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CASE REPORT

Unusual Site Of Reccurrent Giant Cell Tumour Of Proximal Femur With Pathological Fracture - Treated With Cement And Dynamic Hip Screw – Follow Up

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Introduction:

Giant cell tumor is one of the most obscure and intensively examined tumours of bone .its histogenesis is uncertain .the histology does not predict the clinical outcome and there are still many unanswered questions with regard to both its treatment and prognosis

The World Health Organisation has classified GCT as "an aggressive, potentially malignant lesion",which means that its evolution based on its histological features is unpredictable. Statistically, 80% of GCTs have a benign course, with a local rate of recurrence of 20% to 50%. About 10% undergo malignant transformation at recurrence and 1% to 4% gives pulmonary metastases even in cases of benign histology

We present here an uncommon site for occurrence of the GCT in the proximal femur, and its subsequent management. Approximately 50% of GCTs are located around the Knee at the distal femur and proximal tibia[1, 6], with the proximal humerus and distal radius representing the third and fourth most common sites. Mirra[9] has reported an incidence of less than 4% of 1182 cases in this location.

Case Report :

A male patient age 30 yrs presented to our hospital with h/o pain in the right hip for six months duration. Radiating to the knee joint. There were no significant lymphadenopathy and neurovascular deficits. X rays of the LS spine taken and was normal and pelvis with both hips showing osteolytic lesion in the right trochanter.(fig1)

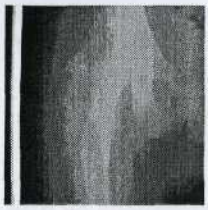

FIG 1 . x ray showing the osteolytic lesion at the proximal femur (trochanter)

CT scan was taken to see the extent of the lesion. Histopathological report showed grade 2 (jaffe) giant cell tumors [4] (fig 2 & 3)

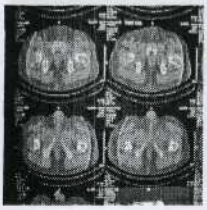

FIG 2. CT scan showing extent of lesion

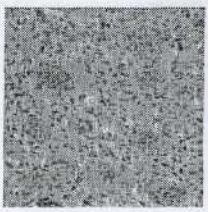

FIG 3. histopathology showing the uniform distribution of osteoclast like giant cells in a background of mononuclear cells

It was operated with curettage and phenol cauterization and bone grafting. He was followed regularly in our hospital for six months with x rays to know the recurrence of lesion (fig 4)

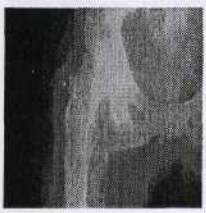

FIG 4 . x ray after 1 st surgery curettage and bone grafting

Later patient gave the h/o trivial trauma and inability to walk after one year of surgery. X rays were taken which showed recurrence of lesion with pathological fracture of the neck of femur with lesion extending proximally to the middle of the neck of femur and distally up to lesser trochanter .(fig 5)

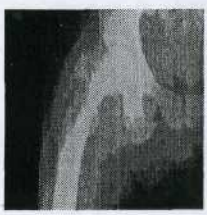

FIG 5. x ray showing the recurrence with Pathological fracture at the neck of femur without involvement of head

As the patient is young so we planned to preserve the head. So we have done excision of the lesion with phenol cauterization and fixed with 135O DHS and with bone cement. HPR also confirmed the recurrence showing stromal cells with no appreciable atypism and he was discharged and followed regularly (fig 6)

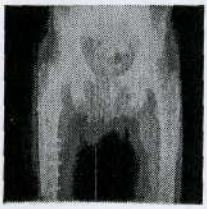

Fig 6. post op x ray with curettage, bone Cement and DHS post op x ray with curettage, bone Cement and DHS

At present patient wounds were healed by primary intension and there was no evidence of recurrence locally and patient does not have any pain and walks normally and able to do routine activities with full weight bearing

Range of movement's flexion, abduction, rotations was full. There was no limb, length discrepancy (fig 7)

Discussion:

In most benign aggressive bone tumours control can be achieved by wide surgical excision .following en bloc resection, the rate of the recurrence is in between 0% AND 5% in primary lesions ,because it is found in the epiphysis , the GCT often invades the subchondral bone .en bloc resection often requires sacrifice of the articular surface and s complex reconstruction procedure ,which can lead to complications ,revision operations and decreased quality of life in the long term .[11 ,12]

Resection is usually performed in GCT found in the proximal fibula, radius, distal ulna, or in the wing of the ilium in which a reconstruction is not necessary or in malignant types of GCTs , stage -3 GCTs , which have already destroyed the cortex tend to recur more often and when the defect is large an the joint surface is destroyed , resection is indicated [10 11] .The treatment of choice in most GCTs is curettage and bone grafting . Historically, however it has been associated with high rate of recurrence (30%-50%) and therefore different adjuvants have been introduced. these presumably remove the tumour cell which remain after curettage because of their thermal (liquid nitrogen, methylmethacrylate) or chemical (phenol , hydrogen peroxide) effects ,[3 6 11,12] ·The use of cement has advantages in that it is cheap, and immediate weight-bearing is allowed. Furthermore, a local recurrence is easily recognised around the cement both by radiographic and MR investigations. Extended curettage and application of bone cement are therefore the most accepted methods in the treatment of GCT [10, 11]

Treatment for this patient with recurrence had many options like excisional arthroplasty like girdle stone[7], hemiarthroplasty[8] or total hip arthroplasty[8]. As results of hemiarthroplasty in young patients are poor and well documented in

literature[5 8]. And shortening and prolonged immobilization is not accepted with excision arthroplasty. As the patient was young we preferred to do a joint sparing surgery with preserving the head with DHS. Phenol cauterization was done as it is safe and effective local adjuvant therapy with curettage as it is documented [3] and also the bone cement was used as it has been shown to decrease the incidence of local recurrence in GCT [1,6]. The use of methacrylate leads to formation of a 2 mm osteolytic zone surrounding it which is surrounded by sclerotic rim. Lysis or failed development of the sclerotic zone adjacent to the lytic zone is suspicious of recurrence which was not seen in our case at the last follow up[1] . Our case was grade II jaffe[4] histopathologically has no recurrence at the last follow up

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