

Revision Total Hip Arthroplasty With Medial Wall Defect Using Bone Graft With Or Without Porous Metal Restrictor

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

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Keywords: Revision Total Hip Arthroplasty, Trabecular Metal, Medial Wall Defect

Background

When a severe medial wall defect is present in revision total hip arthroplasty (THA), simple bone grafting (BG) may not be sufficient, and trabecular metal (TM) augmentation is often necessary.

Objectives

We aimed to evaluate whether there were differences in outcomes of revision THA with medial wall defects depending on the use of TM augmentation.

Study Design & Methods

Between 2009–2021, 130 patients were classified into two groups: 80 patients undergoing bone grafting (BG group) and 50 patients undergoing both bone grafting and TM augmentation (BG/TM group). We evaluated the postoperative center of rotation (COR) position and changes in vertical and horizontal COR at last follow-up. Additionally, we categorized the fate of the transplanted bone graft into four groups: unchanged, initially changed, resorption-no further intervention, and resorption-revision.

Results

The mean horizontal COR changes were -3.50 mm in the BG group and -1.07 mm in the BG/TM group ($p=0.005$). In the BG/TM group, a higher proportion of the patients showed unchanged or only initial changes when compared to the BG group (88.0% and 65.0%, respectively).

Conclusions

The BG/TM group showed more favorable results regarding horizontal changes in the COR and fate of the bone graft. Therefore, for revision THA in patients with severe medial wall defects, the combined use of bone graft and TM augmentation can be a suitable option.