Cephalomedullary Nail Versus Sliding Hip Screw For Stabilizing Trochanteric Fractures In Elderly Patients

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Objectives

The objective of this study is to compare the recovery in post-operative ambulatory function of elderly patients with unstable trochanteric fractures stabilized with either a cephalomedullary nail (AO-ASIF proximal femoral nail antirotation) or a sliding hip screw (dynamic hip screw).

Materials and Method

In this prospective case-control study, 63 consecutive elderly patients with intact cognitive function and good pre-fracture ambulatory function (Parker Mobility Score of 6 or more) had trochanteric fractures type AO 31-A2 and A3. 25 patients underwent fixation with the proximal femoral nail antirotation (PFNA), and 38 patients underwent fixation with the dynamic hip screw (DHS). Early (6 months) and late (12 months) post-operative ambulatory function was analyzed in terms of level of ambulatory independence and environmental mobility. Ambulatory independence (AIS) and environmental mobility (EMS) were scored on 5 and 3 point scales respectively.

Results

Demographics and characteristics of both groups were comparable. At 6 months, compared with the DHS group, the PFNA group demonstrated better recovery in post-operative ambulatory function in terms of Parker Mobility Score (4 versus 2, p=0.002), environmental mobility (p=0.02), AIS (4 versus 3, p=0.004), and EMS (2 versus 1, p=0.007). At 12 months, the PFNA group still demonstrated better ambulatory independence (p=0.01) and AIS (5 versus 4, p=0.001) compared with the DHS group. However, the difference in environmental mobility did not reach statistical significance despite a larger proportion of patients in PFNA group achieving outdoor and community ambulation.

Conclusion

The PFNA is a better implant for the fixation of unstable trochanteric fractures in ambulant pre-fracture elderly patients, enabling good recovery of ambulatory function.