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Radiological Evaluation of the Hip Joint Following Endoprosthetic Replacement of the Proximal Femur

Shlomo Dadi¹, Yair Gortzak², Rada Treiberg², Yehuda Kollender², Jacob Bickels²

¹) Tel-Aviv Sourasky Medical Center ²) National Unit of Orthopedic Oncology, Israel

Background

Endoprosthetic replacement of the proximal femur with a bipolar implant is associated with an excessive load on the remaining acetabulum. In order to alleviate the extent of potential future damage to the hip joint as a result of this load, some surgeons routinely place an acetabular cup, an approach that considerably extends the time of surgery.

We evaluated the long-term postoperative radiological changes occurring around the affected hip joint in patients in whom an acetabular cup was not placed.

Methods

Follow-up imaging studies of 26 consecutive patients who underwent proximal femur endoprosthetic replacement without acetabular cup placement and were followed for more than 2 years were retrospectively reviewed. Plain radiographs were evaluated for the extent of acetabular protrusion, degenerative changes, and heterotopic bone formation around the prosthetic hip joint.

Results

Protrusion of the prosthetic head was documented in 6 patients (23%), degenerative acetabular changes in 4 (15.3%), and heterotopic bone formation in 8 (30.7%). However, only 4 patients (15.3%) had symptoms associated with these findings that required surgery.

Conclusions

There is radiological evidence of some protrusion, articular degeneration, and heterotopic bone formation in patients who undergo endoprosthetic replacement of their proximal femur, but the extent of these changes and the lack of clinical symptoms do not justify the routine placement of an acetabular cup.

E-mail (main author): jbickels@012.net.il