Sixteen-Years Outcomes of a Fully Modular Femoral Stem in Revision Total Hip Arthroplasty

Federico De Meo, Giorgio Cacciola, Antongiulio Bruschetta, PIETRO CAVALIERE[1]
[1]GIOMI

INTRODUCTION:
Although total hip arthroplasty (THA) is regarded as a highly successful orthopaedic surgical intervention, primary arthroplasties are subject to failure, requiring revision THA to again restore function, relieve pain, and improve the quality of life for patients with hip disorders. Revision THA is often challenging and limited by complex patient anatomies requiring reconstruction or management of bone loss and soft tissue damage. To circumvent these challenges and fit the needs of the patient, modular femoral stems offer component flexibility and adaptability, but currently, few studies report long-term patient outcomes. The purpose of this study is to report long-term outcomes of patients treated with a fully modular cementless revision stem.
METHODS:
A retrospective analysis from a single center was conducted for 200 patients implanted with a modular revision stem between 2004 and 2017 (minimum FU of 5 years). Patients with periprosthetic and subtrochanteric fractures were excluded. Postoperative rerevisions were recorded and analyzed by a Kaplan-Meier test to determine survivorship. During follow-up phone calls, patients were asked to report discomfort, and HOOS JR scores were analyzed.
RESULTS:
The 200 patients (59% female) had a mean age of 73 ± 10.4 years and a BMI of 24.5 ± 3.1 at the time of surgery. The mean follow-up time was 7.6 ± 4.4 (range, 0.01-16.9) yy. Thirty-one rerevisions were reported for aseptic cup loosening (n=4), dislocation (n=17), greater trochanteric fracture (n=3), infection (n=1), modular neck fracture (n=1), stem fracture (n=2), and aseptic stem loosening (n=3). At 16 years, the Kaplan-Meier survivorship is 83.6% (CI 78.3-88.9%) with the endpoint of any revision and 93.7% (CI 90.0-97.3%) with the endpoint of stem removal. In addition, 89% of patients reported no thigh pain or discomfort, and the mean HOOS JR score was 83.4 ± 16.9 with 73% of patients achieving the PASS threshold of 76.7.
DISCUSSION AND CONCLUSION:
In this retrospective study, the modular revision stem demonstrated good survivorship, surpassing the acceptable revision rate of 8.0% at 15 years reported by the Orthopaedic Data Evaluation Panel. Moreover, patient-reported outcomes indicate improvements in postoperative pain and functions of daily living. Taken together, these findings suggest that this stem is safe and effective for revision THA with favorable long-term outcomes.