

Total Elbow Arthroplasty and Hemiarthroplasty in the Treatment of Distal Humerus Fractures in the Elderly: Experience from a Tertiary Referral Centre

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INTRODUCTION:

There is no clear consensus on whether total elbow arthroplasty (TEA) or hemiarthroplasty (HA) is superior for treating distal humerus fractures in the elderly. This study analyzed the functional outcomes and re-operation rates following TEA and HA using a single elbow arthroplasty system for intra-articular distal humerus fractures in patients aged 65 years and over.

METHODS:

19 patients (TEA=12, HA=7) treated between 2016 and 2022 were retrospectively reviewed. Mean age was 73 years and mean follow-up was 46 months. Functional outcomes and quality of life were assessed using the Mayo Elbow Performance Score (MEPS), Quick-DASH (Q-DASH), Oxford Elbow Score (OES), SF-12 Physical Component Score (PCS) and Mental Component Score (MCS), and EQ-5D. Complications requiring re-operation were recorded.

RESULTS:

HA showed superior outcomes in MEPS (93.6 vs 75.0, $p=0.0339$), Q-DASH (13.3 vs 31.3, $p=0.0182$), OES (41.7 vs 33.2, $p=0.0346$), SF-12 PCS (55.5 vs 36.9, $p=0.0008$) and EQ-5D (83 vs 67, $p=0.0023$). One HA patient required revision to TEA for prosthetic joint infection. One TEA patient required revision for a periprosthetic ulna fracture.

DISCUSSION AND CONCLUSION:

HA provides better functional outcomes compared to TEA in the treatment of distal humerus fractures in the elderly. Further investigations with a multicenter randomized controlled trial is warranted to validate these results.