

Outcomes of Patients Treated with Porous Tantalum Acetabular Reconstruction for Pathologic Acetabular Fractures

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INTRODUCTION:

The periacetabular region is a common location for secondary malignancies. The purpose of this study was to assess outcomes following acetabular reconstruction in patients sustaining periacetabular pathologic fractures.

METHODS:

This retrospective study examined 62 patients (28 males and 35 females) who received an acetabular implant for management of a pathologic fracture between 2010 and 2022. The mean age and body mass index were 63 and 29 kg/m² respectively. The most common diagnosis was metastatic disease (n=44). Forty-eight patients underwent radiation therapy for management of their disease prior to sustaining a pathologic fracture. Medical records and radiographs were reviewed. Mean follow up of surviving patients was 5.2 years.

RESULTS:

Forty-one patients received a tantalum cup-cage construct for acetabular reconstruction, while 21 patients received a tantalum cup alone. At the time of surgery, 30 patients demonstrated pelvic discontinuity (26 cup-cage, 4 cup alone). Seven patients demonstrated radiographic evidence of implant loosening. Overall revision rate was 11% and 2% for aseptic loosening. At the most recent follow-up, 33 patients were deceased. No differences were found in revision rate between reconstructive methods (p=0.69). After reconstruction, Harris hip scores increased from 36 to 77 postoperatively (p<0.01). Cumulative incidence of death was substantially higher than that of revision at all evaluated timepoints.

DISCUSSION AND CONCLUSION:

Reconstruction following pathologic acetabular fractures resulted in satisfactory outcomes in patients with or without a pelvic discontinuity. Tantalum cup only and cup-cage constructs provide durable results with satisfactory revision rates when applied selectively based on the severity of the acetabular fracture.

