

Abstract

There is dilemma as to whether patients infected with the Human Immunodeficiency Virus (HIV) requiring implant orthopaedic surgery are at an increased risk for post-operative surgical site infection (SSI). We conducted a systematic review to determine the effect of HIV on the risk of post-operative SSI and sought to determine if this risk is altered by antibiotic use beyond 24 hours. We searched electronic databases, manually searched citations from relevant articles, and reviewed conference proceedings. The risk of postoperative SSI was pooled using Mantel-Haenszel method. We identified 18 cohort studies with 16 mainly small studies, addressing the subject. The pooled risk ratio of infection in the HIV patients when compared to non-HIV patients was 1.8 (95% Confidence Interval [CI] 1.3–2.4), in studies in Africa this was 2.3 (95% CI 1.5–3.5). In a sensitivity analysis the risk ratio was reduced to 1.4 (95% CI 0.5–3.8). The risk ratio of infection in patients receiving prolonged antibiotics compared to patients receiving antibiotics for up to 24 hours was 0.7 (95% CI 0.1–4.2). The results may indicate an increased risk in HIV infected patients but these results are not robust and inconclusive after conducting the sensitivity analysis removing poor quality studies. There is need for larger good quality studies to provide conclusive evidence. To better develop surgical protocols, further studies should determine the effect of reduced CD4 counts, viral load suppression and prolonged antibiotics on the risk for infection.