Comparing Current Uncemented, Hybrid, and Cemented Implant Combinations in Older Patients Undergoing Primary Total Hip Arthroplasty: A New Zealand Joint Registry Study

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INTRODUCTION:
Multiple joint registries have reported better implant survival for patients aged >75 years undergoing total hip arthroplasty (THA) with cemented implant combinations when compared to hybrid or uncemented implant combinations. However, there is considerable variation within these broad implant categories, and it has therefore been suggested that specific implant combinations should be compared. We analyzed the most common contemporary uncemented, hybrid, and cemented implant combinations in the New Zealand Joint Registry (NZJR) for patients aged >75 years.
METHODS:
All THAs performed using the selected implants in the NZJR for patients aged >75 years between 1999 and 2018 were included. Demographic data, implant type, and outcome data including implant survival, reason for revision, and postoperative Oxford Hip Scores were obtained from the NZJR, and detailed survival analyses were performed. Primary outcome was revision for any reason. Reason for revision, including femoral or acetabular failure, and time to revision were recorded.
RESULTS:
A total of 5,427 THAs were included. There were 1,105 implantations in the uncemented implant combination group, 3,040 in the hybrid implant combination group, and 1,282 in the cemented implant combination group. Patient-reported outcomes were comparable across all groups. Revision rates were comparable between the cemented implant combination (0.31 revisions/100 component years) and the hybrid implant combination (0.40 revisions/100 component years) but were statistically significantly higher in the uncemented implant combination (0.80/100 component years). Femoral-sided revisions were significantly greater in the uncemented implant combination group.
DISCUSSION AND CONCLUSION:
The cemented implant and hybrid implant combinations provide equivalent survival and functional outcomes in patients aged over 75 years. Caution is advised if considering use of the uncemented implant combination in this age group, predominantly due to a higher risk of femoral sided revisions. The authors recommend comparison of individual implants rather than broad categories of implants.