

Acetabular Reinforcement Ring For Acetabular Bone Defect In Total Hip Replacement

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INTRODUCTION:

Acetabular revision surgery in patients with severe acetabular deficiencies requires a good fixation of the acetabular cup. Used of GAP 2 with bone graft provides excellent results in this condition.

MATERIALS AND METHODS:

Between January 2010 and December 2016, eleven patients age between 34 and 72 years old underwent acetabular hip revision surgery in Sarawak General Hospital. CAT scans were used to assess the deformity and amount of bone loss. GAP2, morcelised femoral head bone grafts and an osteo-inductive material were used in all patients. Patients were followed for a minimum of 2 years. Radiographs were reviewed at 6 and 12 months to see the graft incorporation and restoration of bone stock.

RESULTS:

Of the 11 patients, 9 underwent first revision (81.8%), 1 underwent second revision and one 3rd revision. Based on AAOS classification, 10 patients had type 1d (Segmental with posterior defect), 1 patient had type 4 (pelvic discontinuity) defect. Radiographic evaluation taken at 6 and 12 months showed good graft incorporation measured based on Charnley and Deeley zone of osteolysis.

DISCUSSION:

Management of acetabular bone loss is a challenging aspect of revision hip arthroplasty. Acetabular reinforcement ring provides stable initial fixation, restore anatomic cup position and protect the bone graft. Long term fixation is provided by graft integration.



Figure 1: Pre- and post-operative x-ray.

CONCLUSION:

Acetabular reconstruction ring is a good method in the treatment of large acetabular defect. Bone graft incorporation and restoration of bone stock should be the aim of treatment. More research is needed on the usage of material, with possible ingrowth between the under surface of the ring/cage, in order to prevent late failure due to metal fatigue.

REFERENCE:

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