Two Strikes, You’re Out: Natural History of Instability after Posterior and Anterior Approach THA

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INTRODUCTION:
Historical studies suggest that (1) ~30% of total hip arthroplasty (THA) patients who experience instability require revision THA (rTHA) and (2) ≥3 dislocations indicate a need for rTHA. However, these recommendations were derived from THAs performed with conventional polyethylene and smaller femoral head sizes. We used a modern cohort of posterolateral (PL) and direct anterior (DA) approach THA patients to analyze rates of dislocation and revision.
METHODS:
There were 40,315 patients who underwent primary THA at our institution from 2016-2024. Among these patients, those who sustained a dislocation event were included. Keyword and diagnosis code search was performed to identify patients, and chart review confirmed dislocation. Comparisons were performed using *Chi*-square or independent *t*-test.
RESULTS:
There were 285 patients with at least one dislocation (0.7%; mean follow-up 5.7 years). PL patients had higher rates of dislocation (0.87% vs 0.22%; *P*<0.00001), recurrent dislocation (76.9% vs 40.1%; *P*=.01) and revision for instability (84.9% vs 68.2%; *P*=0.02) than DA patients. Among all patients, 35.1% dislocated exactly once, 41.3% dislocated exactly twice, and 23.6% dislocated 3+ times. Revision rate increased with number of dislocations (69.1%, 93.9%, and 98.5% for 1, 2, and 3+ dislocations respectively; *P*<0.00001). Revised patients had higher mean number of dislocations (2.1 vs 1.2; *P*<0.0001) and longer time from THA to first dislocation (311.6 vs 96.4 days; *P<0.0001*) than non-revised patients. Late dislocators (first dislocation >90 days from THA) were more likely than early dislocators (first dislocation ≤90 days) to undergo revision (97.0% vs 74.9%; *P*<0.0001). Among one-time dislocators, late dislocators were revised more frequently than early dislocators (86.4% vs. 57.3%; *P*=0.01).
DISCUSSION AND CONCLUSION:
PL patients were four times more likely to dislocate and nearly twice as likely to dislocate recurrently than DA patients. Rate of revision for instability was nearly triple previously reported rates. One late dislocation (>90 days after THA) or recurrent dislocation (2+ dislocations) at any time point are highly predictive of subsequent rTHA.