Soft Tissue Giant Cell Tumour of Low Malignant Potential – A Rare Mediastinal S.O.L

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Abstract: Giant cell tumour of soft tissue (GCT-ST) particularly in posterior mediastnum is a very rare tumour. A seventeen year female who presented with superior vanaocaval syndrome had a posterior mediastinal S.O.L. Thoracotomy was done and the mass was excised. Histopathological and immunohistochemical examination proved it to be a Soft Tissue Giant Cell Tumour of low malignant potential. Patient received E.B.R.T and is doing well till date. This study highlights rarity of the lesion and draws attention of its uneventful clinical course after complete excision.

Keywords: GCT-ST – Giant Cell Tumour Of Soft Tissue, Mediastinum.

INTRODUCTION

“Soft tissue giant cell tumors of low malignant potential” was proposed for a group of lesions that represent the benign end of the spectrum of malignant giant cell tumor of soft parts and that seem to be the soft tissue analogue of giant cell tumor of bone.

The nodules are composed of bland mononuclear cells, short spindle cells and osteoclast-like giant cells. The majority of these tumors have been reported to occur in the lower extremities. Giant cell tumor of soft tissue (GCT-ST) especially in the posterior mediastinum is a very rare tumor.

CASE REPORT

A seventeen year female was having persistent headache and swelling of face for three months before admission. The symptoms were gradually progressive. She also had episode of fever and vomiting. Physical examination revealed anaemia, facial puffiness, engorged veins in neck and upper extremity. There was diminished breath sound in right upper part of chest mostly in posterior aspect. C.T. showed a mediastinal S.O.L. in right upper hemithorax (Fig.1a). FNAC was inconclusive. After proper preoperative preparation and routine investigations, a plan of thoracotomy and excision of tumour was done.

On right thoracotomy,a huge vascular mass was seen in right upper mediastinum. The mass was adherent to lungs, chest wall and azygos vein. The adhesions were dissected and the was excised totally.
Recovery was uneventful and the symptomatology improved.

Postoperatively she received External Beam Radiotherapy (E.B.R.) and till now she is doing well and on regular follow up. The original tumour was a spherical mass about 9cm. in diameter. The mass was highly vascular and friable, so it was excised in pieces. The fragmented tissue pieces were greyish white in colour, partly soft and partly firm in consistency. Sections were prepared from different portions of excised mass and routine H&E stains were done followed by immunohistochemistry. Microscopically, the tumour was composed of sheets of mononuclear that that blended with spindled cells and benign osteoclastic giant cells (Fig.1b). Pleomorphic giant cells and necrosis were absent. Mitotic figures ranged from 2-3/10 high –powered field. Metaplastic bone formation was noted at one place. The mononuclear cells expressed CD68(fig.1b,inset),tartrate-resistant acid phosphatase, and smooth muscle actin, but lacked CD45, S-100 protein, desmin, and lysozyme. For this reason this tumour has been considered the soft tissue analog of giant cell tumour of bone because of their histological and immunohistochemical similarity. This study highlights the rare location of GCT-ST of low malignant potential and emphasizes the fact that complete excision follows a benign course because episodes of distant metastasis and tumour associated death seem to be exceedingly rare.

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