GIANT CELL TUMOUR OF PATELLA

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Younus Soomro, Asim Hussain (Department of Orthopaedics, Civil Hospital and Dow Medical College, Karachi.)

The giant cell tumour (osteoclastoma) account for only 4% of all bony tumours[1]. Tumour of the patella are rare but whenever they occur the commonest is the giant cell tumour[2]. The classic location is around the knee joint and it starts in the epiphysis spreading to the metaphysis and may erode the contex in 25% of the cases. Approximately 10% of these tumours have a malignant course[3].

CASE REPORT

A 25 years old male presented in the out-patient department with pain in the left knee joint since 2 years. After a couple of days he noted a swelling around his patella and effusion in the left knee joint. He took analgesics for pain but when the pain became severe arid sweffing caused inability in knee fiexion, he reported to us. On physical examination, there was a diffuse swelling around the patella measuring 17x15 cms. The surface was smooth but consistency was hard. It was not adherent to the overlying skin, knee movements were restricted from Oto 80 degree and were painful. Complete blood picture was essentially normal and the ESR was 29 mm/1st hour. Radiographs (Figures 1 and 2)

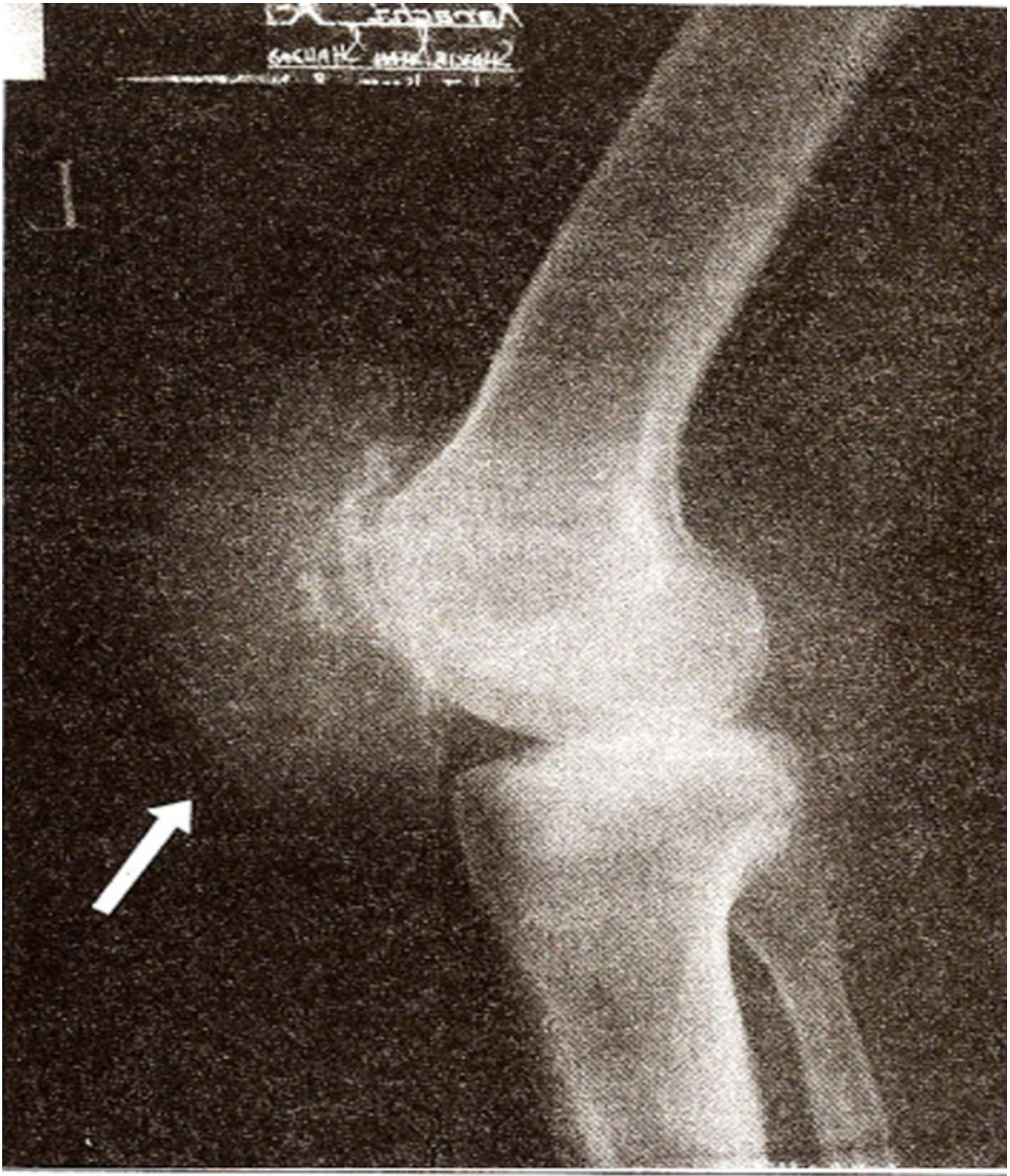

Figure 1. X-ray left knee joint lateral view shows expansile, multicystic and osteolytic of patella.

