Giant Cell-Rich Osteosarcoma – A Case Report

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INTRODUCTION:

Giant Cell-rich osteosarcoma (GCRO) is a rarer variant subtype of conventional osteosarcoma that has very closed resemblance and overlapping clinicopathologic features with invasive giant cell tumour (GCT) of bone [1][2]. The occurrence of GCRO is reported to varies from 0.3% to 13%[3][5] and it is defined as "osteosarcoma in which more than 50% of the tumour consist of numerous uniformly distributed osteoclastic giant cells amidst oval or spindle mononuclear cells embedded in a fibrovascular stroma[4].

REPORT

A 55-year-old lady, presented with 3 years history of painful swelling at her left ankle, the swelling and pain were progressively got worse and affecting her ambulation and activities of daily living. Otherwise there was no other complaint and systemic review was unremarkable. Examination revealed a non-tender large lobulated bony-hard swelling in her left ankle, the swelling is more on the lateral part with no obvious abnormalities of the overlying skin. Motion of the left ankle is preserved and neurovascular of her left foot is normal.

PRESENTATION AT 7 MONTHS LATER

The planned was to treat with Denosumab (XGIVA) to shrink the tumour. But, unfortunately, due to socioeconomical problem, she could not proceed with the planned treatment. The swelling got much bigger with skin ulcerating, repeat X-ray of the left ankle, tibia and fibula showed further expansion of the lytic lesion with pathological fractures.The lytic lesion is also seen in distal third of left femur. Repeat CT thorax showed present of lung metastasis. Thus at this juncture, left below knee amputation (BKA) was the most appropriate treatment for her. Repeated biopsy of the main lesion as well as from the lytic lesion of left femur were also obtained.

The HPE of both biopsies revealed similar features as in the previous biopsy and reported strongly suggestive of giant cell-rich Osteosarcoma (GCRO). Thus chemotherapy was started and the latest reviewed (after 4th cycles of chemotherapy) showed very un-encouraging response.

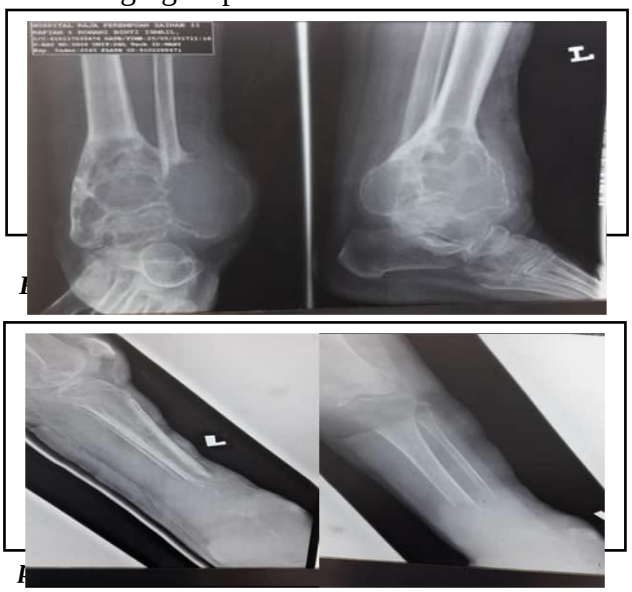

Figure 2 : further expansion of the bone lytic lesion with fracture over the distal left tibia and fibula

DISCUSSIONS:

GCRO is a rare subtype of osteosarcoma, it's clinical presentation as well as radiological features are almost similar to that of giant cell tumour of bone (75%); except that histologically, presents of nuclear atypia, atypical mitosis with osteoid matrix formation besides abundant of osteoclast-like giant cells are in favor of GCRO[1][2][5]. Treatment with Denosumab (XGIVA) other than chemotherapy will give limited focal necrosis with reduction in the number of giant cells and giant osteoclast[4]. The main stay of treatment is still surgical excision sandwich with chemotherapy.
Thus, this case report serve as an awareness regarding the entity of GCRO whenever dealing with a large osteolytic lesion that resembles of a giant cell tumour of bone.

Reference

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