

Abstract

Title: Intra-articular antibiotics: a direct approach to treatment of infected cementless total hip arthroplasty.

Background: Intra-articular antibiotics can achieve a biofilm-eradication-concentration. This may mitigate the need for removal of infected but well-ingrown cementless components of a total hip arthroplasty (THA). However, percutaneous catheters might lead to multi-resistance or multi-organism prosthetic joint infections (PJI). We report the results of our series in which intra-articular antibiotic infusion was added to a single-stage revision for PJI in cementless THA.

Methods: Eighteen single-stage THA revision procedures were performed for acute (N=9) or chronic (N=9) PJI following a primary (N=12) or revision (N=6) cementless THA. After an extensive debridement, modular and loosened components were replaced, but all well-ingrown components were retained. Two Hickmann catheters were placed in the joint space to inject intra-articular antibiotics for two weeks, along with intravenous antibiotics. After two weeks, oral antibiotics were continued until 3 months after surgery.

Results: At a mean follow-up of 3.5 years [range 1.5-6.0] all patients had normal erythrocyte sedimentation rate and white blood cell count. In four patients, CRP level remained slightly elevated although they were pain-free and showed no signs of infection. None of the patients developed post-operatively an antibiotic related renal or systemic dysfunction.

Conclusion: For treatment of PJI in cementless THA, retention of well-ingrown components seems feasible with addition of intra-articular antibiotics to a standard single stage regime. This series had no case of residual implant infection or catheter induced drug resistance.

Keywords: Total hip arthroplasty, revision surgery, Periprosthetic Joint Infection, Intra-articular antibiotics

Level of evidence: Level 4 (Case series)