

TITLE: Antibacterial resistance profiles of *Enterococcus faecalis* from blood cultures

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ABSTRACT:

Enterococci are bacteria that cause serious nosocomial infections, especially in intensive care units. These microorganisms are part of the intestinal microbiota of humans and animals. The most frequently isolated species, *Enterococcus faecalis*, is etiological agent of infections and is responsible for urinary tract infections, endocarditis, meningitis, bacteremia and septicemia. This microorganism is characterized by intrinsic or acquired resistance to several antimicrobial agents such as β -lactams, aminoglycosides and glycopeptides. The aim of this study was to evaluate the susceptibility of ten strains of *E. faecalis* isolated from blood cultures to 11 antimicrobials. *E. faecalis* ATCC 29212 and ATCC 51299 were included in this study as controls. The susceptibility profile was evaluated by agar diffusion method. On a second step, the Minimal Inhibitory Concentration (MIC) was determined for vancomycin, ampicillin, gentamicin, ciprofloxacin and linezolid by microdilution method. MICs and inhibition zone diameters were interpreted in accordance with Clinical and Laboratory Standards Institute (CLSI 2016). All *Enterococcus faecalis* strains were resistant to vancomycin, penicillin, ampicillin, gentamicin, imipenem, meropenem, ertapenem, ciprofloxacin and linezolid. Tigecline and carbenicillin were active in most strains. *E. faecalis* strains showed resistance to all antimicrobials, whose MICs varied 1024-16 $\mu\text{g/ml}$. The high resistance profile of these strains increases the morbidity / mortality ratio of patients in intensive care units, and research is necessary for new anti-enterococcal therapies.

Keywords: Multidrug resistant; glycopeptides, aminoglycosides, enterococcal infections.

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