"Together, We Can Go Further"
KSES 2026
The 33rd Annual International Congress of the Korean Shoulder and Elbow Society
March 27(Fri) ~ 28(Sat), 2026
BEXCO, Busan, Korea

- Abstract No. : F-0197
- Category : Shoulder
- Detail Category : trauma

Comparison of Surgical Approaches in Neer 2- and 3-Part Proximal Humerus Fractures Treated with a Synthes MultiLoc Intramedullary Nail: A Retrospective Study

Jae-Hoo Lee [1], Seung Joo Kim [1]
정형외과, Inje University Ilsan Paik Hospital , Korea, Republic of[1]

Introduction and Background

The anterolateral deltoid-splitting approach is the standard technique for intramedullary nailing of proximal humerus fractures. To further minimize soft-tissue dissection, we applied a percutaneous approach as a novel technique. This study compared outcomes between the conventional anterolateral approach (Group 1) and this percutaneous technique (Group 2) using the Synthes MultiLoc nail.

Material and Method

A retrospective review was conducted on 43 patients treated with MultiLoc intramedullary nailing for Neer 2- or 3-part proximal humerus fractures (Group 1: anterolateral approach, n=21; Group 2: percutaneous approach, n=22). Clinical outcomes (VAS, ASES, Constant score, forward flexion, external rotation), radiographic parameters including neck–shaft angle (NSA), operative time, and complications were evaluated and compared between groups.

Results

Demographic and baseline characteristics did not differ significantly between the two groups. The mean age was similar (Group 1: 65.2 ± 14.6 years; Group 2: 67.5 ± 13.1 years, p=0.546). Operative time was significantly shorter in the percutaneous group compared with the anterolateral group (48.4 ± 9.6 vs. 71.9 ± 23.1 minutes, p<0.001). Radiographic alignment was similarly maintained, with no significant difference in final NSA (Group 1: 137.41° ; Group 2: 137.06° ; p=0.572). Clinical outcomes were also comparable, including VAS (0.81 vs. 0.82 ; p=0.975), ASES (86.8 vs. 82.5 ; p=0.210), Constant score (80.8 vs. 76.3 ; p=0.150), forward flexion (139.5° vs. 137.7° ; p=0.751), and external rotation (p=0.418). All fractures achieved union with no cases of avascular necrosis. One early fixation failure occurred in Group 2, and one distal periprosthetic fracture occurred in Group 1. No supraspinatus tendon discontinuity was observed on 6-month ultrasound.

Conclusions

The percutaneous MultiLoc nailing technique provided clinical and radiographic outcomes comparable to the standard anterolateral approach, with the notable benefit of significantly reduced operative time. This minimally invasive technique may serve as a safe and efficient alternative for treating Neer 2- and 3-part proximal humerus fractures.