BRITISH HIP SOCIETY

BHS SURGICAL STANDARD

Management of Aseptic Loosening of Total Hip Arthroplasty

Background

Aseptic loosening remains the leading cause of revision total hip arthroplasty in the UK with 42.9% of revisions being performed for this indication[1]. Failure rates of revision surgery are at least triple that of primary THA and as such great focus should be placed on the careful management of these patients in order to optimise their outcome from surgery.

Inclusion

This guidance applies to all patients with a hip arthroplasty (hemi, resurfacing, total or revision) with aseptic loosening undergoing revision.

Diagnosis & Planning

1. All patients with suspected failure of hip arthroplasty should be initially investigated by an orthopaedic consultant with a special interest in hip arthroplasty.
2. All planned revision procedures should be discussed in an MDT setting. Any complex procedures or re-revision cases should be discussed at a regional MDT.
3. Imaging should include AP pelvis and true lateral of the hip. Comparison should be made to previous imaging to observe progression.
4. Progression of radiolucent lines, significant subsidence of a femoral stem or movement of acetabular component should warrant close follow up and where accompanied by symptoms should merit full work up towards revision procedure.
5. Radio nucleotide bone scanning has poor specificity and sensitivity. It should be reserved for equivocal cases. Results should be interpreted in conjunction with other tests. Whilst a positive scan can be confirmatory of loosening, a negative scan does not exclude a failing implant.
6. Significant pelvic osteolysis or suspicion of discontinuity should be investigated by CT scanning.
7. In the presence of a metal-on-metal joint replacement Cobalt and Chromium ions should be measured and a MARS-MRI scan obtained as per MHRA guidance (MDA/2012/036 and MDA/2017/018).
8. Infection should be considered and excluded in all cases of implant loosening, first line tests would include inflammatory markers (CRP and ESR/PV). Joint aspiration should be performed where abnormal blood markers are seen.
9. Joint aspiration can be performed in either a radiological procedure room or in theatre.
10. When planning revision surgery, all operation notes and implant details from previous procedures should be available if possible.
11. Preoperative planning should be undertaken and recorded. Templating software should be available for use in revision planning.
12. Dual consultant operating should be facilitated when required.

Treatment Options

13. Use the most appropriate approach minimising soft tissue damage/bone loss. Extended trochanteric osteotomy may be used when appropriate.
14. Where possible attempt to restore joint biomechanics and avoid a high hip centre.
15. Removal of existing implants should be undertaken with tools to minimise further bone loss and damage.
16. Restoration of bone stock using bone graft should be undertaken when appropriate.
17. Implants should be available at the time of surgery to enable reconstruction if greater than anticipated bone loss is encountered.
18. An escalating algorithmic approach to reconstruction is preferred, tailoring implants to patients' bone loss and activity level. More complex acetabular implants and longer femoral implants should only be used when necessary.
19. Proximal femoral–replacing prostheses and massive allograft constructs should generally be used only in low demand patients with significant bone loss where other reconstruction techniques are not appropriate.
20. Cement in cement revision technique should be considered where a well-fixed cement mantle is present.
21. Level of bearing constraint should be matched to dislocation risk (see BHSSS on managing instability).
22. Use non-MoM bearings in revision of MoM for ARMD, such as ceramic on ceramic or ceramic on polyethylene.
23. Where major skin or muscle loss is present, reconstruction options should be considered, in conjunction with a plastic surgeon if necessary.
24. Reconstruction should allow early mobilisation.
25. Explanted devices should be sent to a recognised retrieval centre for analysis when there is concern regarding implant performance or if the implant is a new design (for example a Beyond Compliance registered implant).

Post-operative care & Follow-up

26. Patients undergoing revision THR for aseptic loosening should be followed up in line with BHS document on Hip Arthroplasty Follow up.
27. Virtual or face to face consultations or a combination of both are appropriate.
28. Review of the patient at or close to 6 weeks is recommended.
29. Depending on complexity of revision, further clinical and radiological review may be required at 3 and 6 months.
30. A combination of clinical, radiographic and outcome scores should form part of the review.
31. Follow up beyond 1 year should be tailored to the patient and implant utilised.
32. Complications requiring further surgery should be discussed in an MDT setting.
33. Outcomes and complications should be recorded and subject to audit and feedback to the MDT.

[1] National Joint Registry 17th Annual Report, 2020