Risk of Dislocation Following Total Hip Arthroplasty in Ehlers-Danlos Syndrome

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INTRODUCTION: Previous literature report dislocation rates as high as 15% following total hip arthroplasty (THA) in patients with Ehlers-Danlos Syndrome (EDS). It is possible that various surgical approaches and alternate bearing types may influence the rate of instability in high-risk patients. We evaluated dislocation rates in patients with EDS who underwent THA in a national database as well as our own institutional experience to determine dislocation rates in each group and if there were any benefits to specific surgical approaches or dual mobility.

METHODS: This retrospective cohort study identified EDS patients who underwent THA between 2014 and 2024 at one tertiary-referral center and second larger cohort identified in the Epic Cosmos database. Cosmos provided national trends, while our data offered detail on approach and implant choice. Chi-square tests and logistic regression models were used to compare dislocation, adjusting for age, sex, and BMI. Subgroup analysis was performed for patients who underwent an anterior-based approach with or without monoblock dual mobility.

RESULTS: Nationally, in the Epic Cosmos database of 600,733 THA patients, EDS patients had a dislocation rate of 5.8% versus 1.6% in non-EDS patients ($p<0.0001$). At our institution, 51 EDS patients who underwent THA were compared 5,458 patients without EDS. Our rates of dislocation were similar to the national rates(5.9% vs 1.4%, $p=0.0361$; OR=5.05[1.52, 16.84]). Among EDS hips treated with an anterior approach (41/51 patients) there was lower dislocation rate (4.9%) versus posterior (10%) (p=0.4881).There were no dislocations in EDS patients who received a monoblock dual mobility acetabular component via an anterior based approach (n=14).

DISCUSSION AND CONCLUSION: Although patients with EDS demonstrated a significantly higher risk of dislocation, these figures are substantially lower than previously reported. There were lower rates of dislocation in the anterior based approaches and no dislocations when combined with monoblock dual mobility though the study was underpowered.