Long-Term (Minimum 30 Years) Performance of Bilaterally Implanted Cemented and Cementless Total Hip Arthroplasty In Patients Younger than 50 Years

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INTRODUCTION:
The rate of failure of cemented and cementless total hip arthroplasty (THA) in younger patients is higher than that in elderly patients. The purpose of this study was to document the long-term clinical results of THA with so-called third-generation cementing THA and the results of second-generation cementless THA in patients < 50 years of age.
METHODS:
This study included 106 patients (212 hips) who had had bilateral THA with a cemented stem in one hip and a cementless stem in the other. There were 78 men and 28 women. Their mean age was 47 years (range 21 to 49) and their mean BMI was 26.2 (22-28) kg/m^2. The predominant diagnosis was AVN of femoral head in 140 hips (66%), followed by OA in 28 hips (13%) and DDH in 26 hips (12%). Cause of AVN was alcohol abuse in 99 hips (71%), idiopathic in 22 (16%), steroid induced in 17 (12%), and TA in 1 hip (1%). The average follow-up duration was 31 years (range, 30 to 32.5 years).
RESULTS:
There were similar mean Harris Hip Scores (90 versus 91 points) between the groups at the final follow up. Forty-six acetabular components (43%) in the cemented group and 48 acetabular components (45%) in the cementless group were revised. Five femoral components (5%) in the cemented group and 4 femoral components (4%) in the cementless group were revised. Survivorship of the acetabular component at 30.8 years was similar in both groups (57% in the cemented group versus 55% in the cementless group). Survivorship of the femoral component at 30.8 years was also similar in both groups (95% in the cemented group versus 96% in the cementless group).
DISCUSSION AND CONCLUSION:
Long-term fixation of the cemented or cementless femoral stem was outstanding. Although the long-term fixation of the cemented or cementless femoral stem was outstanding there was a high rate of the acetabular component revision due to conventional polyethylene wear and periacetabular osteolysis. Advancements in cementing technique and improvements in the design of cemented femoral stems as well as improvements in the surgical technique for implantation and the design of the cemented femoral stems have greatly improved the long-term survival of the implants in young patients.