The Dynamic Locking Blade Plate: 7-Year Follow-up Results of 389 Patients With a Femoral Neck Fracture

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Purpose: This study aimed to investigate the long-term outcomes of patients with a femoral neck fracture (FNF), treated with the dynamic locking blade plate (DLBP).

Methods: Prospectively collected data of a multicenter cohort of 468 hip fracture patients were analyzed, regarding the long-term incidence of revision surgery after DLBP. Implant failure was evaluated using Kaplan-Meier and Cox regression analysis. Secondary outcomes were the indication for revision surgery, complications, time to revision surgery, rate of elective removal of the implant, potential predictors for revision surgery, and mortality.

Results: The median follow-up of the 389 included patients was 98 months; 20.6% underwent revision surgery; 28.8% after treatment of a displaced FNF (dFNF) and 10.0% with a undisplaced FNF (uFNF). 10.5% (n = 41) of the patients had postoperative complications and 32.9% (n = 128) deceased during follow-up. Median time to revision surgery was 13 (dFNF) and 18 months (uFNF). 15.7% of the DLBPs were electively removed. In the multivariate Cox regression analysis, female gender (hazard ratio 2.1, 95% confidence interval [CI] 1.2-3.7) and a tip-apex distance >25 mm (hazard ratio 2.9, 95% CI 1.7-5) were significant predictors for revision surgery in patients with dFNF.

Conclusion: This study is the first long-term follow-up study on the outcome of the DLBP. The DLBP is related to significantly less long-term revision surgery in the treatment of FNFs than other implants described in literature.