

Title: Clonal spread of linezolid-resistant *Staphylococcus hominis* sup. *hominis* with rRNA gene C2190T and G2603T double mutations at hospitals in Brazilian northeast

Authors: Cidral, T. A¹; Carvalho, M.C.; Figueiredo, A.M.S.; Melo, M. C. N¹.

Institutions: ¹ - Universidade Federal do Rio Grande do Norte – Centro de Biociências – Departamento de Microbiologia e Parasitologia – Laboratório de Bacteriologia Médica. - Caixa Postal 1524 - Campus Universitário Lagoa Nova, CEP 59078-970 - Natal/RN – Brazil. - ²Instituto de Microbiologia Professor Paulo de Góes – Universidade Federal do Rio de Janeiro - Centro de Ciências da Saúde - Bloco I Cidade Universitária - Ilha do Fundão. Rio de Janeiro/RJ – Brasil

The first report of resistance to linezolid was for one MRSA isolate with a G2576T mutation in the V region of the 23S rRNA gene. The aim of this study were to determinate the mechanism of linezolid resistance in three *Staphylococcus hominis* subspecies *hominis* isolated from different patients from three public hospitals in the city of Natal-RN. The strains were identified using VITEK® 2 and MALDI-TOF. Susceptibility of the isolates to antibiotics was measured by disc diffusion method and Etest®. Extraction of whole genome DNA was performed and all strains were screened by Polymerase Chain Reaction (PCR) for the presence of *mecA* and *cfrr* genes. The domain V region of 23S rRNA gene was sequenced and then aligned with the sequences from a linezolid-susceptible *S. aureus* reference strain. Pulsed-field gel electrophoresis (PFGE) analysis was performed with *XhoI*. The three strains were recovered from blood culture exhibited high levels of resistance to linezolid (MICs from 24 to 64 µg/mL) but a low MIC value for vancomycin (from 0.75 µg/mL to 1.5 µg/mL). In addition to methicillin resistance, presented a multidrug resistance phenotype involving different classes of antibiotic. Sequencing of the V region of 23S rRNA gene revealed the presence of C2190T and G2603T mutations in all strains. The *cfrr* gene was not identified in any isolate. PFGE with *XhoI* for three *Staphylococcus hominis* sup. *hominis* isolates revealed the presence of a single pulsotype, suggesting an interhospital clonal spread. However, further studies are necessary to clarify this interhospital spread.

Key Words: Coagulase Negative staphylococci, Linezolid Resistance, C2190T and G2603T mutations, *Staphylococcus hominis*.

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