

Silver coated endoprosthesis:

Short to medium term follow-up at the Royal Orthopaedic Hospital

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Introduction: Silver treated prostheses have shown promising results in reducing the burden of infection in massive endoprosthetic replacements as well as increasing the chances of infection control with simple procedures (without requiring implant revision). In our institution, silver treated prostheses are used in patients with a perceived high risk of infection (pelvis, proximal tibia, radiotherapy, extra-articular resection) and in treating infected cases. We present the short to medium term follow-up of all silver coated prosthesis implanted.

Methods: Retrospective review of silver coated Stanmore endoprostheses implanted from January 2006 to December 2012 to allow 24 month follow-up for those still alive. Infection after surgery was the primary endpoint investigated. Secondary endpoints included amputation rate and other modes of failure.

Results: 162 patients with a median follow-up of 62 months (IQR 24 – 51) were included in the study. Indications for implantation include aseptic loosening 21, fracture/non-union 9, bone tumour 71, implant failure 4, infection 42, and soft tissue failure 15. Overall infection rate was 18.5% at time of latest follow (n=30/162) with a 1-year infection rate of 12%. 57% of recurrent infections were successfully treated with implant retention whilst 17% required a repeat 2-stage revision. Eventually, over 70% of infections were controlled but 26% of patients required an amputation.

Conclusions: In this high risk group of patients undergoing endoprosthetic replacement, the medium term results suggest that the overall risks of infection are similar to those which

might be expected in this high risk group. Silver does however seem to confer an advantage in treating infection in that (relatively) simple measures with implant retention are successful in more than half the cases. The true benefit of silver remains unclear and a randomized controlled trial is advised.