Trends in Hemiarthroplasty and Total Hip Arthroplasty for Femoral Neck Fractures: Surgeon or Patient Driven?

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INTRODUCTION: The primary aim of this study was to analyze the trends in hemiarthroplasty (HA) and total hip arthroplasty (THA) for geriatric femoral neck fractures (FNFs) over the past two decades.
METHODS: This retrospective study included 3,139 patients with FNFs treated with either HA (n=2,497) or THA (n=683) from December 2001–May 2023 with 1-year minimum follow-up at two level 1 trauma centers. Demographics, clinical variables, and outcomes were collected and compared using Student's t-test or chi-squared tests. $p<0.05$ was significant.
RESULTS: The overall trend in the treatment of FNFs over the past two decades showed a significant decrease in the number of HAs and an increase in number of THAs performed. Patients in the THA cohort were younger (70.8 vs. 81.4 years, $p<0.001$) and more likely to be women (70.9% vs. 65.1%, $p=0.006$). Patient-specific factors associated with receiving HA included lower body mass index (BMI, 24.6 vs. 25.4kg/m^2, $p=0.002$), higher Charleston Comorbidity Index (CCI, 7.5 vs 4.6, $p<0.001$), and dementia (29.9% vs 7.8%, $p<0.001$). Furthermore, insurance type was also associated with treatment type, as more patients in the HA cohort had Medicare (HA:83.5% vs. THA:69.6%, $p<0.001$), while more of the THA cohort had private insurance (HA:8.7% vs. THA:21.7%, $p<0.001$). Arthroplasty surgeons (21.5% vs. 10.4%, $p<0.001$) and surgeons with more years in practice (15.1 vs. 12.5years, $p<0.001$) were more likely to perform THA. In terms of outcomes, patients treated with THA had shorter hospitalizations (6.3 vs. 7.9days, $p<0.001$) and were more likely to be discharged home (24.3% vs. 5.5%, $p<0.001$). Patients undergoing THA were also more likely to have complications (9.2% vs. 6.1%, $p=0.006$), although the rates of reoperation were similar (4.5% vs. 5.1%, $p=0.58$). Both 90-day (11.1% vs. 1.6%, $p<0.001$) and 1 year (21.1% vs. 3.8%, $p<0.001$) mortality rates were higher in the HA cohort.
DISCUSSION AND CONCLUSION: There has been a rising trend in THA for the treatment of FNFs over the past two decades, and factors affecting treatment decision are both patient and surgeon driven.