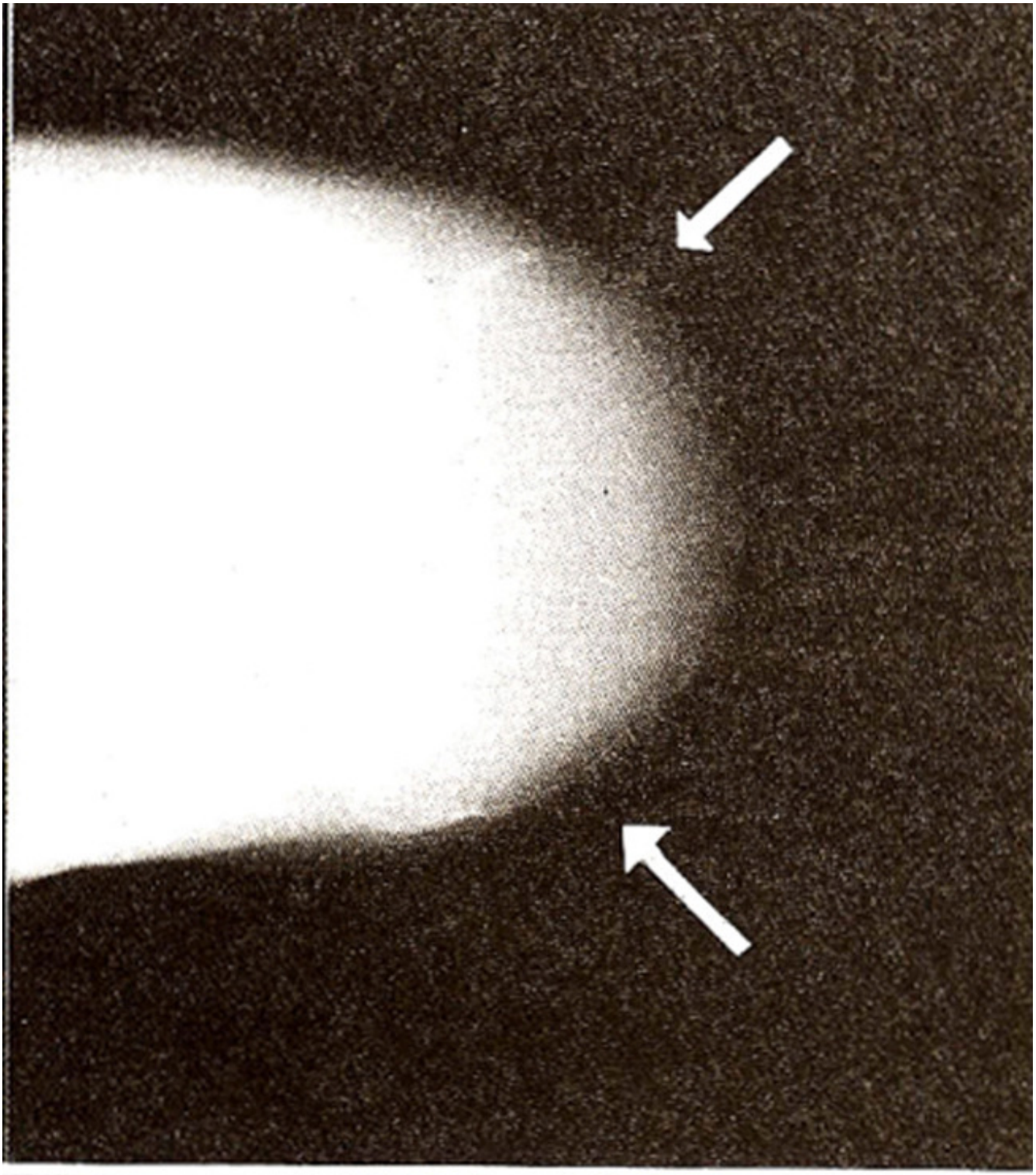

Figure 2. X-ray lesion skyline view left knee joint. The anterior cortex of the patella is eroded with soft tissue extension and calcification.

revealed a marked expansile lytic lesion with calcification markings in the patella, the cortex was thinned out and anterior cortex eroded, with invasion of soft tissues; the tibio femoral component was normal. MRI was done, T2 weighted coronal images revealed areas of high intensity signal in an enlarged patella which was thought to be either due to a cartilagenous portion or haemorrhage within

the patella (Figures 3 and 4)

