

Revision Right Total Hip Arthroplasty (RTHA) with a Next Generation Bone Matrix with Bone Marrow Aspirate

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CASE STUDY

ConCelltrate® 100

Surgical Summary

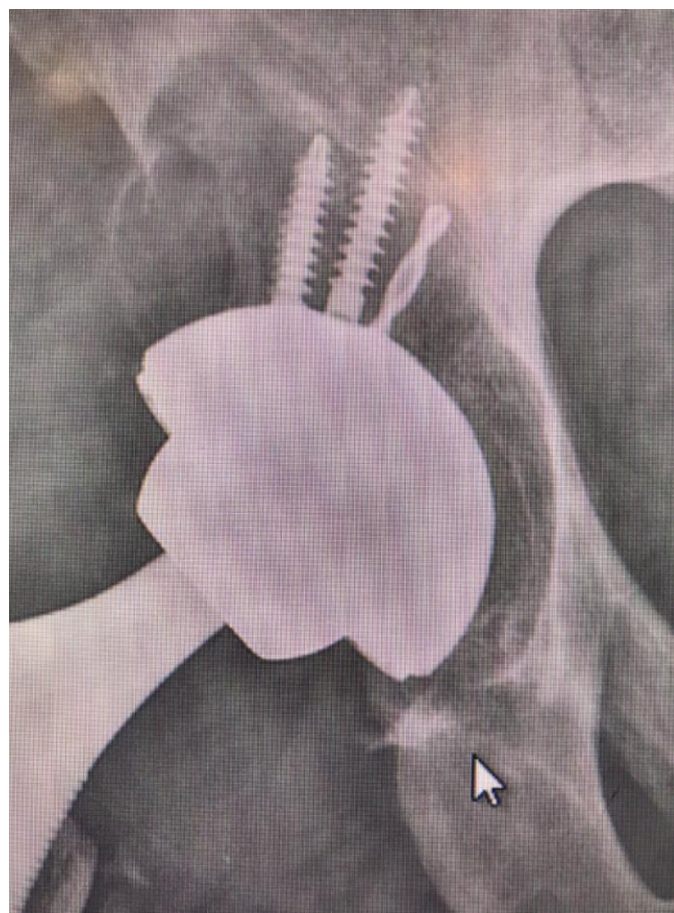
Clinical Presentation:

- 68 year old male with history of two previous RTHAs with the Pinnacle® Shell coupled with a metal liner and metal head used with Summit® Stem.
- The patient presented with complaints of intermittent and aching pain involving his right lateral hip / thigh and groin area, involving radiation down his thigh across to his buttock which began approximately 6 months prior.
- Pain severity 3/10.
- Pain associated with climbing stairs, standing, and squatting.
- Patient's gait noted to be unsteady.
- Standard radiograph findings of particle disease breakdown and severe osteolytic changes of the entirety of the acetabular shell (Figure 1).

Intraoperative Findings:

- Inspection revealed a significantly high volume synovitis and a large volume of inflammatory fluid.
- Osteolytic changes noted along the posterior femoral wall extending into the lesser trochanter with endosteal lysis. Corrosion noted below the metal head on the neck.

Figure 1. Radiograph showing severe osteolytic changes of the entirety of the acetabular shell.



Surgical Procedure:

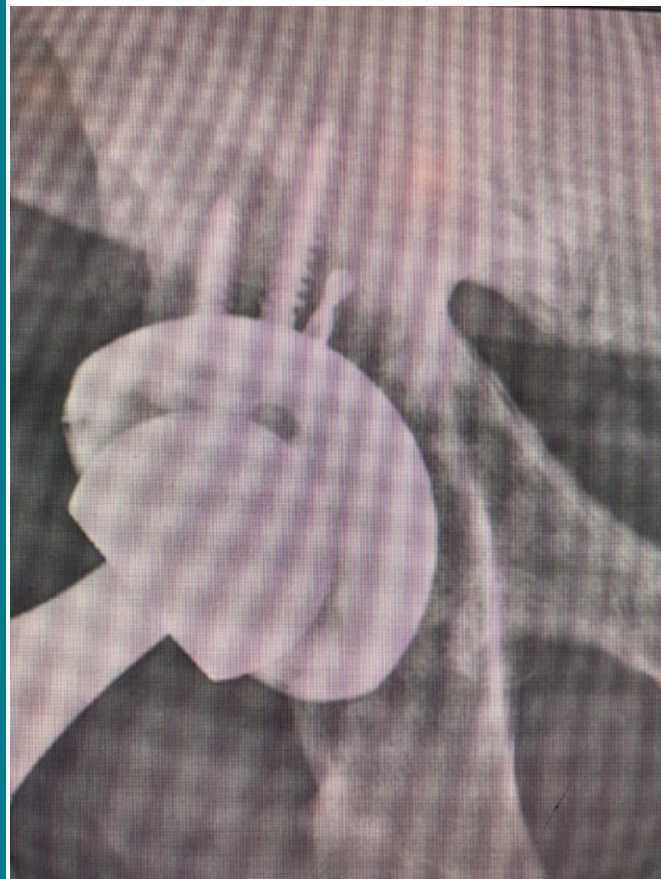
- Anterior capsulectomy was performed with 360 degree synovectomy around the margin of femoral neck and head.
- Hip was dislocated and femoral head removed. Further debridement around the introitus of femoral canal performed.

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- Dissection superior to the acetabular shell revealed significant lytic changes. (A Hohmann retractor was used for full visualization). The area was curetted completely.
- The metal liner was malleted on its edge and Charnley pins assisted in added visualization.
- Trialing was performed with a 36 mm inside diameter, 10 degree lip with + 4 lateralized insert.
- The lip was placed superiorly, and a 36 mm + 5 head was utilized. This was stable through range of motion.
- A permanent liner was impacted into place in the same orientation. Approximately 40 ml of ConCelltrate® 100 bone matrix was packed into the superior acetabular defect. The femoral head was impacted in place.
- Before it was relocated, the posterior femoral sided cortical bone loss area was also packed with approximately 15ml ConCelltrate® 100 bone matrix.
- The hip was relocated and was stable through range of motion.

Figure 2. Radiograph showing complete reversal of former osteolytic changes.



Post-Operative Notes:

Seven-week follow-up:

- At seven weeks post op, the patient completed physical therapy without further hospital admissions or ER visits. The surgical incision noted to be well approximated / healed with no soft tissue mass or localized edema.

One-year follow-up:

- Standard radiographic review at one year revealed complete reversal of former osteolytic changes with advanced incorporation of former compromised bone, most notably on the acetabular side (Figure 2).
- Patient has returned to a high functional level and is pain free in the involved hip.

Surgeon Perspective:

"I found ConCelltrate® 100 to have exceptional handling characteristics and found it to be quite durable as well."