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**UNUSUAL RADIUS ENCHONDROMA TREATED WITH PLATING  
AND BONE GRAFT.**

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**ABSTRACT**

Enchondroma is a benign bone tumour that originates from cartilage. The exact etiology of it is not known. An enchondroma most often affects the cartilage that lines the inside of bones. A patient of radius enchondroma was operated in JJ hospital with plating and results were assessed at 1 and 6 months which showed good results at the end of 6 months. A 12 hole plate was used to stabilise the bone with auto

and allograft, and patient was immobilised for 6 weeks.

**KEYWORDS:** Enchondroma, Radius Plating.

**INTRODUCTION**

Enchondroma is a type of benign bone tumour that originates from cartilage. The exact etiology of it is not known. An enchondroma most often affects the cartilage that lines the inside of the bones. The bones most often involved with this benign tumour are the miniature long bones of the hands and feet. It may, however, also involve other bones such as the femur, humerus, or tibia. While it may affect an individual at any age, it is most common in adulthood. The occurrence between males and females is equal. It is not very likely that the enchondroma will grow back in the same spot; the rate is less than ten percent. An enchondroma may occur as an individual tumour or several tumours.

The conditions that involve multiple lesions include the following.

Ollier disease (enchondromatosis) - when multiple sites in the body develop the tumours. Ollier disease is very rare.

Maffucci's syndrome - a combination of multiple tumours and angiomas (benign tumours made up of blood vessels).

Individuals with an enchondroma often have no symptoms at all. The following are the most common symptoms of an enchondroma. However, each individual may experience symptoms differently. Symptoms may include:

1. Pain that may occur at the site of the tumour if the tumour is very large, or if the affected bone has weakened causing a fracture of the affected bone
2. Enlargement of the affected finger
3. Slow bone growth in the zone

Enchondroma is a solitary, benign, intramedullary cartilage tumour that is often found in the short tubular bones of the hands and feet, distal femur, and proximal humerus.

### CASE REPORT

We report a case at JJ hospital a 46 years old housewife came with complaints of pain over right forearm with swelling since a period of 6 months, she was investigated in the form of x rays and diagnosed enchondroma, diagnosis was confirmed by

**MRI scan. No distal neur compromise was present**



**Fig 1 Pre op Xray**

The enchondroma was around 10cm present at the mid shaft of radius so stabilisation of the radius was an issue which required curettage of large chunk of bone hence long dynamic compression plates and allograft were kept ready.

Intra operatively we found while curetting that all the three cortices i.e. anterior, medial and lateral were removed and we were left with only posterior and some part of medial cortex.

We then decided to put in a long plate, a 12 hole DCP with both auto and allograft. The plate was well fixed at both ends and graft in between was without any bone support. Post-operatively above elbow slab was applied, x-rays were taken and three doses of prophylactic

**prophylactic intra-venous antibiotic  
12 hourly interval.**



**Fig 2**

### **Post op X-ray**

Drain was removed and dressing was done on post-operative day two. Wound healed uneventfully and suture removal was done on post-operative day 10. No loss of reduction or sign of infection was seen in post-operative period. The lady was strictly immobilised in above elbow slab for a period of 6 weeks and after confirming the graft consolidation on x-rays she was put on functional brace and physiotherapy so that stiffness over elbow and wrist can be avoided.



**Fig3**

### Functional Forearm Brace

At the end 3 and 6 months the serial x rays were taken and evidence of good consolidation was present.



**Fig 4 Post op Xray after 3 months**

Range of movements at end of 6 months palmar flexion up to 80 degree and dorsi- flexion up to 20 degree was achieved.

**Fig 5 PALMAR FLEXION 80 DEG**



**Fig 6 Incision Site**

### DISCUSSION

Enchondroma of radius is extremely rare with only few sporadic cases reported. Enchondromas are usually treated with curettage and bone grafting. Phenolization procedure have also been described. Bone graft substitute are also used.

Solitary enchondromas if asymptomatic and involving only one cortex can be managed conservatively with regular follow ups. Recurrences are rare in solitary enchondromas and more commonly seen in multiple enchondromas. In our subject the tumour involved three cortices of radius with high risk of pathological fracture. Also patient complained of intermittent dull aching and painful wrist movements which warranted surgical excision. In

our patient the bone graft appeared consolidated by 6 weeks post-operative period. There were no signs of infection, non-union or loss of reduction in our patient. At 6 month follow up, patient had improved functional outcome and no clinical and radiological signs of recurrence were seen.

## CONCLUSION

We recommend curettage and bone grafting of solitary enchondromas as safe and definitive management. Our patient had loss of three cortices as a result of curettage but in spite of this we were able to achieve union with a long DCP and bone grafting.

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