

Comparison of Hand Grip Strength in patients with Distal Radius Fracture that are treated by Closed Reduction with Cast versus Open Reduction and Internal Fixation in Haji Adam Malik Hospital Medan

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Abstract : Background- Distal radius fracture is quite often found in emergency settings. There are many options to assess the outcome of treatment in distal radius fracture cases. One option that can be done is to measure the strength of the injured handgrip. Patient often complained about the decrease in ability to grasp and rotate and bear the burden after distal radius fracture. **Objective-**To find out the comparison of the hand grip strength in patients with distal radius fractures that are treated by closed reduction and casting to open reduction and internal fixation. **Material and Methods-**The study was conducted in a retrospective, observational analytic study with a cross sectional approach, which aimed to analyze the comparison of hand grip strength in patients with distal radius fractures that are treated by closed reduction and casting to open reduction and internal fixation 12 months after treatment. Target population was all patients with distal radius fracture who underwent closed reduction and casting and open reduction and internal fixation in all inpatient at Adam Malik Hospital, Medan. **Results-** In this study the distribution of the number of samples was as many as 57 subjects with 17 are women (29.8%) and 40 are men (70.2%). 18 years old is the youngest age of the samples and the oldest is 76 years old with a mean of 32.77 ± 14.03 years. Based on the mechanism of injury : motor vehicle accidents is the most common mechanism of injury, it accounts 45 people (78.9%). According to time arrivals mostly patient came <24 hours. There are 11 extraarticular fractures (19.3%) and 46 intraarticular fractures (80.7%), there were 24 people (42.1%) fracture in the right hand and 33 people (57.9%) in the left hand. Statistical analysis shows that there is no difference in the ratio of hand grip strength with significance value of (p value) 0.881 (> 0.05). **Conclusion-** There were no significant differences in the clinical outcome of the patient's hand grip strength in patients that are treated with closed reduction and casting to open reduction internal fixation after 12 months post therapy.

Key words: Radial fracture, cast, Open Reduction Internal Fixation, Close Reduction Internal Fixation, Hand Grip.

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