Long-Term Clinical Results and Patient Satisfaction of Metaphyseal-Engaging Anatomic Cementless Femoral Component in Total Hip Arthroplasty

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INTRODUCTION: There is relatively little information on the long-term clinical results of patients aged < 50 years with a contemporary total hip arthroplasty (THA), although a high rate of revision is projected for this group. Therefore, the purpose of this study was to evaluate the long-term results (a minimum of 21 years) of a metaphyseal-engaging anatomic cementless total hip prosthesis in patients aged < 50 years at the time of their THA.

METHODS:

This study included 180 patients (249 hips), specifically 106 men and 74 women. The mean age of the patients at the time of their THA was 45.8 ± 8.1 years. The predominant diagnosis was osteonecrosis (56%). Demographic data, the Harris hip score, the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), and the University of California, Los Angeles (UCLA) activity score were recorded. Radiographic evaluation and dual-energy X-ray absorptiometry (DEXA) scanning were used to evaluate implant fixation, bone remodelling, and osteolysis. The mean follow-up was 25.2 year (range 21–28 years).

RESULTS:

At the latest follow-up, the mean Harris hip, WOMAC, and UCLA activity scores were 93, 10, and 6.7 points, respectively. No patients had thigh pain. All hips had osseous integration of the acetabular and femoral components. No patient had grade 3 stress shielding. The 28-year survival rate was 98.2% (95% confidence interval [CI] 95%–100%) for the acetabular components and 98.8% (95% CI 95%–100%) for the femoral components. Overall, 90% of the patients were satisfied with the THA results.

DISCUSSION AND CONCLUSION:

The results suggest that a metaphyseal-engaging anatomic cementless femoral stem with alumina-on-alumina ceramic articulation provide outstanding long-term fixation and substantial pain relief well into the 3rd decade after surgery. Furthermore, there was no alumina ceramic fracture or osteolysis. Moreover, approximately 90% of the patients were satisfied with the results of their THA.