CASE REPORT

Giant Cell Tumours of Proximal Radius and Patella- An Unusual Sites of Presentation

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Abstract

We report 2 unusual cases of Giant cell tumour involving proximal portion of radius in one and patella in other patient.

Key words

Giant Cell tumour, Epicondylitis, Patellectomy

Introduction

Giant cell tumour is usually located in the long tubular bones. In the skeletally mature patients, it is found most often in the epiphyseal ends of long bones, especially the distal femur, proximal tibia and distal radius. Approximately 60% of the cases occur around the knee. It rarely involves spine, flat bones, and short bones of hands and feet. The purpose of this paper is to describe this tumour at extremely unusual locations like proximal radius and patella.

Case Reports

Case 1: A 35-year-old, male presented with one and a half year duration of intermittent pain around lateral aspect of right elbow. He was wrongly treated for several months as lateral epicondylitis and received several local infiltration of steroids. After 2 months of non-response to analgesics and local infiltration, x-ray of elbow was advised which showed early lytic area in the head and neck of radius but unfortunately this finding was missed by the treating physician. Repeat x-ray after couple of months demonstrated an extensive destruction of whole of the head, neck and portion of proximal shaft of radius without any reactive host bone at the periphery of the lesion (Fig 1). There was full elbow flexion and extension. Pronation lacked the last 35^0 and supination

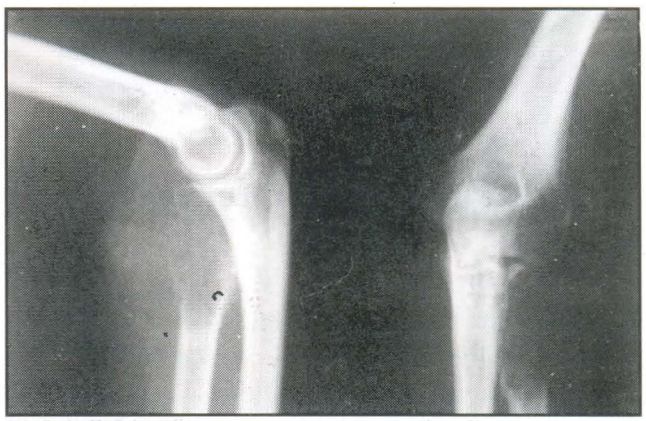

Fig 1. X-ray of the elbow AP and lateral views showing extensive destruction of head, neck and proximal portion of the radius.

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cells. In between stromal cells were interspersed numerous giant cells of variable size containing multiple nuclei typical of giant cell tumour of bone (Fig 5) Patellectomy was done with repair of quadriceps mechanism. Cylindrical cast was applied for 4 weeks followed by active physiotherapy. At 8 year follow up the patient had good quadriceps function with no evidence of recurrence or metastasis.

Discussion

Giant cell tumour of bone is generally a benign, locally aggressive and rarely metastasizes (less than 5%). Eight percent occur in patients over 20 years of age. Giant cell tumours of bone are uncommon neoplasms. It is extremely rare for one to present primarily in the proximal radius. The authors have been able to find documentation of only 8 other reported cases (1-3). Several other large series have not documented any case of proximal radius (4-6). Giant cell tumours of patella are also rare entities with only few cases reported in the literature (7-12). In a large series by Dahlin (5), Goldenberg *et. al.* (1) and McGrath (6) while reporting a large series of 195, 218 and 52 cases respectively, they did not find a single case of patellar origin. Extensive pulmonary metastases have been reported in few cases of giant cell tumours of patella, which have been histologically, labeled as benign (8,13).

Because of locally aggressive tendency and delay in diagnosis, the tumour leads to increase pressure within the bone, breaking the cortex and stretching of the periosteum especially in case of proximal radius. Also upper limb not being a weight bearing location, there is often delay before the patient presents to the physician. Thus early recognition of the tumour is necessary before there is extensive destruction of the bone.

Although different modalities of treatment ranging from simple curettage and bone grafting, to liquid nitrogen and phenol cautery, have been proved to reduce the incidence of recurrences but recurrence rate is definitely extremely low for tumour when total excision of the lesion is possible. In both the reported cases excision was followed by complete cure with no signs of recurrence or metastasis after 3 years and 8 years of follow up respectively for radius and patella.

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lacked last 40°. Serum biochemistry and x-ray chest was normal. Operative findings revealed extensive destruction of whole of proximal portion of radius, which was totally replaced by friable reddish brown material with minimal soft tissue infiltration. Excision of remnants of almost whole of the proximal third of the radius along with surrounding remains of periosteum was done. The biopsy showed a benign giant cell tumour. At three year follow up there was no recurrence of the tumour. He had no significant disability due to loss of proximal radius (Fig 2). The elbow motion lacked just the terminal 15° of pronation and supination.

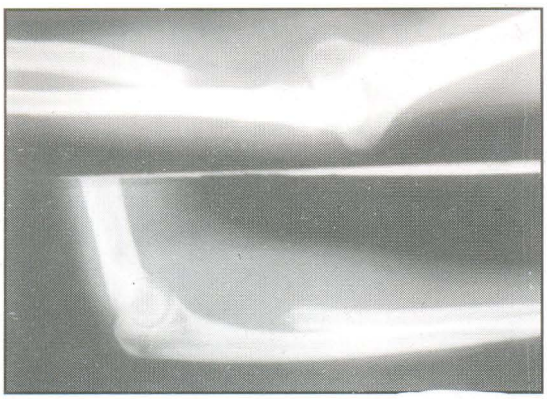

Fig 2. X-ray after excision of the lesion.

Case 2: A 38-year-old man reported with dull intermittent pain right knee and discomfort during routine work for last 2 years. The examination revealed a slightly enlarged patella without any associated soft tissue swelling or effusion. There was also no significant lymphadenopathy. X-ray of the knee demonstrated a lytic lesion involving almost whole of the patella, thinning of the outer cortex without any articular surface invasion. There were multiple cystic spaces in the patella (fig 3,4) Serum biochemistry and x-ray chest was normal.

The case was diagnosed as giant cell variant on clinical and radiological ground. Per-operative finding revealed patella having thinned out and friable anterior cortex as well as articular surface. Most of the substance of the

Fig 3. X-ray AP, lateral views of the knee showing lytic lesion of the patella, with thinning of the anterior cortex.

Fig 4. Tangential view of the patella showing extensive lesion surrounded by thin rim of outer cortex.

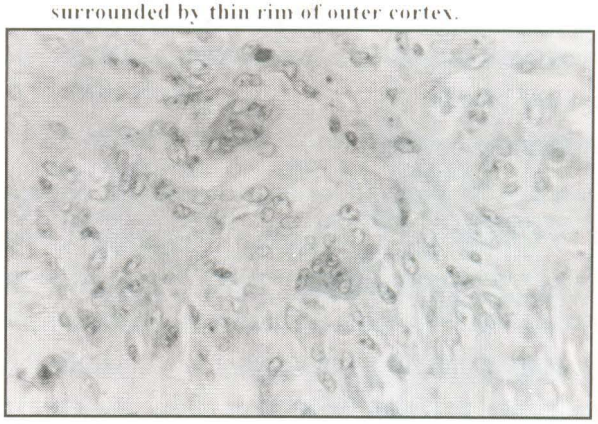

Fig 5. Microphotograph shows two giant cells and mononuclear stromal cells. (H & E x 400).

patella was replaced inside by friable, reddish brown material with haemorrhagic and cystic spaces in between. Histologically, it was composed of stromal