Case Report

Cytohistological diagnosis of soft tissue giant cell tumour of neck - A rare presentation

Alpana Choudhary[1*], V.S. Tyagi[2], Alok Choudhary[3], Rakesh Kalra[4], Anjali Jain[5]

[1]Assistant Professor, Department of Pathology, Jaipur National University, Institute for Medical Sciences and Research Centre, Jaipur, Rajasthan, India
[2]MS ENT Surgeon, Curewell Hospital, Jaipur, Rajasthan, India
[3]MD Pediatrician, Director, Dr. Alpana Pathology and Biopsy Centre, Jaipur, Rajasthan, India
[4]Director, Curewell Hospital, Jaipur, Rajasthan, India
[5]Associate Professor, PSM Department, M.G. Medical College, Jaipur, Rajasthan, India
[*]Corresponding author email: **dr.alpanachoudhary@gmail.com**

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Abstract

Giant cell tumors of soft tissue (GCT-ST) are rare primary soft tissue tumor with low malignant potential, considered as the soft tissue counterpart of giant cell tumor of bone. We reported a rare case of soft tissue giant cell tumor of neck in a 46 years old male with painless swelling in left side of neck after a history of trauma 3 months back. Computed tomography suggested a small soft tissue mass and or post biopsy hemorrhage, but the diagnosis of giant cell tumor was confirmed after cytohistological examination. Wide local excision of the tumor was done.

Key words

Soft tissue neck, Giant cell tumor, Cytohistopathology.

Introduction

Soft tissue giant cell tumor (GCT-ST) of low malignant potential is an uncommon neoplasm [1], considered the soft tissue counterpart of giant cell tumor of bone. The age range of patients with primary GCT of soft tissue is 1-86 years with female predominance of 3:2 GCT- ST manly affects young to middle – age adults and presents as a painless growing mass mainly located in the lower extremities and hunk [2, 3,

4, 5]. The majority of these tumors is located superficially (in subcutaneous tissue) and occurs in the proximal parts of the extremities.

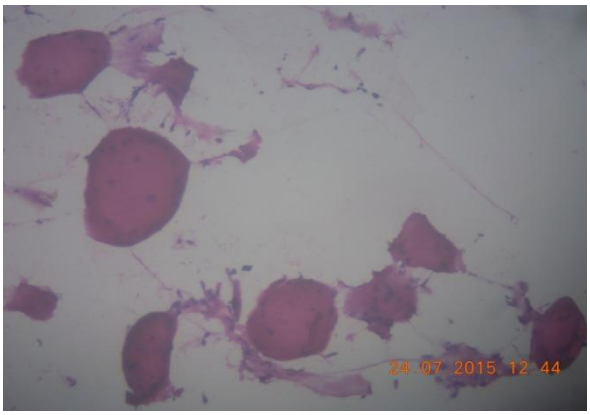
Complete excision with negative surgical margins is associated with a benign clinical course in most cases [6].

Case report

A 46 years old male presented with a painless mass in the left lateral neck of three months duration with a history of trauma three month back, clinical examination revealed ill defined movable mass deep to sternocliedomastoid muscle which was covered by normal skin. The computed tomography revealed a ill defined non significantly enhancing hypodensity mass in left lateral neck below level of hyoid, external to carotid vessels and deep to sternocliedomastoid muscle.

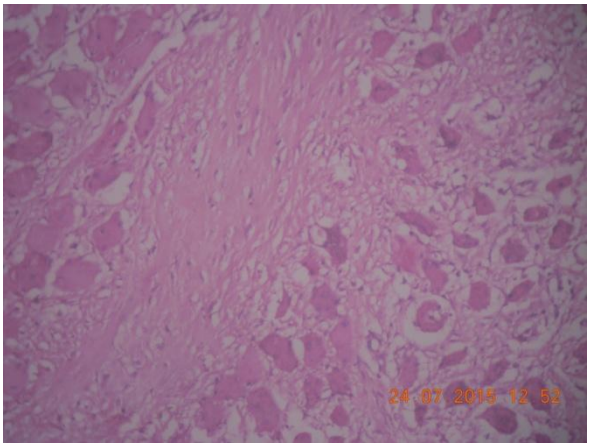
Fine needle aspiration cytology (FNAC) was done and slides stained with giemsa stain and hematoxylin and eosin stain. Microscopic examination showed numerous, elongated stromal cells, large, osteoclastic giant cells. Pleomorphism, cytological atypia and mitotic activity were absent. Diagnosis of giant cell tumor of the soft tissue was made based on FNAC (**Figure - 1**). A surgical excision of the mass was performed. Grossly, it was ill defined lesion with grayish white streaks on cut surface, which measured 3.5 x 2 x 2 cm.

Figure – 1: Smears showing multinucleated giant cells along with scattered spindle shaped cells.



Routine processing was done and stained with hematoxylin and eosin. Microscopic findings shows spindle to oval cells admixed with numerous, multinucleated osteoclastic like giant cells. Pleomorphism, cytological atypia and mitotic activity were not seen. Thus the diagnosis of a giant cell tumor of soft tissue was confirmed histologically (**Figure - 2**). The patient's recovery was uneventful after surgery.

Figure – 2: Sections showing multinucleated giant cells admixed with spindle cells.



Discussion

GCT –ST is a uncommon neoplasm that was first described by salm and sissons in 1972 [1]. More recently, Flope, et al. [2] proposed the term of giant cell tumor of low malignant potential. Approximately, 70 cases of GCT – ST have been described in the literature [7-10] have been described in the thigh, trunk and upper extremities and rarely in the head and neck [11].

Histologically, GCT – ST is similar to its bony counterpart demonstrating a mixture of mononuclear cells with round to oval nuclei and osteoclast like multinucleated giant cells. Metaplastic bone formation at the periphery of the lesion is observed in 40 – 50% of cases [8] cystic changes, are present in approximately 30% of tumors [9]. Foci of necrosis are very rare and cytological atypia is absent even if there is a high mitotic activity and vascular invasion [2].

Histopathologically GCT – ST should be separated from other tumors which can also show

prominent giant cell component such as giant cell tumor of tendon sheath, extraskeletal osteosarcoma, or other benign reactive processes containing abundant osteoclast like giant cells [2]. Malignant GCT – ST is extremely rare, characterized by nuclear atypia, Pleomorphism and atypical abundant mitosis [1]. Local recurrence has been described after incomplete surgical excision though metastases are extremely rare [5].

Conclusion

It is important to recognize this pathological entity in order to avoid misdiagnosis with other fibrous tumors associated with giant cells.

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