HIGH LEVELS OF RESISTANCE TO AMINOGLYCOSIDES IN ENTEROCOCCUS VANCOMYCIN RESISTANT

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Background: Enterococci vancomycin resistant (VRE) is one of the main pathogens causing hospital infections, and currently,
its presence is remarkable in urinary infections, surgical site infections and bacteremias¹.²

Objective: Assess the presence of high level resistance (HLR) to aminoglycosides in enterococci resistant to vancomycin.

Methods: Twenty clinical samples of Enterococcus vancomycin resistant of patients hospitalized in the city of Recife (Brazil)
between 2007 and 2008, were analyzed. Conventional and automated methodologies were used for identification of the
samples. Sensitivity to antimicrobial agents was performed by micro dilution in broth, disk diffusion, and E. test, in accordance
with the methodology by CLSI. Vancomycin and teicoplamin were used as markers for resistance to glycopeptides, while
gentamicin and streptomycin were used for resistance to aminoglycosides.

Results: All the studied samples were identified as Enterococcus faecium. Their profile of sensitivity presented resistance to
vancomycin, with MIC equal to or exceeding 64 mcg/ml. They also presented resistance to teicoplamin, with MIC equal to or
higher than 32 mcg/ml, characterizing the resistance to all glycopeptides tested, in 100% of the assessed samples. In relation
to aminoglycosides, it was detected high levels of resistance to gentamicin and streptomycin in 100% of the analyzed samples.

Conclusion: The analyzed samples belong to the phenotype VanA, the most frequent type in Enterococcus faecium, with a
high level of resistance to vancomycin and teicoplamin, whose expression is mediated by VanA gene, being detected HLR to
all aminoglycosides in the studied samples.

References:

1. Gold HS. Vancomycin-resistant enterococci: mechanisms and clinical observations. Clinical Infectious Diseases (2001), 33,
   210-219.