

10731-Short term results of tantalum acetabular cups in total hip arthroplasty following pelvic irradiation.

Authors: M. De Paolis, R. Zucchini, C. Romagnoli, M. Romantini, F. Mariotti, D. Donati.

Istitution: Istituto Ortopedico Rizzoli, Bologna, Italy

INTRODUCTION

Radiotherapy in pelvic area is commonly used to treat gastrointestinal and genitourinary carcinomas, bone metastasis, hematopoietic diseases and primary sarcomas.

Due to post-radiation bone damages a conventional hip prosthesis replacement is needed (osteonecrosis, degenerative arthritis, pathologic stress fractures). However, high rate of failures (between 44 and 52%) of the acetabular component should be expected. Recently, the use of tantalum implant on irradiated bone has been reported with good results.

PURPOSE:

The aim of this study is to report our experience about the use of trabecular metal acetabular cups on these patients.

MATERIALS AND METHODS:

From 2005 to 2013, we performed 12 THA replacements on irradiated bone with TM acetabular cups.

The previous conditions leading to the replacement included , 2 Ewing's sarcomas, 2 non-Hodgkin lymphomas, 2 metastatic breast cancers, 1 plasmocitoma, 1 multiple myeloma, 1 aneurysmal bone cyst, 1 myxoid liposarcoma, 1 synovial sarcoma, 1 giant-cell tumor.

The mean radiation dose delivered was 43000 cGy (range 800 cGy – 67000 cGy).

The mean time from radiation therapy to the hip replacement was 88 months (range 13 – 364 months).

They were 4 male and 8 female with age ranging from 25 to 77 years old (mean 47 years old).

For the clinical evaluation we used the Harris Hip Score on all our patients.

RESULTS:

After a mean FU of 45 months none of the patients were considered failed for aseptic loosening. However, there were two deep infections: the first acute healed with debridment and antibiotic therapy, while the second chronic leading to septic loosening treated by explantation. Moreover, we had two cases of hip dislocation, treated by conservative procedure.

Harris hip score improved from an average of 46 to 80 points at follow-up.

At last follow-up no one case presented with radiographic signs of progressive lucent line.

CONCLUSION:

Even though we reported few cases distributed in a wide range of time with a relatively short follow up, we considered our results encouraging to keep on with this type of implant. In clinical setting, Tantalum seems to provide a better initial stability followed by secondary stability due to the integration of the trabecular metal to the underline spongy bone. The good performance of the material can provide a better functional result during time.