



Recreating Bone Stock: A Case of Intrapelvic Broken Cup Dislocation



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Abstract

Total hip arthroplasty (THA) is an increasingly common procedure; more than 1 million hip arthroplasties are implanted worldwide per year [1]. By dedicating this procedure to ever younger patients, revision of hip arthroplasties is to be expected to increase in the future. Periacetabular bone loss remains the greatest challenge in revision hip surgery [2-5]. The general principles in treatment of periacetabular bone loss still include restoration of bony continuity between the ilium and the ischium, and reconstruction of the anatomical hip center [6,7]. Intrapelvic cup protrusion provides many challenges, from implant removal, as nerves and vessels are at risk for injury, to the need to use massive acetabular allografts to reconstruct bone loss [8-10].

Girard et al. [3] have established an effective strategy to reduce complications to a minimum, while performing a revision in presence of a pelvic protrusion. We present the case of an acute intrapelvic migration of a broken acetabular component, and the strategy used to perform a successful revision

Case Report

The patient (female, 77 years at the time of observation) had undergone surgery for total hip arthroplasty in 2002. In 2012 she began complaining about intermittent hip pain, apparently not load-related. The X-rays showed periacetabular radiolucency. She wasn't proposed a revision of the implant (Figure 1). In 2013, she developed a sudden right hip pain, and at this time was brought to our attention for treatment. X rays showed the broken cup (CLS, Zimmer, Warsaw, Indiana) protruding inside the pelvis (Figure

2). CT scans were obtained, to evaluate bone stock loss and the relationship between the protruding cup and the vessels (Figure 3). As they were on proximity, a subperitoneal approach was used to remove the hardware, and the the revision was performed with a posterolateral approach. The Paprosky was graded 2C. The gap was filled with homologous bone chips, augmented with platelet rich plasma (PRP). A Burch-Schneider (Zimmer, Warsaw, Indiana) cage was used to bridge the acetabular floor defect. As the stem was well fixed, it did not require revision (Figure 4).



Figure 1: Radiolucency around the cup.



Figure 2: Protrusion of the broken cup.



Figure 3: CT scans showing relationship between the cup fragments and the blood vessels.



Figure 4: Postoperative x ray.



Figure 5: 4 years follow up, good integration.

Active motion and partial weight bearing were started immediately after surgery. At 2 months, no resorption of the graft was detected, and full weight bearing was allowed. At 4 years the patient is pain free, with a x ray showing satisfying graft integration, and bone stock reconstitution (Figure 5).

Conclusion

Revision of an intrapelvic-dislocated acetabular cup is a complex procedure requiring thorough planning and a surgeon well versed in revision surgery.

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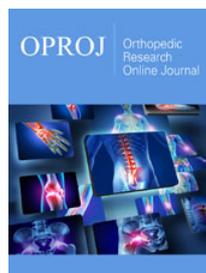
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