Giant Chondrosarcoma of Proximal Humerus in a Young Female: A Case Report

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Abstract

Chondrosarcoma is the third most common primary tumour of the bone, after myeloma and osteosarcoma. Most of the tumours grow slowly and rarely metastasize, and they have an excellent prognosis after adequate surgery. Most of them are chemo- or radio-resistant. We reported a case of primary chondrosarcoma of proximal humerus.

Case report

A 36-year-old female, presented with gradually progressive painless swelling over the proximal part of left arm since 6 years associated with global restricted range of motion of left shoulder(Figure 1).On inspection, there was a massive swelling over proximal part of left upper limb measuring 450mm x 250mm with loss of normal contour of left shoulder. It was bony hard in consistency but not tender on palpation. Trucut biopsy is consistent with well differentiated chondrosarcoma. Computed tomography (CT) and Magnetic Resonance Imaging (MRI) were unable to be performed on admission due to its enormous size of swelling. Hence angiography of left upper limb was performed to locate the anatomical position of major vessels and to detect anomalies as well.

A multi-disciplinary intervention by the orthopaedic, radiological, anesthetist and oncology team was adopted. She underwent forequarter amputation of left upper limb. The resection revealed a mass measuring 450 x 415 x 250mm and weighed 31kg and was sent for histopathological examination. It revealed well differentiated chondrosarcoma.(Figure 2) She was discharged uneventful after 1 month of hospital admission with a well healed wound. Upon discharge CT thorax, abdomen and pelvis was performed and there was no evidence of distant metastases. Adjuvant chemotherapy was initiated 3 months after the operation.

Discussion

We reported a conventional chondrosarcoma of a 36-year-old female patient in which it is typically presented in the 4th and 5th decades with slight male predominance of 1.5-2:1. We encountered difficulties for pre-operation planning as MRI and CT scan were unable to be performed in view of its enormous size of tumour. It made the resection more challenging as we could not assess the extent of a chondrosarcoma and delineate the extent of soft tissue involvement for clear resection of the tumour. The prognosis of this patient is good in view of the histopathological finding of the tumour which supports grade I chondrosarcoma. It is generally believed that chondrosarcoma is relatively chemo- and radiotherapy resistant due to their extracellular matrix, poor vascularity and low percentage of dividing cells. However the patient was initiated an adjunct chemotherapy in view of her young age, high tumour load and evidence of lymph nodes metastasis with bone marrow and adjacent bone involvement. Psychologically, this slow growing tumour is a kind of burden to the patient. Although literatures support wide local excision for Grade I conventional chondrosarcoma rather than amputation, decision of forequarter amputation was made after taking into account of patient's psychological stress she had been experiencing for the past 6 years. The mass severely affected her daily function. Therefore forequarter amputation with adequate surgical margin remains the choice of procedure in this scenario.

Currently the patient is on 6 monthly follow up and she is satisfied with her current condition. She is looking forward to find a new job after completing her chemotherapy.

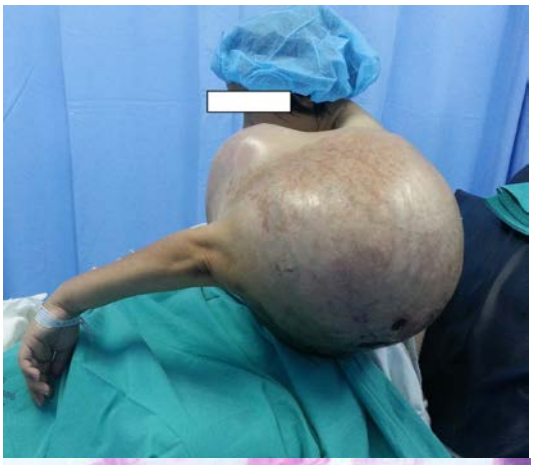

Figure 1: Giant chondrosarcoma of left proximal humerus

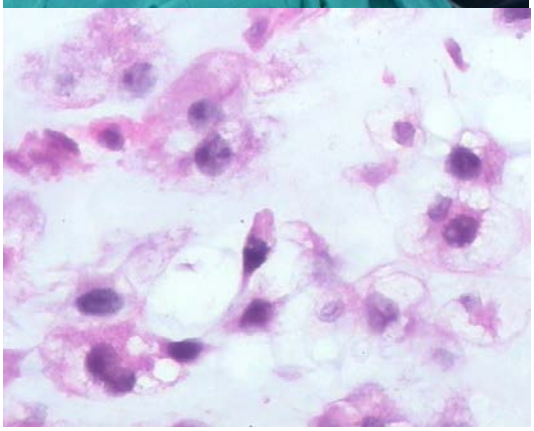

Figure 2: High power magnification of tumour showing malignant chondrocytes with hyperchromatic nuclei

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