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FUNCTIONAL OUTCOMES OF DISTAL RADIUS FRACTURES TREATED WITH PLATE OSTEOSYNTHESIS AND CLOSED REDUCTION AND PERCUTANEOUS PINNING.

Orthopaedics

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ABSTRACT

Background-Distal radius fracture are commonly encountered in clinical settings and often required surgical intervention with CRPP and ORIF being common modalities of management. **Materials and Methods**- 15 patients were taken in each group and their functional outcomes were measure at the end of the study. **Results and Conclusion.** Plate osteosynthesis has better functional outcomes than CRPP.

KEYWORDS

INTRODUCTION-

Distal radius fracture are amongst the most common fracture encountered by the orthopaedic surgeons , accounting to upto 16% of all fractures that are arriving in the hospital^1 . Elderly are more vulnerable as osteopenia correlates with age .

Unstable and communated distal radius fracture are treated with closed reduction and percutaneous pinning with kir-schner wire or open reduction and internal fixation with a plate. In this paper we will try to look are there difference in functional outcomes between CRPP and ORIF for distal radius fractures.While CRPP being a cost effective and relatively non expensive procedure prolonged period of cast can cause joint stiffnes and ORIF with plate theoretically has advantage as s it allows direct visualization of wrist joint and optimal anatomical correction of wrist anatomy.Draw back including tendon injury implant cost and hard ware failure and carpel tunnel symptoms reported.

MATERIALS AND METHOD-

This study was conducted at orthopaedics department , Bankura Sammilani Medical College. Bankura.Functional assessment were carried on patient with distal radius fractures who were treated with CRPP and ORIF with plate osteosynthesis from January 2022 to September 2022 all together 30 patients who were treated were selected and divided In group of 15 for [CRPP] and 15 [ORIF] . MAYO Wrist score was used to asses functional Outcome between two along with radiological assessment after 6 postop week and 3 months and 6 months

Surgical Techniques-The surgical technique for the **CRPP** under fluoroscopic guidance first the fracture is treated with closed reduction and percutaneous intra focal kwires are used to achieve anatomical reducation and a plaster of paris cast is applied to maintain the reduction.

For ORIF volar approach was selected an incision was made through the floor of the flexor carpi radialis tendon sheath and pronator quadratus was elevated subperiosteally.The fracture was reduced a distal radial locking plate is used to maintain the reduction.

Reduction With CRPP **Reduction With Orif .**

Outcomes-

All patients post operatively were functionally assesed with MAYO wrist scores. Complications were checked prospectively using complication checklists

Demography- Out of 30 patients that consented to participate in the study 15 were opted for **CRPP** other 15 were opted for **ORIF.** Most of the patients were male and road traffic accident was the leading cause of injuries. Average age of patients were 48 years.

Inclusion Criteria-

1. Patients fit for surgical intervention .
2. Patient suffering closed fracture.

Exclusion Criteria

1. open distal end of radius fracture
2. patients suffering from metabolic bone diseases
3. Volar button variant of distal end of radius fractures.-

Pain	Point
No pain	25
Mild occasional	20
Moderate	15
Severe	0
Work status	
Regular job	25
Restricted job	20
Able to work but unemployed	15
Unable to work due to pain	0
Range of motion	
>120°	25
100 to 119°	25
90 to 99°	20
60 to 89°	15
30 to 59°	10
0 to 29°	5
	0
Grip strength (% of normal)	
90 to 100	25
75 to 89	15
50 to 74	10
25 to 49	5
0 to 24	0

RESULTS

The patients who were treated with CRPP the mean MAYO SCORE was 66.70 these score were taken after 6 weeks of procedure followed by 2 weeks of physiotherapy after cast removal. For patients treated with ORIF it was around 74.88 .

The MAYO Wrist score is a physician operated scoring system that utilizes grip strength , patients working status range of motion and grip strength.

While stiffness being the chief reported complication for patient treated with CRPP . Post operative pain and swelling were reported in patients treated with plate osteosynthesis,though they were short term complications 2 patients reported carpal tunnel syndrome

Type Of Interventi On	Mean Mayo Score	Mean Age	Complicati Ons Reported	Mean Grip Strength	Mean Range Of Motion
CRPP	66.7	49.2YE ARS	26.6% OF PATIENTS	84.13	93.31 DEGREE
ORIF	74.6	35.75Y EARS	20.65% OF PATIENTS	79.14	89.31 DEGREE

DISCUSSION –

Though ORIF has significantly better functional outcome than CRPP has to keep in mind that CRPP is far less invasive and cost effective technique than it. It was seen that long term complications were reported less in patient treated with CRPP than ORIF. ORIF provided quicker return to normal functioning of wrist joint and early strength gain. Our results are view with caution as the mean age of patients opted for ORIF was less than that of percutations pinning and our sample size was also small.Recent randomised studies has shown similar results were ORIF Should better early results than CRPP(LESS THAN 3 MO) but no sinificatant difference in long term out comes.

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