

Title: BLOODSTREAM INFECTIONS: VANCOMYCIN RESISTANT *Enterococcus* STILL A PROBLEM?

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Enterococcus is considered one of the most important microorganisms related to healthcare associated infections (HAI) in Brazil and the presence of glycopeptide resistance genes, such as vancomycin, and the detection of these vancomycin-resistant *Enterococcus* (VRE) in the hospital environment continues to be a challenge. The fast progressing bacteremia caused by VRE is associated with an increased mortality when compared to those caused by vancomycin-sensitive *Enterococcus*. In the present study, isolates of *E. faecium* and *E. faecalis*, recovered from blood cultures (first and second blood samples and blood of catheter, associated to bloodstream infections (BSI) among hospitalized patients that attended to Hospital Universitário Antônio Pedro (HUAP) from June to December 2018 have been analyzed. The identification and antimicrobial susceptibility profile of *Enterococcus* isolates were made by automated method (Phoenix BD™). A total of 19 *Enterococcus* isolates have been selected, subsequently identified by MALDI-TOF MS (Bruker) and held the antimicrobial susceptible test (AST) to 14 antimicrobial agents. According to Phoenix BD™ identification, 89.5% (17/19) of isolates belongs to species *E. faecalis* and 10.5% (2/19) to *E. faecium*, identification confirmed by MALDI-TOF. Among *E. faecalis* isolates, 70.6% (12/17) have been found as resistant to vancomycin by Phoenix and it has been also confirmed by AST. All isolates showed resistance to teicoplanin, featuring the Van A phenotype, indicative of the presence of the *vanA* resistance gene. For *E. faecium*, only one isolate showed resistance to vancomycin, as well as to teicoplanin. In relation to high levels of gentamicin, 63% (12/19) of isolates were resistant, in the two methodologies evaluated. All isolates were sensitive to fosfomycin, linezolid and daptomycin. Our results confirm the presence of these microorganisms circulating in the hospital environment and the difficulty in treating these infections. Understanding the pattern of these microorganisms as well as the mechanisms involved in these resistances is crucial to help professionals finding out the best therapies for infected patients.

Keywords: Vancomycin resistant *Enterococcus*; Bloodstream Infection; resistance profile