

Title: GENOTYPIC CHARACTERIZATION OF *STAPHYLOCOCCUS AUREUS* OBTAINED FROM HEALTH PROFESSIONALS OF THE GENERAL HOSPITAL IN VITÓRIA DA CONQUISTA-BAHIA.

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Abstract:

Staphylococcus aureus is a bacteria gram positive, catalase and coagulase positive. It is associated with a number of infections, both in hospitals and in the community. A major public health problem is the presence of methicillin-resistance *Staphylococcus aureus* (MRSA) strains. Thus, it is necessary to characterize the genotypic profile of these strains for the presence of resistance genes and virulence factors genes. The presence of *mecA* gene, *spa* and *pvl* demonstrate the pattern of resistance and pathogenicity of the organism. MRSA strains are characterized by the presence of the *mecA* gene. However, It is worth mentioning the emergence of a homologous gene to *mecA*, known as *mecC*, which has 63% similarity with the PBP2a encoded by *mecA* gene. Therefore, the objective of this work was the genotypic characterization of *Staphylococcus aureus* using a multiplex reaction to identify the *mecA*, *mecC*, *spa* and *pvl* genes. In this study, lab coat, hands and nasal samples of health workers from a public hospital were obtained. The reaction was prepared to a final volume of 25µL comprising: 10x PCR buffer (10 mM Tris-HCl, pH 9.0; 50 mM KCl), 1.5 mM MgCl₂; 200 uM dNTPs, 40pmol of each primer, 2 uL of genomic DNA and 1.5 U Taq DNA polymerase (Invitrogen, Brazil). The samples were amplified with an initial denaturation at 94 ° C for 15 minutes, followed by 30 thermal cycles each for 30 seconds at 94 ° C, 1 minute at 59 ° C and 1 minute at 72 ° C, ending with a final extension at 72 ° C for 10 minutes. The products of the amplifications were analyzed by electrophoresis in 2% agarose gel, stained with 2.5 µL of ethidium bromide (10mg / ml). The genes were determined based on the pattern of bands obtained. Among a total of 33 strains analyzed, 57.57% showed *mecA*, 6.06% of the samples showed *mecC* gene and 36.36% were negative for both genes. *Pvl* gene were present in 78.78% strains and 27.27% strains were positive for the presence of *spa* gene.

Key-words: *Staphylococcus aureus*, *mecC*, resistance.

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