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Abstract (poster session)

**Characterisation of coagulase-negative staphylococci (CNS) isolated from sonication of prostheses in patients with aseptic loosening of arthroplasty**

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**Objectives:** The presence of microorganisms (mainly CNS) in cultures from aseptic prosthetic joint loosening (APJL) has been noticed but its role is not well known. We aimed to identify and characterize the CNS recovered from sonication of prosthesis in patients with APJL and to compare with CNS involved in late-chronic prosthetic joint infections (LCPIs). **Methods:** Microbiological cultures of tissue samples and fluid of sonicated prostheses obtained from patients with clinical and radiological diagnosis of APJL were routinely performed (January 2011-November 2012). Cases with CNS isolates in the sonicated fluid of prostheses were studied and compared to CNS recovered from tissue samples of patients with LCPIs (4 cases). CNS were selected representing all the morphotypes presented in each isolation, then they were isolated in order to identify at the species level (with MALDI TOF), and to characterize by pulsed field gel electrophoresis (PFGE) and by antimicrobial susceptibility. All CNS isolates were also screened for their ability to form biofilm by the microplate method. **Results:** Among 21 patients with APJL, 7 cases had CNS isolates in sonicated fluid (with negative cultures from tissue samples). In 6 out of these 7 patients only one type of microorganism were recovered (2 *S. hominis*, 2 *S. haemolyticus*, 1 *S. epidermidis*, 1 *S. warneri*, and 1 *S. pasteurii*) and 1 patient presented a polymicrobial and polyclonal isolation (3 *S. epidermidis* plus 1 *S. warneri*). CNS isolates from patients with LCPIs were all *S. epidermidis*; we observed a polyclonal infection due to *S. epidermidis* in 3 out of 4 cases, and 1 case with a polymicrobial infection due *S. epidermidis* and *S. hominis*. No differences in the capability to produce biofilm were observed among CNS from APJL or LCPI. **Conclusion:** While CNS strains isolated from patients with APJL were different to *S. epidermidis* in high frequency and widely variable, *S. epidermidis* was always involved in cases with LCPI. Polyclonal CNS isolation was very uncommon in APJL. Further studies should evaluate whether these and other differences help to define the role of CNS presented in APJL.