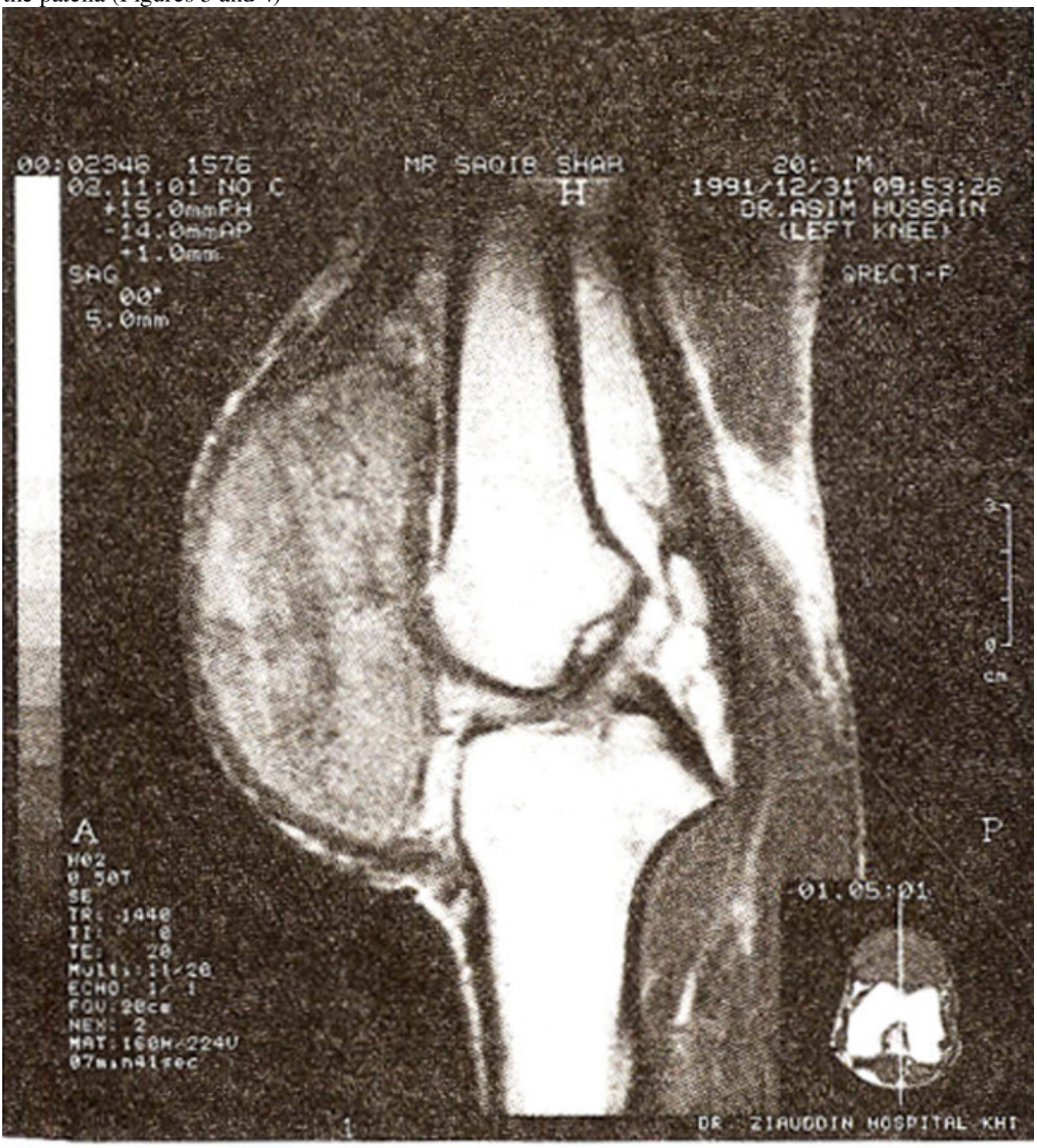

Figure 3. MRI of the left knee joint in saggital view showing an enlarged patella.

