of the lesion was obtained. It was reported to have moderately cellular, scattered and dissociated cluster of cells with mild anisonucleosis, bland nuclear chromatin

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and scanty cytoplasm along with plasmacytoid cells showing bluish cytoplasm and cytoplasmic vacuoles. Lymphocytes and few macrophages were seen in the background. Features were considered to be suggestive of benign adnexal tumor.

Patient was scheduled for surgery. The swelling was excised completely through a skin-crease incision and sent for histopathological examination. On HPE it was found to have branching vessels lined by endothelial cells and surrounded by sheets of small round cells with round bland nuclei and eosinophilic cytoplasm [Fig.2]. There were also nests and aggregates of these cells in stroma. Occasional chronic inflammatory cells were present in stroma. Based on these findings diagnosis of glomus tumor was made.

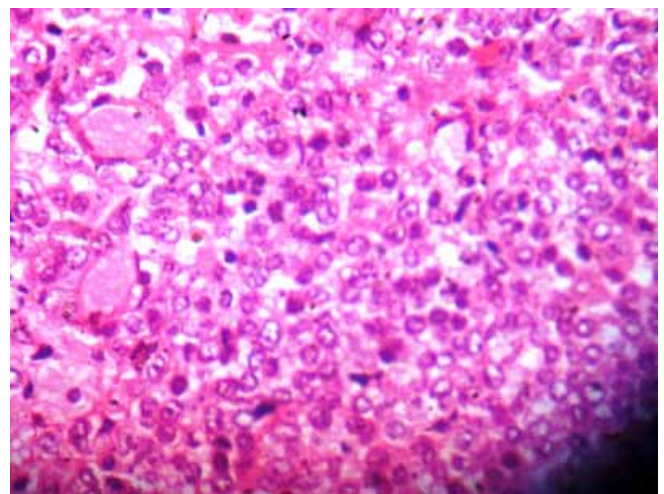
## Discussion

Glomus tumor is a neoplasm of glomus body, first described by Wood in 1812. Masson in 1924 provided the first clinical description for this condition [4]. The tumor develops from glomus body, which is a specialized arterio-venous fistula situated in stratum reticularis of dermis. The arterial end of the body is known as Sucquet-Hoyer canal and is lined by modified smooth muscle cell called glomus cell, derived from Zimmerman pericyte. Its contraction leads to heat preservation and dilatation to heat loss and thus plays an important role in thermoregulation [1,5,6].

According to WHO classification, glomus tumor can be divided into three subtypes depending upon the predominance of different histological component. A tumor having predominant vascular component is known as glomangioma, while that with predominant muscular component as glomangiomyoma and predominant cellular component as solid. Other variants include (i) glomangiomyomatosis - A benign and diffuse



**Fig.1:** Subcutaneous nodule on cheek.



**Fig.2:** Photomicrograph of excised specimen showing branching vessels lined by endothelial cells and surrounded by sheets of small round cells with round bland nuclei and eosinophilic cytoplasm.

form (ii) symplastic glomus tumor - Tumor with marked nuclear atypia, considered a degenerative phenomena in absence of other malignant feature and (iii) glomangiosarcoma - the



malignant variant, accounts for 1% of all glomus tumor [7]. Glomus body is predominantly located in palms, digits and soles and so the glomus tumors are usually seen in limbs particularly in subungual regions of digits [5]. Extra digital location of glomus tumor has been described. It includes face, colon, stomach, lung, bone, nervous system and fallopian tube [3]. Extra-digital glomus tumors are more common in men and male outnumber the female by a ratio is 4:1 [3]. Usually these tumors do not exceed the size of 1x1 cm, but large glomangiomas mimicking venous malformation have been reported. MRI is considered to be the most sensitive investigation for glomus tumor in extremity.

Excisional biopsy usually settles the diagnosis. The characteristic appearance of glomus cells and nesting pattern referred to as zellbalen is usually sufficient to establish the diagnosis on routine microscopy. Though in cases, where these features are not evident, immunohistochemistry may help to reach the conclusion. According to Rallis *et al.* IHC profile that suggests the diagnosis of glomus tumor is immunopositivity with smooth muscle actin, muscle spindle actin and vimentin and negative immune reactivity with S-100 and epithelial marker [8].

Treatment is adequate surgical excision; though, recurrence can be seen in 12-33% of cases. Recurrence occurring within days to weeks indicates inadequate surgical excision while 2-3 years after may be because of multiple tumor [9].

In our case, patient presented with an asymptomatic subcutaneous nodule on face, which on excision and biopsy was proved to be glomus tumor. Since complete excision was already performed at initial surgery, no further intervention was required. Post-operative recovery was excellent and patient didn't reveal any sign of recurrence in follow up period of six months.

## Conclusion

Glomus tumor of face is a rare condition and only presentation may be an asymptomatic subcutaneous nodule. Complete surgical is usually curative & overall prognosis is good.

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