

TITLE: PRESENCE OF *mecA* GENE IN *Staphylococcus* spp. FROM HOSPITAL INSTRUMENTS

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ABSTRACT:

The *Staphylococcus* spp. can acquire resistance to β -lactams, carbapenems and quinolones originating the methicillin resistance *Staphylococcus* spp. (MRS) which have posed a considerable threat to health for decades. This resistance is connected to the *mecA* gene, and is involved in hospital infection with high mortality and high health expenditures, which requires greater rigor in relation to the hygiene of the instruments that are in contact with the team and patients, especially those that are vulnerable to infections. Thus, the objective of this work was to characterize the antimicrobial resistance of bacteria coming from instruments used in the course of clinical care in a hospital in Paraná. The swabs were collected from instruments share by nursing staff such as stethoscopes, the sphygmomanometer cuff and thermometers for isolation of *Staphylococcus* spp., and test its susceptibility against antimicrobials. The samples that presented resistance against oxacilin (1 μ g) were considered methicillin resistant and the DNA was extracted to verify the presence of *mecA* gene using the polymerase chain reaction (PCR), this reaction was performed using primer *mecA1* (AAAATCGATGGTAAAGGTTGG) and *mecA2* (AGTTCTGCAGTACCGGATTTG) at 5 μ M. For the amplifications was used parameters previously described on literature. The products were detected as a single band of 533 bp. From the 72 collected samples, 46 negative coagulase *Staphylococcus* spp. were isolated, and 19 of them were oxacillin resistant, with 73,68% positive to *mecA* gene presence, showing different results from the literature, that presents the methicillin resistant *Staphylococcus aureus* as the bigger problem of hospital environment. One of the justifications for these results is the incorrect hygiene of these instruments that, besides being shared by the nurses and the medical team, are shared between sectors, including intensive care unit. These bacteria were isolated from instruments highly manipulated by the nursing staff, increasing concern about the severity of these findings in relation to the risks of dissemination of these bacteria. Therefore, one should think about actions related to the correct hospital cleaning, in addition to basic preventive measures of microbial monitoring.

Keywords: disinfection, nursing staff, resistance gene, share mobile devices.

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