上腕骨近位端骨折の手術成績：順行性髄内釘とロッキングプレートの比較

Table 1 Demographic characteristics of the study population

Table 2 Active range of motion in forward flexion and external rotation in the N and P groups disaggregated by the type of fracture

The external rotation of two-part fractures in the antegrade intramedullary nails group was significantly better than that of those in the locking plates group

Table 3 Active range of motion in forward flexion and external rotation post operation in the N and P groups disaggregated by the type of fracture and various age subgroups

For patients aged 65–74 years, the external rotation of three- or four-part fractures in the antegrade intramedullary nails group was significantly better than that of those in the locking plates group.

Table 4 Postoperative complications

One patient with a three-part fracture in the locking plates developed nonunion. Avascular necrosis was more likely to occur in patients with four-part fractures. Varus deformity frequently occurred in patients with two-part fractures in the locking plates group.

Table 5 Advantages and disadvantages of the antegrade intramedullary nails and locking plates

Figure 1 70-year-old female who fell over and was suffered from a two-part proximal humerus fracture. Intramedurally nail fixation was performed.

(a) preoperative radiograph

(b) preoperative 3D computed tomography

(c) postoperative radiograph (13 months after antegrade intramedullary nails fixation was performed)

Figure 2 55-year-old male who fell from height and was suffered from a four-part proximal humerus fracture. Locking plate fixation was performed.

(a) preoperative radiograph

(b) preoperative 3D computed tomography

(c) postoperative radiograph (16 months after after locking plate fixation was performed)

Figure 3A Active postoperative range of motion in forward flexion in patients with two-part fractures in the Antegrade intramedullary nail group (N group) and Locking plate group (P group) disaggregated by various age groups

In the N group, forward flexion was better in those aged <65 years than in those aged ≥65 years.

Figure 3B Active postoperative range of motion in forward flexion in patients with three- and four-part fractures in the nail group (N group) and Locking plate group (P group) disaggregated by various age groups

In the N group, forward flexion was better in patients aged 65–74 years than in patients aged ≥75 year. In the P group, forward flexion was better in patients aged <65 years than in patients aged ≥75 years.

Figure 4A Active postoperative range of motion in external rotation in patients with two-part fractures in the nail group (N group) and Locking plate group (P group) by age groups

No significant differences were observed in the N and P groups among patients of different age groups.

Figure 4B **Active postoperative range of motion in external rotation in patients with three- and four-part fractures in the in the nail group (N group) and Locking plate group (P group)**

disaggregated by age groups

In the N group, external rotation was better in patients aged 65–74 years than in patients aged ≥75 years. In the P group, external rotation was better in patients aged <65 years than in patients aged ≥65 years.