

Giant cell tumor of soft tissue of neck: a case report

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Citation: Trabelsi A, Hammedi F, Slama A, Abdelkarim SB, Beïzig N, Khochtali H, Taher YM, Korbi S. Giant cell tumor of soft tissue of neck: a case report. *North Am J Med Sci* 2009; 1: 319-320.

Availability: www.najms.org

ISSN: 1947 – 2714

Abstract

Context: Giant cell tumor of soft tissue is a rare primary soft tissue tumor with low malignant potential. It is clinically and pathologically similar to the giant cell tumor of the bone. **Case report:** We report a case of a 28-year-old man complaining of a painless solitary nodule arising in the spinal muscle of the neck. Computed tomography suggested a neurogenic tumor, but the diagnosis of giant cell tumor was confirmed after detailed pathological examination. The patient remains disease free five months after diagnosis. **Conclusion:** It is important to recognize this pathological entity in order to avoid misdiagnosis with other fibrous tumors associated with giant cells.

Keywords: Giant cell tumor, soft tissue neck, histopathology.

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Introduction

Giant cell tumor of soft tissue (GCT-ST) is a rare neoplasm. Histologically, these lesions bear a close resemblance to their bony counterparts [1]. These tumors have been described in numerous anatomic sites including extremities, trunk, head and neck, superficial and deep fascia and skeletal muscle [2]. We report a new case of GCT-ST in the spinal muscle of the neck and discuss the clinico-pathological features of this entity.

Case Report

We report a case of a 28-year-old man who complained of a painless mass in the left posterior neck. The patient had no medical history. Clinical examination revealed a well-delimited movable mass which was covered by normal skin. The computed tomography revealed a well circumscribed, heterogeneous mass in the spinal muscle of the neck [Fig. 1].

A surgical excision of the mass was performed. Macroscopically, it was a well circumscribed lesion with focal cystic change and yellowish or gray cut surface, which measured 3 x 2 x 2 cm [Fig. 2].

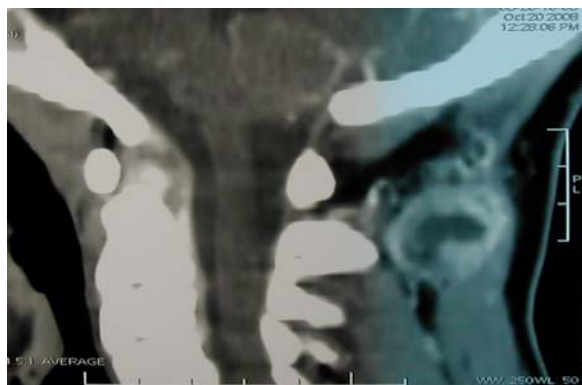


Fig. 1 CT scan: a well-delimited heterogeneous mass of the spinal muscle of the neck.

Microscopic examination showed a tumor composed of a mixture of mononuclear round to oval cells and osteoclast-like giant cells that were multinucleated [Fig. 3]. Both cells types were neither pleomorphic nor atypical. Occasional mitoses were seen with a count of one mitosis per 10 high power fields. Thin walled capillary often accompanied these tumor cells. Furthermore, the lesion showed focal cystic change.



Fig. 2 photograph of excised specimen: well-circumscribed mass with focal cystic change.

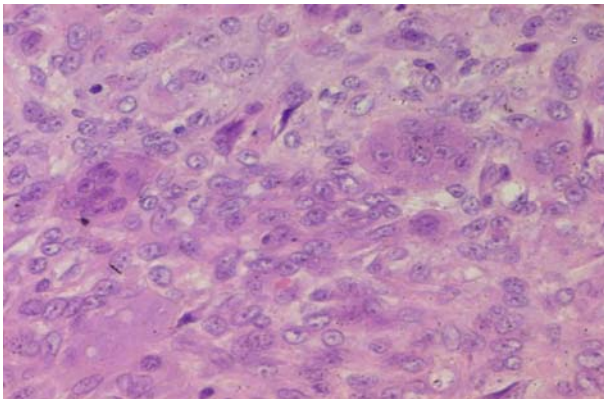


Fig. 3 Tumor shows a mixture of mononuclear cells with multinucleated osteoclast-like giant cells (HE x 400).

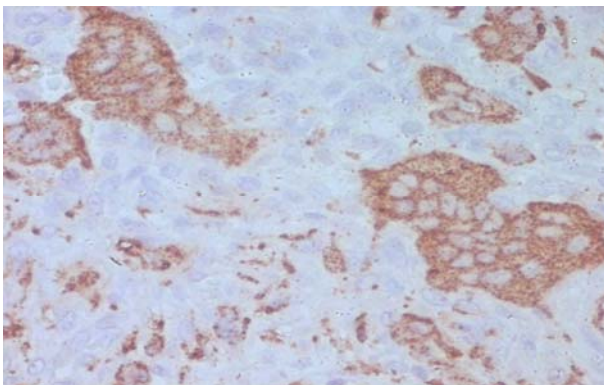


Fig. 4 Immunoreactivity for CD68 (IHC x 400).

The immunohistochemical results revealed that CD68 immunoreactivity was diffuse in multinucleated giant cells, whereas it was focal in mononuclear cells [Fig. 4]. The pathologic diagnosis was GCT-ST of the left posterior neck. There is no recurrence or metastasis five months after diagnosis.

Discussion

GCT-ST is a rare tumor that was first described by Salm and Sissons in 1972 [3]. More recently, Folpe et al [4] proposed the term of giant cell tumor of low malignant potential. Approximately, 70 cases of GCT-ST have been described in the literature [5-8]. Most cases have been described in the thigh, trunk and upper extremities, and rarely in the head and neck [9].

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 [6]. Cystic changes and the formation of blood-filled lakes, changes that are similar to aneurismal bone cystic changes, are present in approximately 30% of tumors [7]. Foci of necrosis are very rare and cytological atypia is absent even if there is a high mitotic activity and vascular invasion [4].

Immunohistochemically, CD68 immunoreactivity is frequently strong and diffuse in the multinucleated giant cells, whereas it is focal in the mononuclear cells.

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 mitoses [1]. Local recurrence has been described after incomplete surgical excision though metastases are extremely rare [5].

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