ACETABULAR CAGE AND CEMENT RECONSTRUCTION FOR ACETABULAR METASTATIC DISEASE

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INTRODUCTION

- Destructive bony acetabular metastases cause pain, pathological fractures, and loss of mobility.
- Although multiple fixation options are available, we have favoured a rigid stainless steel partial pelvic cage for acetabular fixation in these patients.
- Little is known about the durability and effectiveness of this approach.

METHODS

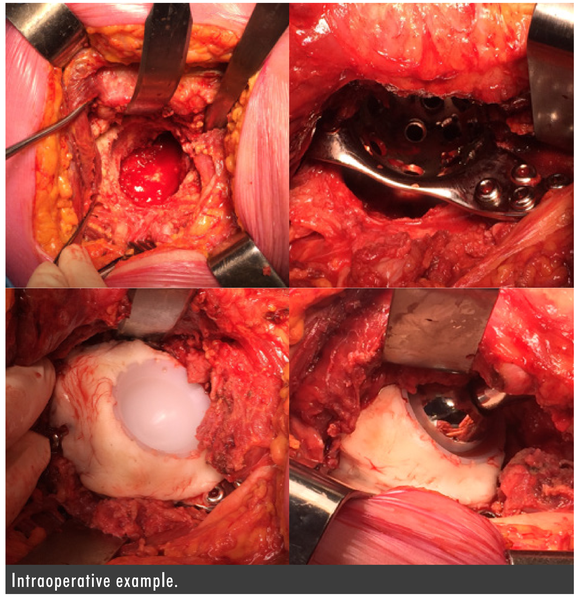
- Retrospective review (2006–2017)
  - 47 cases in 46 patients
  - Consecutive series of a single technique
- Two surgeons (ID and SS)
- Two hospitals
  - One public and one private
  - The Princess Alexandra Hospital and The Wesley Hospital
  - Ethics approval obtained
- Indications for surgery
  - Painful destructive acetabular metastasis (or myeloma deposit)
    - breast 11, myeloma 11, renal 7 (8 hips), thyroid 6, unknown primary 3, prostate 3, melanoma 1, lung 1, urothelial 1, bowel 1, cervix 1
  - Life expectancy estimated at greater than 3 months
  - Unable to weight bear without pain

Reconstruction technique.

Pre-op Post-op

TECHNIQUE

- Posterior approach
- Routine release of gluteus maximus insertion. Extension of hip and flexion of knee whilst exposing ischium
- Thorough curettage and pulsatile lavage of all macroscopic tumour
- Link Partial Pelvis Replacement Cage (LINK, Hamburg, Germany) used with caudal and cephalad screw fixation
- Typically single cementation technique
- Polyethylene cemented cup, metal head
- Cup (and therefore head size) dictated by the inner diameter of the cage
- Usually an Exeter cemented stem (Stryker Corp, Mahwah, NJ, USA) was inserted in the femur



Intraoperative example.

RESULTS

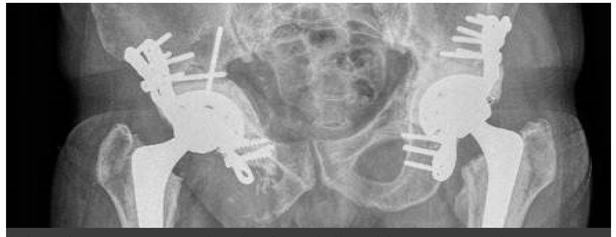
- No revisions for failure of construct
- No sciatic nerve palsies
- 1 intraoperative significant blood loss (renal cancer) despite pre-operative embolisation
- 1 death within 30 days (DOD – poor patient selection)
- 1 infection
- 1 pulmonary embolus
- 4 Dislocations – 8%
  - 1 closed reduction
  - 1 open reduction
  - 2 revised to constrained cup

RESULTS - Post-op Mobility

Weight bearing status	Pre-op mobility (n)	Post-op mobility (n)
Full (no aids)	0	23 (inc. 1 bilateral)
Full (walking stick)	2	10
Partial (4WW or frame)	12	12
Non (crutches)	16 (inc. 1 bilateral)	0
NWB (bed or wheelchair)	16	1 (early death)

RESULTS - Survival

Survival	No. of patients
< 30 days	1
30 days–3 months	2
3–12 months	11
1–5 years	6
> 5 years	1
Alive 6 mths–5 yrs	20 (1 bilateral)
Alive > 5 years	6



Bilateral reconstructions undertaken for pathological fracturing secondary to metastatic renal cancer.

Reconstruction of a large defect due to myeloma.

CONCLUSION

- » *Reliable and reproducible procedure*
- » *Cost effective*
- » *Acceptable complication profile*
- » *The primary goals of analgaesia and improved mobility were achieved*
- » *Increased use of dual mobility or constrained cups may reduce the dislocation rate (currently being investigated)*
- » *Durable reconstruction - no revisions for mechanical failure*

SUBSEQUENT PUBLICATION

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Clinical Research

Is an Acetabular Cage and Cement Fixation Sufficiently Durable for the Treatment of Destructive Acetabular Metastases?

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