Title: IDENTIFICATION OF METHICILLIN-RESISTANT Staphylococcus aureus AND ANTIMICROBIAL PROFILE IN ISOLATED COLONIZATION OF HIV-POSITIVE OUTPATIENTS OF PERNAMBUCO

Authors: Soares C. R. P.[1], Lira, C. R.[1], Araújo, P. S. R.[2], Silva, S. T. [1], Maciel, M. A. V[1].

Institution: [1]UFPE - Universidade Federal de Pernambuco (Av. Professor Morais Rego, 1235 - Cidade Universitária, 50.670-901 - Recife - PE), [2] Centro de Pesquisa Aggeu Magalhães-Fiocruz, (Av. Professor Morais Rego, 1235 - Cidade Universitária, 50.670-901 - Recife - PE).

Infections caused by *Staphylococcus aureus* for long time been controlled with the advent of antibiotics, but the adaptability and the resistance mechanism is of great concern for causes related infections resistant to methicillin healthcare-associated (HA-MRSA) and in the community (CA-MRSA). MRSA epidemiology is constantly change, the antibiotic resistance profiles varies depending on the region. Individuals living with the human immunodeficiency virus (HIV/AIDS) are more likely to be colonized by MRSA. However, it is worth mentioning the importance of identifying cases of colonization and/or infection of MRSA and antimicrobial resistance profile to initiate appropriate treatment so reducing the morbidity and mortality risks. Thus, it is proposed to analyze the antimicrobial profile of *S. aureus* front of the some antibiotics and detect the *mecA* gene in nasal colonization samples of outpatients with HIV. All *S. aureus* isolates were submitted to presumptive detection of MRSA and analysis of antimicrobial susceptibility profile by technique disk diffusion using: penicillin, gentamicin, clindamycin, trimethoprim-sulfamethoxazole (TMP/SMX), ciprofloxacin, chloramphenicol, cefoxitin, teicoplanin, erythromycin e linezolid. A PCR was performed to detect the *mecA* gene. *S. aureus* was isolated in 80 of 266 samples (30%). Of the total of 80 samples of *S. aureus*, 7 were MRSA and the *mecA* gene was found in all the samples phenotypically resistant. The antimicrobial susceptibility profiles were performed with only 64/80 samples of *S. aureus* and showed resistance to penicillin (95.3%), erythromycin (62.5%), clindamycin (44%), trimethoprim-sulfamethoxazole (37.5%), cefoxitin (19%) and gentamicin (17%). Only 1/64 isolate showed resistance to linezolid and 20/64 (31.3%) had intermediate resistance to ciprofloxacin. All isolates were susceptible to vancomycin. The profile antimicrobial shows a high resistance to penicillin, erythromycin, clindamycin, and trimethoprim-sulfamethoxazole. According to guide therapeutic antimicrobial and the CDC, the choice prophylactic option in patients without infection is the TMP/SMX, and the most common treatment options for MRSA infections are clindamycin and tetracycline. However, previous use of TMP/SMX can is related to this resistance, given that most patients in this study does prophylactic use of TMP/SMX when they have CD4 <200 cells/mm^3. Consequently, new therapeutic options should be discussed in order to minimize the risk of MRSA.

Keywords: antimicrobial susceptibility profile, HIV, MRSA

Development agency: CAPES