

International Conference on

ORTHOPEDICS & ADVANCED CARE

September 24-25, 2018 | Dubai, UAE

Peri-operative antibiotic prophylaxis in total joint arthroplasty: A systematic review & meta-analysis

Ahmed Siddiqi¹, Salvador Forte¹, John J McPhilemy¹, Antonia F Chen² and Neil P Sheth³¹Philadelphia College of Osteopathic Medicine, USA²Brigham & Women's Hospital, USA³University of Pennsylvania, USA

The 2017 CDC guidelines for prevention of surgical site infection (SSI) recommended against continuation of postoperative antibiotics after total joint arthroplasty (TJA), which are disconcerting since the revised guidelines are only based on 6 orthopedic studies, of which 83% (5/6 studies) were published from 1987-1991. The purpose of this study was to conduct a systematic review of the literature regarding the efficacy and duration of peri-operative antibiotic prophylaxis (PAP) in TJA. PubMed, EMBASE, and Ovid MEDLINE were screened for "surgical antimicrobial prophylaxis orthopedics" in accordance to PRISMA guidelines from 1945-2018. 695-studies were screened, and 40-studies were evaluated. Studies examining perioperative antibiotics with subsequent SSI/PJI rates in TJA were included. 29-randomized controlled trials, 3-prospective cohort and 8-retrospective cohort studies with 55,828 TJA patients were included in this review. The studies that included 24-hour PAP (n=22) had

SSI rates of 0.3-7.2%, and 3-reported no infections. Studies with PAP>24-hours (n=14) had SSI rates of 0.6-3.3%. Studies with a single pre-operative dose of PAP (n=12) had SSI rates of 0.8-5.6%, and 6-reported no infections. Only six-studies compared a single pre-operative dose to 24-hour PAP, 3 of which compared different antibiotics. 68% of studies (27/40) were before the year 2000. All included studies were underpowered and heterogenous regarding type of antibiotic used and duration. The literature relative to PAP in TJA is conflicting, scarce, of debatable strength, and based on patient populations with higher than contemporary SSI rates. Every study had different definition criteria of SSI/PJI. The findings of this study demonstrate the need for level-1 studies with adequate power to evaluate the safety of shortened PAP duration after TJA and its effect on SSI/PJI prior to widespread implementation.

asiddiqi89@gmail.com