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A Glomus Tumour of the Chest Wall Secondary to Bullet Injury – An Unusual Case with Review of Literature

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Abstract

Glomus tumour is a rare vascular tumour, the common site being subunguam. It is rarely seen on the chest wall region. Also, occurrence of glomus tumour after injury is very uncommon. We present a case of glomus tumour in a 76 year old male patient who presented with swelling on chest wall secondary to bullet injury and was clinically diagnosed as keloid. The case is presented to highlight its occurrence after injury as well as its rare presentation on chest wall.

Keywords: Bullet injury, Chest wall, Glomus tumour

Introduction

Glomus tumour is a benign tumour which arises from the glomus body, the most frequent site being the nail bed. The incidence has been reported as 1-2% of all soft tissue tumours[1]. The occurrence of glomus tumour on chest wall is very rare. We report such a case which occurred after bullet injury on chest wall.

Case Report

76 year old male patient presented with a swelling on chest wall since one and a half years. There was history of bullet injury to chest wall 6 years ago on the same site. The swelling had an insidious onset. General physical examination and vital signs of patient were normal. Local examination revealed a purple coloured nodule on chest wall which measured 1.7 x 1 cm. The lesion was diagnosed as keloid secondary to bullet injury and excisional biopsy was sent for histopathological examination.

Histopathological Examination

We received 2 tissue pieces, largest tissue piece measured 1.2 x 0.7 cm. They were grey – purple in colour with smooth surface. Cut section was bulging, irregular, nodular and haemorrhagic (figure1)

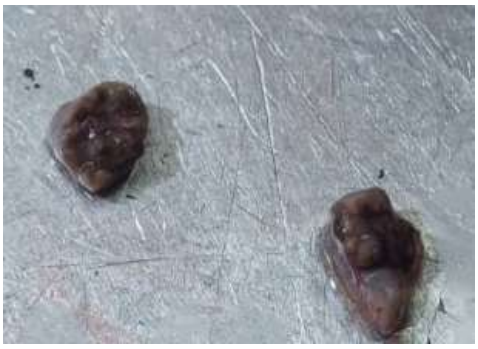


Figure 1: Gross examination – A lesion sent as two grey purple tissue pieces

Microscopy revealed cavernous vascular spaces surrounded by glomus cells having round regular nuclei without atypia and arranged in nests and sheets. Stroma was hyalinised and myxoid. Considering the gross and microscopic features, the tumour was diagnosed as glomus tumour. The post operative recovery of the patient was uneventful.

Figure 2:

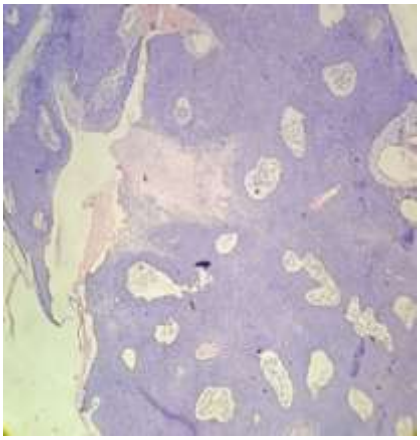
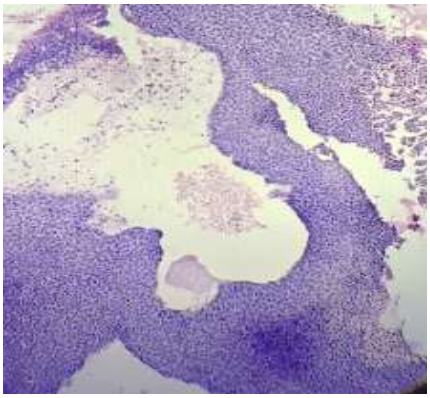


Figure 3:



Microscopy- Cavernous vascular spaces surrounded by glomus cells having round regular nuclei without atypia and arranged in nests and sheets. Stroma was hyalinised and myxoid Figure 2 (100 X H&E) and 3 (400 X H&E).

Discussion

Glomus tumour was first described by Barre and Mason in 1924[2]. The commonest site is subungual region. Extra digital glomus tumour has been studied by Lee et al. They observed that majority of these occur in upper limb and very few are seen on the trunk[3].

Glomus tumour can be solitary or multiple, the majority being solitary tumours. Glomus tumour usually presents as a small, elevated bluish nodule. Usually, the tumours are painful and pain is related to increased intracapsular pressure due to contraction of myofilaments of glomus cells[2].

The differential diagnosis on clinical examination includes neuroma, hemangioma, common gouty arthritis, melanoma. Neuroma is painful but without hypersensitivity to cold which is usually seen in glomus tumour[4]. Colour duplex sonography helps in diagnosis. MR imaging is most sensitive imaging modality which shows high signal central dot surrounded by an area of lower signal density[5].

The average presenting age of glomus tumour is between 30 -50 years of age and tumour gets atrophic after the age of 60 years. Extra digital glomus tumour is common in male patients[6].

On gross examination, glomus tumour is red- purple coloured encapsulated mass. Microscopic examination shows vascular structure surrounded by glomus cells.

Glomus cells are small uniform cells with round monomorphic nuclei and eosinophilic cytoplasm[7]. Barre and Mason have described 4 types of glomus tumour depending on the predominant cell. They are poorly vascularised epithelioid, angiomatous, neuromatous and

degenerative with predominantly modified smooth muscle. Commonly used classification includes 3 types of glomus tumours as angiomatoid with predominant blood vessels, solid with predominantly glomus cells and glomangiomyoma with predominance of smooth muscle cells[8,9].

It is exceedingly rare phenomenon for the tumour to turn malignant. Histopathologically, malignant glomus tumours show marked nuclear atypia and increased mitotic activity of more than 5/50 hpf as well as atypical mitotic figures[10]. Wide local excision is treatment of choice which is curative. The recurrence rate after surgical excision is 4% to 50 %[4]

Conclusion

Glomus tumour is a rare painful benign tumour, its occurrence on the chest wall is very uncommon resulting in delayed diagnosis. Hence high index of suspicion is required for diagnosis. Histopathological examination plays an important role in definitive diagnosis of glomus tumour.

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