CHALLENGING IN DIAGNOSING MALIGNANT TRANSFORMATION OF GIANT CELL TUMOR OF THE BONE

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INTRODUCTION

Giant Cell Tumors are benign, aggressive tumors typically found in the epiphysis of long bones,
most commonly at the distal femur and proximal tibia.

CASE REPORT

A 31yo male presented with pain at left knee after a fall. Radiograph showed osteolytic thinning cortex of proximal tibia. MRI showed heterogenous lesion on T2W1 with soft tissue mass (Figure1). Biopsy revealed diagnosis of fibrous dysplasia. However, he opted for non-operative.

Due to worsening pain, repeated MRI one year later showed aggressive lesion and biopsy suggestive of giant cell tumour of the bone.

He undergone wide resection and endoprosthesis reconstruction with gastrocnemius muscle flap. CT Thorax showed multiple lung nodules and left posterior mediastinal mass, which suggestive of extensive metastases. Few doses of denosumab were given within 8 months.

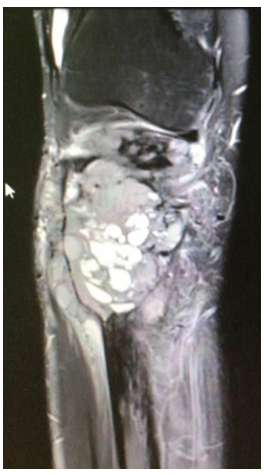
Figure 1

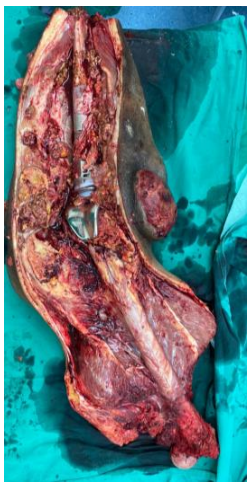
Figure 2

Multiple skin nodules appeared and MRI was done where multiple subcutaneous and soft tissue nodules from suprapatellar to midcalf suggestive of recurrent.

Left hip disarticulation was carried out. Figure 2 picturing the extensive soft tissue destruction, where the final HPE was Giant Cell Rich Sarcoma.

DISCUSSION

Malignant transformation of Giant Cell Tumor of the Bone (GCTB) occurs in less than 1% of cases.

Detail assessment and repetition of histopathological examination are mandatory especially in Campanacci grade 3 with recurrence which reflects the aggressive behaviours and a clue for treating team that high incidence of lung metastases are common in malignant GCTB.

Differential diagnosis will be osteosarcoma, fibrosarcoma and malignant fibrous histiocytoma.

CONCLUSION

Difficulty in treating primary GCTB with local recurrence and lung metastases should alert us for malignant transformation of GCTB which carries poor overall survival rate.

References

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