Case Report:

Giant cell tumor at Olecranon: A rare case report

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Abstract:

Giant cell tumor (GCT) of bone is a relatively common benign bone lesion and is usually located in long bones, but involvement of the olecranon is extremely rare. Epiphyseal Benign bone tumor (may found in metaphysis of immature bone) Aggressive - high chances of recurrence even after adequate surgical excision, eccentric, expansile mostly seen in young adults (20-40 yrs) female predominance, mostly seen in distal femur > proximal tibia > distal radius > proximalhumerus bone. Herewith we reported, a case of 40 yrs old female came in OPD with C/O left elbow pain & swelling since 2 months No h/o trauma / fever O/E Left Elbow tenderness +, swelling + at olecranon region ROM- painful restricted RP + finger movement + no DNVD. Ideal treatment for any GCT is Enbloc excision & Reconstruction. Most common site of GCT is around knee (distal femur & proximal tibia) for which ideal treatment is curettage & reconstruction with bone graft & bone cement. Implants like plate & screws can be used to achieve extra stability. A GCT of olecranon is very rare. No clear cut guidelines are available regarding its management.

Background:

Giant cell tumor (GCT) of bone is a relatively common benign bone lesion and is usually located in long bones, but involvement of the olecranon is extremely rare. Epiphyseal Benign bone tumor (may found in metaphysis of immature bone) Aggressive - high chances of recurrence even after adequate surgical excision, eccentric, expansile mostly seen in young adults (20-40 yrs) female predominance, mostly seen in distal femur > proximal tibia > distal radius > proximalhumerus bone.

GCT at olecranon is Very rare condition, only handful of cases reported world wide No clear cut guide lines regarding its management, Current treatment for any GCT is Enblock excision & Reconstruction but it is not possible due to joint involvement (knee > wrist > Shoulder >> elbow), young patient, so most of patients treated with curettage & reconstruction with bone graft & /or bone cement.

In our case GCT at olecranon involving whole of it & part of coronoid process up to articular cartilage here reconstruction with simple bone cement not possible as we couldn’t leave triceps insertion with thin layer of bone & underlying bone cement because with pull of triceps this could avulse triceps insertion from underlying bone cement so we thought of biological reconstruction with bone graft (corticocancellous BG from Iliac crest) & packed into defect/cavity left after curettage of tumor

Case Report:

A 40 yrs old female came in OPD with C/O left elbow pain & swelling since 2 months No h/o trauma / fever O/E Left Elbow tenderness +, swelling + at olecranon region ROM- painful, restricted RP + finger movement + no DNVD
S/O lytic lesions in olecranon with pathological fracture in olecranon process on posterior aspect
S/O Expansile lesion involving Olecranon subarticul ar extension& Cortical break along posterior aspect Likely Giant cell tumor As olecranon is not common site for GCT so Biopsy taken which confirmed the diagnosis as GCT.
under AAP ,under BB + GA ,under tourniquet in right lateral position by posterior approach cortical break found window made in olecranon to curette out GCT walls of olecranon thinned out due to GCT Extended curettage done with ENT/Dental burr.Cavity irrigated with hydrogen peroxide (kills the tumor cells left after curettage)cavity packed with bone graft taken from iliac crest

PRE OP X-RAY  POST OP with BONEGRAFT  FOLLOW UP after 6 months

Initially follow up x-ray done 1&1/2 months after operation, then 3 monthly for 1 year, 6 monthly for next 5 to 10 yrs

Follow up after 6 months

Discussion:
GCT though a very common bone tumor could be missed if present in atypical locations. Radiographically soap bubble appearance might not be present in every case, and there could be multiple diagnoses for lytic lesion in bone. Proper investigations and histopathological examination are necessary for accurate diagnosis and further treatment planning. Early treatment helps in complete excision of tumor along with return of adequate function of the patient.
GCTs of bone present most often in the 3rd or 4th decade of life.[3] Most GCTs arise in metaphysical-epiphysical areas abutting the subchondral bone and are most commonly found in the distal femur, proximal tibia, and distal radius.[3,4] It can also be seen in the proximal femur, vertebral body, proximal fibula, hand, and wrist though less frequently.
Ideal treatment for any GCT is unblocking excision & reconstruction. Most common site of GCT is around knee (distal femur & proximal tibia) for which ideal treatment is curettage & reconstruction with bone graft & bone cement. Implants like plate & screws can be used to achieve extra stability. A GCT of olecranon is very rare. No clear cut guidelines are available regarding its management.

In our case GCT had involved whole of olecranon & part of coronoid process up to articular cartilage. Hence reconstruction with bone cement was not possible as this may have higher chances of avulsion of triceps muscle insertion from underlying bone cement. So we had done biological reconstruction with bone graft (corticocancellous bone graft) & packed it into cavity left after curettage of tumour.

References