SUMMARY & CONCLUSION
SUMMARY & CONCLUSION

The fractures of lower end of radius has been the most common bone injury to Human. There are various classification and treatment modalities from simple plaster to open reduction and bone grafting. Now bone cement has been tried for better results.

The plaster cast treatment is generally thought to be satisfactory provided that the fracture is of stable variety, but in case of unstable fractures this type of treatment invariably results into various complication like shortening of radius and union in malposition. Malunion leads to changes of these joints surface and later on to development of osteoarthritic changes.

The main problem in unstable fracture has been the maintenance of reduction during healing phase (Stewart - 1985). The percutaneous K-wire fixation after reduction, stabilise the distal fragment by piercing the opposite cortex of proximal fragment till the union of fracture.

The functional results are usually proportional to the excellence of anatomical reconstruction of fracture fragments and perfect reduction of distal radio-ulnar joint (Anderson & O')
Twenty fractures of lower end of radius treated by percutaneous K- wire fixation (Gray J, Clancey 1979) were followed up over a period of 16 months to see the radiological and functional outcome. The results were compared with the healthy uninjured opposite wrist same patients.

The most of the fractures of lower end of radius were due to fall on outstretched hand. The right side was involved in 75% of cases. The age of patients ranged from 25 years to 60 years. The average age being 42.5 years. These were 12 (60%) female and 8 (40%) male. Most of the female were housewife and 2 (10%) and male manual worker 13 (65%) Remain were 5 (25%) shopkeeper.

The fractures were distributed according to universal classification (1990) of fractures of lower end radius. These were 17 (85%) extra articular displaced reducible unstable and 3 (15%) intra articular displaced reducible unstable fracture. Majority of cases were operated in first week of injury.

The percutaneous K- wire fixation was done after closed reduction and plaster slab was applied. The average duration of plaster immobilization was 4 weeks and K-wires removed after 6 weeks in most of the cases. Length of followed up period varied
from 4 months to 16 months with an average of 10 months. Union occurred in all cases.

On radiological evaluation, in preoperative X-Ray all fractures were unstable type with mean loss of radial length 5 mm. Loss of radial angle more than 12° and loss of volar tilt was more than 20°. In post operative X-Ray excellent reduction was achieved in 70% cases. After union there was 1-2 mm secondary displacement in radial length, 3-4° in radial angle and 6-7° in Palmar tilt. The final result was good to excellent in 86.2% cases according to Sarmiento (1980).

The clinical results were good to excellent in 80% cases according to demerit point system of Gartland and Werley (1975). On correlating the radiological and clinical results, it was proved that an excellent anatomical reduction had an excellent clinical result and poor reduction lead to poor clinical outcome. The results were better in extra articular colles types fractures than intra articular fractures. The complication occurred in only 20% cases. The most common was superficial pin track infection in 10% cases and Sudeck osteodystrophy in (5%) and shoulder stiffness in 5% cases.

**Conclusion :-**

In the present study, we find the following conclusion :-
The close reduction and percutaneous K- wire fixation indicated in :-

I. Extra articular displaced unstable reducible fractures of lower end radius.

II. Intra articular undisplaced or minimally displaced fractures of lower end radius.

III. In cases of secondary displacement in plaster cast.

The percentaneous K- wire has been found very useful in extra and intra articular colles types fractures. It has the following advantage ---

a) It maintain the reduction during the union of fracture by secure fixation.

b) It decrease the plaster immobilization period. So rehabilitation can be started early, that reduces the complications.

c) The K-wire for 4-6 weeks has been found adequate for maintaining the reduction.

d) The surgical technique is simple in its conception quick in its performance and not requiring any secondary operative procedure.

e) The scars are almost invisible.

We concluded that in young adults with unstable colles type fracture ( II B, II, IVB ) percutaneous K-wire fixation in the treatment of choice and should be done as early as
possible without any trial of conservative method provided adequate facilities for surgery are available.