ORIGINAL RESEARCH PAPER
Volume - 9 | Issue - 10 | October - 2020 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

INTRA-ARTICULAR FRACTURES OF THE DISTAL END OF THE RADIUS IN YOUNG ADULTS

Orthopedics

Dr Dhrumil S Dave Assistant Professor, Department of Orthopedics, Smt. NHL Medical College, Ahmedabad

Dr Krishna Kumar Ashwin 2nd Year Resident, Department of Orthopedics, Smt. NHL Medical College, Ahmedabad

Dr Kaushal Upadhyay* 2nd Year Resident, Department of Orthopedics, Smt. NHL Medical College, Ahmedabad
*Corresponding Author

ABSTRACT

This retrospective study reviews the results of intraarticular fractures of the distal part of the radius in young adults. An emphasis has been placed on evaluating the critical factors in the assessment and management of the fracture and the development of posttraumatic arthritis.

Intervention

- Application of cast alone (n = 21)
- Insertion of pins and application of cast (n = 17)
- External fixation (n = 2)
- Open reduction and internal fixation (n=3)

Results

Posttraumatic arthritis (PTA) was present in 65 % (28/43 wrists)
Articular step off was seen in 91 % (22/24) of those with PTA compared with only 11 % (2/19) of those wrists with no step off.
Factors associated with PTA – Failure to achieve or main-tain articular congruity was highly correlated with PTA – Initial disruption showed some correlation.
Neither the degree of initial dorsal angulation of the distal part of the radius nor radial length nor the success or maintenance of the final reduction had any effect on the development of arthritis in the radiocarpal joint.

KEYWORDS

SUMMARY:

Young patients sustaining high-energy intra-articular distal radius fractures are often considered a more complex sub-group of injuries to treat. The carpus is usually driven into the distal end of the radius, resulting in severe intra-articular comminution that may lead to accelerated PTA.

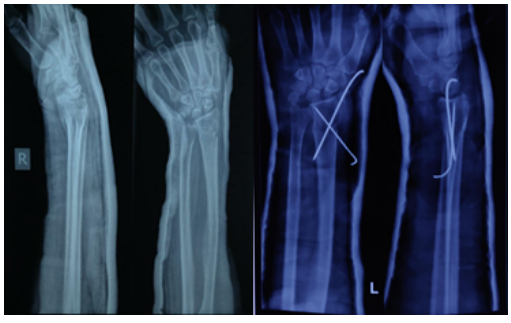
These injuries should be distinguished from low-energy fractures not involving the wrist joint, the classical Colles' fracture, and it is generally accepted that younger patients with greater physical demands are at the greatest risk of dis-ability from a poor result after such a fracture.

We performed the study after observing many young patients developed persistent pain and early advanced degenerative arthritis, despite having distal radius fractures that healed with restored radial length and dorsal tilt. We recognized that this group of patients sustained dis-tal radius fractures with radiocarpal incongruity

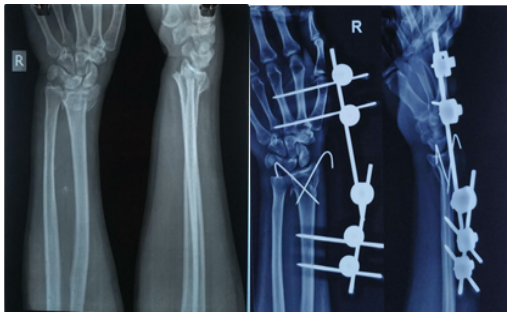
The radiographic parameters of dorsal tilt, radial length and radiocarpal incongruity were quantified on initial injury radiographs using traditional methods. Patient outcomes were subsequently assessed by comparing subjective and objective clinical variables with an arthritis grading scale that measured the presence and extent of posttraumatic arthritis on follow-up radiographs.

We retrospectively reviewed 43 intra-articular fractures in 40 young adults (mean age, 27.6 years) with a mean fol-low-up of 3.7 years. Thirty-eight fractures were treated with cast or pins and plaster. Accurate reduction of the articular surface was the most critical factor in achieving a successful result. Radiographic evidence of PTA developed in 100 % of the fractures whose articular incongruity was ≥2 mm, in contrast to only 11 % of the fractures that healed with a con-gruous joint. radiographs using traditional methods. Patient outcomes were subsequently assessed by comparing subjective and objective clinical variables with an arthritis grading scale that measured the presence and extent of posttraumatic arthritis on follow-up radiographs.

1) Treated with pins and cast.



2) Treated with kwire and external fixator



3) Treated with volar plating

REFERENCES:

1. based and outcomes medicine. J Bone Joint Surg Am. 2009;91:2984–91.
2. Catalano LW, Cole RJ, Gelberman RH, Evanoff BA, Gilula LA, Borrelli J. Displaced intra-articular fractures of the distal aspect of the radius. Long-term results in young adults after open reduction and internal fixation. J Bone Joint Surg Am. 1997;79:1290–302.