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Abstract (poster session)

**Chlorhexidine-resistance in clinical isolates of coagulase-negative staphylococci, a descriptive study**

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Objectives: Coagulase-negative staphylococci (CoNS) comprise the major part of the normal flora of the human skin. Despite regarded as commensals, CoNS have more and more been recognized as nosocomial pathogens, especially in infections associated with implanted foreign body materials. Pre-operative antiseptic preparation is an important strategy for reducing the risk of complications such as surgical site infection (SSI). The most widely used compounds today are alcohols and quaternary ammonium compounds (QACs), predominantly chlorhexidine. The aim was to investigate, by using both phenotypic and genotypic methods, if decreased susceptibility to chlorhexidine among CoNS isolates was present in our setting. Methods: Coagulase-negative staphylococci (n=150) obtained from four different studies were investigated; *S. epidermidis* isolates (n=61) obtained from prosthetic joint infections (PJI), commensal *S. epidermidis* (n=24), *S. epidermidis* from two trials investigating post-operative infections after cardiothoracic surgery (n=31), and finally CoNS isolated from the skin of the thorax after routine disinfection prior cardiothoracic surgery (n=34). Determination of MIC against chlorhexidine was performed on Mueller Hinton agar plates supplemented with serial dilutions of chlorhexidine. PCR was used for the detection of five different QAC resistance genes, *qacA/B*, *SMR*, *qacH*, *qacJ*, and *qacG*. Results: Decreased susceptibility to chlorhexidine was found among 54% of the PJI isolates, 64% of the cardiothoracic isolates, in 17% of the commensals, and 12% of the isolates obtained from the skin of cardiothoracic patients, respectively. The *qacA/B* gene was present in 64 of 150 isolates (43%), *SMR* in 8/150 (5 %) and *qacH* was found in one isolate (0.7%). The *qacA/B* gene was found among 52% of the PJI isolates, 61% of the cardiothoracic isolates, in 25% of the commensals, and 21% of the isolates obtained from the skin of cardiothoracic patients, respectively. Conclusion: Decreased susceptibility to chlorhexidine as well as QAC resistance genes is present among *S. epidermidis* causing deep SSIs.