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A Case Report of Recurrent Giant Cell Tumor of Distal end Radius

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Introduction

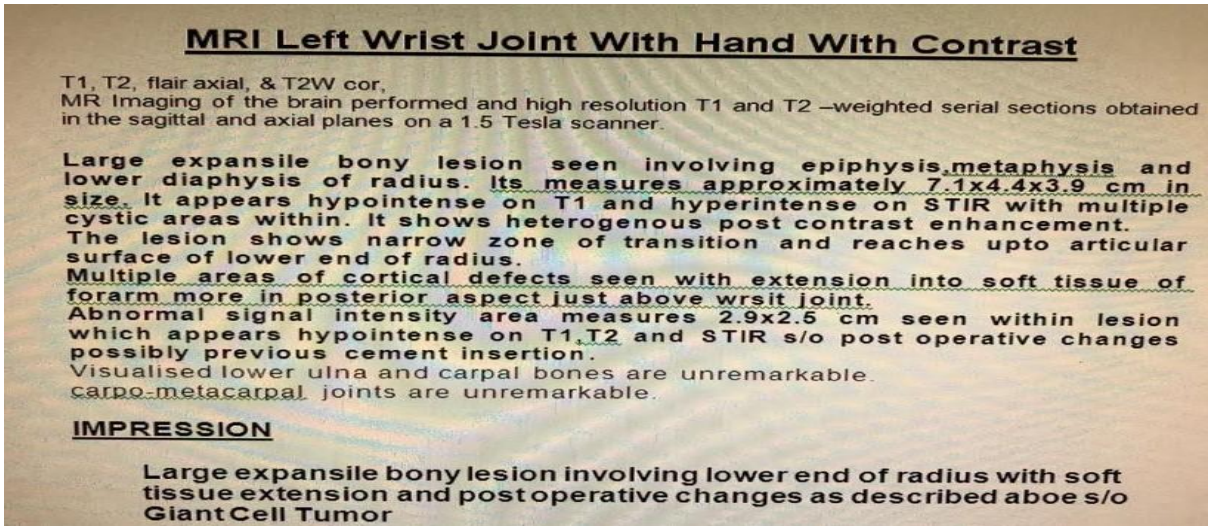
It is a common, locally aggressive benign bone tumour, constituting 5% of all skeletal tumours generally seen in 3rd decade of life with female preponderance. Most common site for GCT is in epiphysio-metaphyseal region with 15% propensity for local recurrence after surgical treatment.GCT of bone is very rarely seen in children and adults older than 65 years of age. GCT occur in approximately one person per million per year. Usually the tumour site is at the long bone meta-epiphysis, especially the distal end radius, femur proximal humerus and tibia.

Giant Cell Tumour (GCT) of bone is benign and locally aggressive tumour. It represents approximately 3% to 5%of all primary tumour. It generally occurs in adults between the age of 20-40 years. We report the case of a distal end radius GCT diagnosed in a 35 year old male. It was treated with radical excision, fibular grafting and dynamic compression plating with K-wire fixation. Wrist was immobilised with above elbow slab. K-wire removed after 6 weeks and wrist mobilisation started.

Case Presentation

35 year old male presented with recurrence of swelling on dorsal aspect of wrist and forearm (size approx. 10 x 6 cms) after 1 year of primary surgical treatment in the form of Currettage, Chemical cauterization (used phenol) and Reconstructed by sandwich technique. Now the case was treated with radical excision of tumour, reconstruction of radius and wrist using contralateral proximal fibular graft; fixed with dynamic compression plate and K-wire. Limb was immobilised with above elbow slab. K-wire removed after 6 weeks and wrist mobilisation started. Many literatures shows that Simple curettage of giant-cell tumour is associated with a 5% to 15% rate of local recurrence. Recurrence rate decrease with adjuvant treatment of bone bed with chemical cauterization, use of bone cement and bone graft (sandwich technique). But in our case, despite initial treatment was given in form of curettage, chemical cauterization (used phenol) and reconstruction by sandwich technique (BG → Gel Foam → Bone cement) lesion recurred. So we used this techniques to remove the tumour and

reconstruct the radius and wrist to preserve the wrist movement along with maintenance of length of forearm.



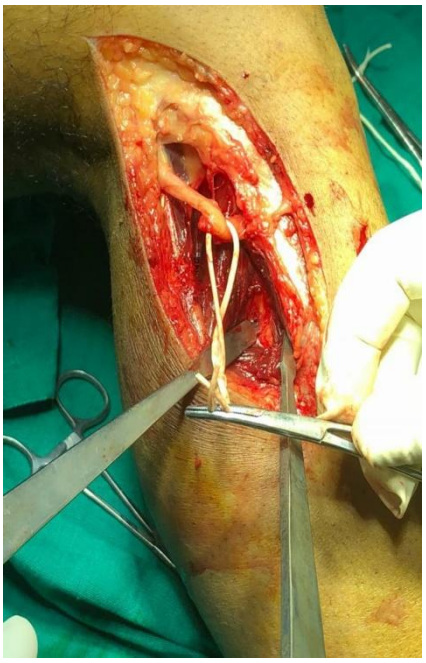
Result

Radical resection and reconstruction with autologous contralateral proximal fibular graft, internal fixation with dynamic compression plate gives cosmetically and functionally satisfactory outcome.

Discussion

Giant Cell Tumour of bone may present with pain and swelling over and around the joint. About 10-15 % patient will present with pathological fracture. Many authors reported that GCT of distal radius is particularly aggressive and has a high rate of local recurrence. It can also metastasize to the lung (less than 2 %). 10% of the GCT of bone involves the distal end radius. The goal of our treatment in this case is not only to completely resect the tumour but also decrease the chances of recurrence and preserve the joint function and length of forearm. Other treatment modalities have been advocated for recurrent giant-cell tumour of bone like

1. Resection followed by allograft, autograft or prosthetic reconstruction
2. Resection of tumour and centralization of ulna,
3. Resection of tumour and wrist arthrodesis etc.

Simple curettage of giant-cell tumour is associated with a 5% to 15% rate of local recurrence. Adjuvant treatment of bone bed with chemical cauterization and reconstruction by sandwich technique decrease the incidence of recurrence. The extent of the osteonecrosis induced by chemical cauterization and bone cement is helpful to kill the tumour cells but this may weaken the bone which leads to pathological fracture.




Conclusion

Diagnosis of GCT is difficult and requires a great deal of experience, especially in young patients. Osteolytic lesion incidentally found at a long bone epiphysis, can be misinterpreted.

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