



## Radial Head Injuries

Authors

**Dr Bindeshwar Priyadarshi<sup>1</sup>, Dr Lalan Kumar<sup>2\*</sup>**

<sup>1</sup>Assistant Professor, Dept of Orthopaedics, Government Medical College, Bettiah, West Champaran, Bihar

<sup>2</sup>Assistant Professor, Dept of General Surgery, Govt Medical College Bettiah, West Champaran, Bihar

\*Corresponding Author

**Dr Lalan Kumar**

Assistant Professor, Department of General Surgery, Government Medical College Bettiah, West Champaran, Bihar, India

Email: [lalanpmch@gmail.com](mailto:lalanpmch@gmail.com)

### Introduction

With the enormous increase in the fastly growing epidemic of mobilopathy, radial head fractures are posing challenge to orthopaedicians. Due to stiffness of joint, early mobilization is of utmost importance. Opinions vary as to whether radial head should be excised in the treatment of radial head fractures. There has been fear of post-excision subluxation of inferior radioulnar joint also. With these confusions in mind, this study of sixty cases of fracture of radial head was undertaken to determine the indications for operative intervention.

Fractures of radial head were thought to be incidental autopsy findings until 1905 when Thomas showed the fracture to be relatively common one. The first real attempt to classify these fractures and to compare non-operative with operative results was made by Cutler (1926).

### Material and Method

The patients in this series were divided into three groups, using Mason's classification. In undisplaced (Type-I) fractures, all 18 cases were

treated conservatively while in comminuted fractures (Type-III) all 10 cases were treated by early excision of radial head. The displaced fractures (Type-II) were subdivided into two groups. The first group of 16 were treated conservatively with casts followed by splints and sling and physiotherapy, the second group of 10 were treated by excision of radial head. Type - I and Type - II were further divided into 3 groups (a) fractures involving less than 1/3 rd of head, (b) those involving less than 2/3 rd of head, (c) those involving more than 2/3rd of head.

All patients were adult ranging from 22 to 68 years. There was no correlation between type of fractures and age or sex of the patients. The patients were followed up to six months when radiological and clinical studies were made. It was assumed that some loss of elbow motion was consistent with good functional result, provided the elbow is asymptomatic. The grading was:  
Good- No symptom, loss of motion at elbow less than 10°.

Fair- Minor complaints like occasional discomfort or pain or upto 30° of loss of motion or both.

Poor- Any function disability or constant discomfort or more than 30° of loss of motion.

The results are given below in tables:

### Undisplaced

Less than 1/3 <sup>rd</sup>	Less than 2/3 <sup>rd</sup>	More than 2/3 <sup>rd</sup>	Total
Good 12	-	-	12
Fair 3	1	-	4
Poor	1	1	2
Total – 15	2	1	18

### Displaced

Conservative			Operative		
Less than 1/3 <sup>rd</sup>	Less than 2/3 <sup>rd</sup>	More than 2/3 <sup>rd</sup>	Less than 1/3 <sup>rd</sup>	Less than 2/3 <sup>rd</sup>	More than 2/3 <sup>rd</sup>
Good 4	4	-	1	1	2
Fair 3	4	-	-	4	-
Poor	1	-	-	1	1

Although undisplaced fractures did well with conservative treatment, fair or poor results were seen in patients with fractures involving more than 1/3<sup>rd</sup> of radial head.

In 16 cases Type - II, where conservative treatment was given, the duration of immobilization did not appear to affect the result as the mobilization was started as soon as pain lessened (between 5 days to 2 weeks). It was observed that bigger the fragment poorer was the result of conservative treatment.

of the 10 cases, two underwent partial excision of which one did good and the other poor on long term. The poor result was seen where more than 1/3<sup>d</sup> of radial head was involved. Rest of the cases did either good or fair. In one case where more than 2/ 3rd of radial head was involved the poor result could not be explained, perhaps the patient might not have done physiotherapy with motivation. Of the 16 communitted fractures where total excision was done only five cases gave good results, eight cases gave fair results and rest three gave poor results. Two cases which reported late gave poor results, the length of post-operative immobilization could not be related with the results. There was no correlation between the degree of subluxation and the presence, absence of severity of symptoms. Only three of these wrists were actually symptomatic and these were midly so.

### Discussion

It has been suggested by Mason et al (1943) that early motion moulds and, reduces the displaced fragments. The correlation between anatomical and functional results has been stressed (Mison, 1954). Our results are comparable to Mason et al (1945). Keeping these fractures immobilized for at least 3 weeks would be worth a trial.

In Type III fractures as in other reported series Cu\*'er (1926), Jacobe (1946), Mason (1954), we also found that early total excision of communitted fracture is the best treatment. Perhaps, due to more severe soft tissue trauma more scarring and contracture develops if the limb is not mobilized early.

The dispute over radial head excision centers about displaced Type II fractures. At one time many fractures of head of radius were treated by excision but the pendulum has swung towards conservative treatment (Bakalim 1970). Speed (1924) and Ogilvic (1930), advised excision of all Type II fractures while Mason (1943) and Johson (1962) stressed that even in communitted fractures involving whole of radial head, conservative measures give satisfactory results. Serveral papers have been published in recent years recommending excision of head of radius with or without prosthetic replacement. Many of theses do not compare the results of resection with conservative treatment and consequently their

conclusions are of limited value. Bohler (1956) favoured excision only in severe Type II fractures. The number of Type II fractures in our series, is too small to permit valid comparison of operative and conservative treatment. Certainly satisfactory results be obtained with either method. The fracture which involved 2/3rd of radial head and which had been treated conservatively was followed by poor results. I would advise conservative treatment with motion as soon as the patient is comfortable for all other displaced radial head fracture. The literature on this subject is consistent in condemnation of partial excision of the radial head. (Carstam, 1950, Murray, 1940, Wagner, 1955). Closed or open reduction in adults had not proved workable in anyone's hands.

### Summary

60 patients of radial head fractures were treated. It was found that conservative treatment in most of the fractures except those of comminuted type responded well with conservative treatment. It was observed that bigger the fragment of radial head poorer is the result of conservative treatment. The results of both conservative and operative treatment were compared.

### Reference

1. Bakalim, G (1970): Acta-Orthop Scan, 41,320
2. Bohler, I. (1956). The treatment of fractures. Vol. In Newyork.
3. Carstam, N. (1950), Acrs, Orthop, Scand, 19, 502.
4. Cutler JW. (1926) : Ann. Surg. 83:267
5. Jacobs J. E. et. al (1946) : J.B.J.S. 28,616.
6. Johson G.W. (1962): Ulater med. J. 31:51.
7. Mason J.A.et. Al (1943) L Surg. Gyn. And Obs. 76 : 731.
8. Mason M L. (1954) : British J. Surg. 42, 123.
9. Murry, R.C. (1940) : Broc, Roy, Soc. Med, 23, 306.
10. Speed K. (1924) L Am. J. Surg. 38, 157.
11. Wagner, C J. (1955): Am. J. Surg 89 : 911.