

### Free Papers F

#### [O93] CAN SONICATION CHALLENGE ASEPTIC VS PJI BARRIER

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**Aim:** Clear differentiation between aseptic failure and prosthetic joint infection remains one of the goals of modern orthopaedic surgery. New diagnostic methods can provide more precise evaluation of the etiology of prosthetic joint failure. With the introduction of sonication an increasing number of culture-negative prosthetic joint infection were detected. The aim of our study was to evaluate culture-negative prosthetic joint infections in patients who were preoperatively evaluated as aseptic failure.

**Method:** For the purpose of the study we included patients planned for revision surgery for presumed aseptic failure. Intraoperatively acquired samples of periprosthetic tissue and explanted prosthesis were microbiologically evaluated using standard microbiologic methods and sonication. If prosthetic joint infection was discovered, additional therapy was introduced.

**Results:** Between October 2010 and till the end of 2014 151 cases were operated (38 revision knee arthroplasty, 113 revision hip arthroplasty). 40 (26,5%) cases had positive sonication and negative periprosthetic tissue samples (knee 7 cases, hips 33 cases), 13 (8,6%) cases had positive tissue samples but negative sonication (knee 7 cases, hips 6 cases), in 13 (8,6%) cases both tests were positive (knee none, hips 13 cases) and in 85 (56,3%) cases all microbiologic tests were negative (knee 24 cases, hips 61 cases). In both groups cases coagulase-negative staphylococci and *P.acnes* were most common, followed by mixed flora.

**Conclusions:** With the increasing number of patients requiring revision arthroplasty, a clear differentiation between aseptic failure and prosthetic joint infection is crucial for the optimal treatment. Sonication of explanted material is more successful in the isolation of pathogens compared to periprosthetic tissue cultures. Sonication of explanted prosthetic material is helpful in the detection of culture-negative prosthetic joint infections.