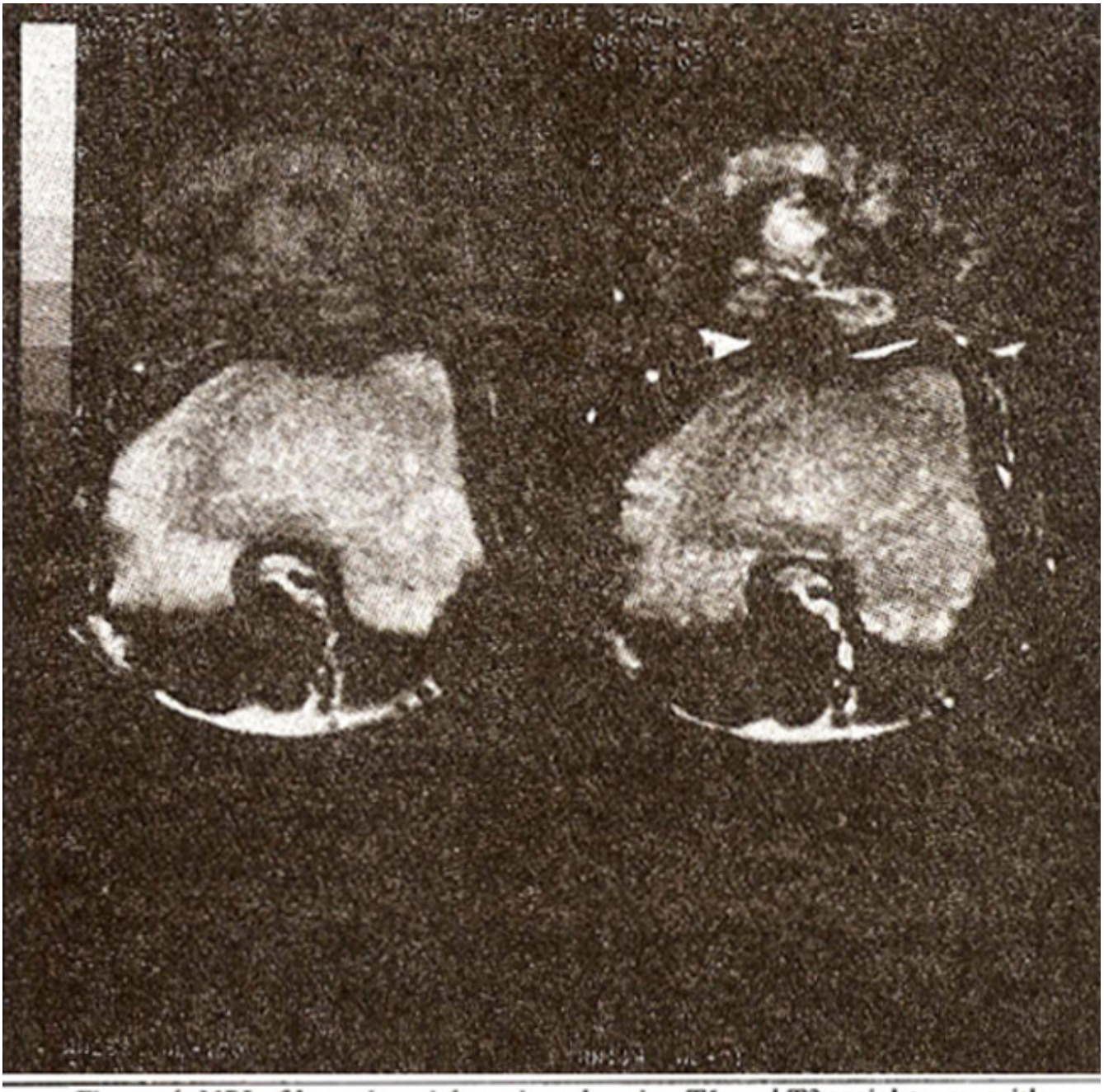

Figure 4. MRI of knee in axial section showing T1 and T2 weight ever with a high signed intensity in the patella in a T2 weighted image.

Clinically, the swelling was thought to be either a osteosarcoma or aneurysmat bone cyst. A patellectomy was done through transverse incision. The patella was highly friable and contained lobulated areas with accumulation of dark brown blood. The soft tissues around the patella were invaded. A gap of about 10 cms in the quadriceps was repaired by quadriceps plasty. After 10 days sutures were removed and the leg was kept in plaster for 4 weeks. The patient was then mobilized and bad near normal knee function within 4 weeks. The removed patella was firm in consistency 11x10 cms and upto 5.5 cms thick. The posterior articular surface was intact but anterior surface was eroded and had lobulations. Histologically the specimen showed abundant osteoclasts having many nuclei. The background of spindle cells showed some pleomorphism with occasional mitosis. A diagnosis of giant cell tumour was made.

DISCUSSION

Giant cell tumour is a tumour of mesenchymal origin. These tumours have osteoclasts which look like multi-nucleated giant cells[4]. There are ultra-structural similarities between giant cells and osteoclasts as both contain large number of mitochondria, poorly developed endoplasmic reticulum which gives it the name and is distributed in a background of plump spindle shaped fibroblast like cells[5]. Although giant cells are present in some other bony tumours like aneurysmal bone cyst, hyperparathyroidism, osteoblastoma but the cardinal feature of differentiation is the regular distribution and arrangement of these giant cells. It is the anaplasia in spindle celis on which the tumour is histologically classified from grade I to III[7]. After a period of time or after resection the tumour may recur and produce a picture of malignancy[8]. Total excision is the treatment of choice. If the lesion is in a bone then curettage with bone grafting gives good results although the chances of recurrence are about 25 to 40%. Radiotherapy has not yielded any better results but only increases the possibility of malignancy.

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