

Comparison of the results and clinical outcome of trans olecranon approach with Bryan Morrey approach intra-articular fractures of the distal humerus
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Introduction: Intra-articular fractures accounted for to approximately 2% of the distal humerus fractures. Due to the complex anatomy created in this area and fracture pattern treatment of these fractures has been associated with many challenges. Open reduction and internal fixation is a standard treatment for these fractures. There were various surgical approaches for treating these fractures. The purpose of this study was to compare term results in the treatment two approaches Bryan Morrey versus Trans olecranon.

Methods: In the a descriptive analytical study, 30 patients with intra articular distal humerus type C fractures were divided into two groups of 15 patients. They were matched for age, sex and type of fracture. Patients were compared with complications including bone union rate, union time and functional ability.

Results: In this study, 30 patients, mean age 43.6 ± 10.7 years, including 21 males and 9 females were studied. The two groups were matched for age and sex differences were not statistically significant. Union rate of Bryan Morrey approach was 100% and Trans olecranon was 86.7%, there was no significant difference between the two groups. Union duration in Bryan Morrey was 2.9 ± 0.5 months in Trans olecranon 3.4 ± 0.8 months. The time of the union between the two groups showed no significant difference. The most important complication of Trans olecranon group was nerve injury of ulna nerve , bursitis formation and nonunion in 2 cases (13.3%) and in the Bryan Morrey group was not complication. Time of operation for Bryan Morrey surgical approach was significantly less than the Trans olecranon($p < 0.05$). Elbow range of motion did not different between the two methods.

Conclusion: Based on the our findings of both approaches are successful in the treatment of distal humerus fractures. Approach for Bryan Morrey associated with less time operation and fewer complications. But union time and the amount of final performance is the same between the two methods.

Key words: Distal Humerus Fractures, Bryan Morrey, Trans olecranon