The Bi-Metric Uncemented Hip Stem – a Long Term Follow Up in Total Hip Arthroplasty

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Introduction

The aim of this study is to evaluate the radiological and clinical outcome for the Bi-Metric stem at a minimum of 20 years.

Material and Methods

In a prospective cohort study, we included a consecutive series of 105 patients (115 hips). All were primary total hip arthroplasties operated with the Bi-Metric femoral stem, which is an uncemented, proximally hydroxyapatite coated, tapered, titanium alloy stem. 41 patients were excluded, due to death (23 patients) and missing data (18 patients). Collection of missing data is in progress. Up to date 68 hips were evaluated. Mean follow-up time was 22.8 years; earlier follow-ups were at 5 and 10 years. Radiological signs of loosening and remodelling were evaluated according to Engh's criteria. Clinical outcome was evaluated with modified Harris Hip Score.

Results

Out of 68 hips 67 hips (98.5%) had well integrated femoral stems. 1 hip (1.5%) had undergone stem revision due to a Vancouver B1 fracture after a fall in stairs. 6 hips (8.8 %) had suffered a Vancouver A fracture in the trochanteric area and 1 hip (1,5%) a Vancouver B1 fracture, all of these had intact non-revised femoral stems. The average modified Harris Hip Score was 92 (range 58-100). Radiologically progressive remodelling was detected.

Discussion

Fixation of the Bi-Metric stem is excellent even in the long perspective. Periprosthetic proximal femoral fractures (Vancouver A) are increasing with age and remodelling. The clinical score is very good.

Conclusion

The Bi-Metric stem shows very good durability.