

Total Hip Arthroplasty Combined With Subtrochanteric Shortening Osteotomy For Dislocated Hip -Comparison Of Outcomes Between Cementless And Cemented Stems-

Orthopaedics / Pelvis, Hip & Femur / Joint Replacement - Primary

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Background

Femoral shortening is often required in total hip arthroplasty (THA) for highly dislocated hips. At our institution, although prostheses with cementless stems were initially mainly used, cemented stem prostheses, which are not affected by femoral geometry, have been increasingly used in recent years.

Objectives

The aim of this study was to compare intraoperative and postoperative outcomes with the two types of prosthesis.

Study Design & Methods

From January 2013 to March 2022, 50 hips (in nine males and 41 females) of 40 patients who underwent THA with femoral shortening osteotomy for Crowe group IV hip dislocation were included. Mean age at surgery was 70 (45-84) years, and the mean follow-up period was 5 (1-10) years. Twenty-two hips were Crowe group IVa (secondary acetabulum formation), and 28 were group IVb (no secondary acetabulum formation). The patients were divided into two groups based on the type of prosthesis used: cementless stems (S-ROM: group S) and cemented stem (Exeter: group E). There were 30 hips in group S and 20 hips in group E. We investigated operating time, blood loss, bone union of the osteotomy site and complications in the two groups.

Results

Surgical time was 152.2 ± 23.5 min in group S and 157.6 ± 20.8 min in group E, and the intraoperative blood loss was 450 (190-1010) ml in group S and 540 (270-1780) ml in group E, with no significant differences between the two groups. All patients achieved bone union at the osteotomy site by the final follow-up. Complications included three dislocations in group S, and revision surgery was required for two femur fractures, one stem loosening, one cup loosening, two infections and one dislocation in group S. There were two postoperative dislocations in group E, for which revision surgery was performed for one dislocation and one cup loosening. None of the patients required additional surgery for stem loosening or femoral side complications in group E.

Conclusions

The geometry of the femoral medullary cavity in highly dislocated hips is variable, especially in THA with femoral shortening osteotomy, where it is necessary to obtain secure initial fixation at the distal femur. Cemented stems allow stem placement without femoral fracture or stem loosening.