

- Document Type** : Thesis
- Document Title** : EPIDEMIOLOGY AND ANTIBIOTIC SENSITIVITY OF VANCOMYCIN-RESISTANT AND SENSITIVE *Enterococcus* spp. ISOLATED FROM TWO HOSPITALS IN JEDDAH  
وبائية بكتيريا المكورات المعوية المقاومة والحساسية للفانكوميسين والمعزولة من مستشفياتين بمحافظة جدة وحساسيتها للمضادات الحيوية
- Document Language** : Arabic
- Abstract** : In this study, the epidemiology and sensitivity of vancomycin-resistant enterococci (VRE) and vancomycin-intermediate enterococci (VIE) strains to different antimicrobials has been studied in two hospitals in Jeddah; King Abdulaziz University Hospital (KAUH) and King Fahad Hospital (KFH) during the period from 1 July 2005 G to 1 December 2005 G. In KAUH the resistance percentage for high-and low-concentrations of vancomycin were 2.7% and 27.3% respectively during the study period. All VRE strains were isolated from the Intensive Care Unit (ICU). Regarding the VIE strains, 24.5% of the strains were isolated from ICU and 2.7% were isolated from Renal Dialysis Unit (RDU). The isolates were identified by Vitek 2 system and found to consist of *E. faecalis* (40.54%), *E. faecium* (12.6%), *E. gallinarum* (27.9%), *E. casseliflavus* (10.8%), *E. durans* (3.6%), *E. hirae* (2.7%) and *E. avium* (1.8%). In KFH the resistance percentage for high-and low-concentrations of vancomycin were 1.7% and 32.2% respectively during the study period. All VRE strains were isolated from ICU. Regarding the VIE strains, 30.5% of the strains were isolated from ICU and 1.7% were isolated from RDU. The isolates were identified by Vitek 2 system and found to consist of *E. faecalis* (38.98%), *E. faecium* (13.56%), *E. gallinarum* (40.7%), *E. casseliflavus* (5.1%) and *E. durans* (1.7%). The sensitivity of all strains isolated from the two hospitals has been tested against different antimicrobials by using the disc diffusion and agar dilution methods. The results of disc diffusion method showed that there were ten effective antimicrobials; linezolid, ampicillin, vancomycin, teicoplanin, gentamicin (high-level), chloramphenicol, meropenem, piperacillin, piperacillin+tazobactam and ciprofloxacin. All of the strains were susceptible to linezolid during study period. The minimum inhibitory concentration (MIC) of different antimicrobials against *Enterococcus* spp. strains has been estimated. Linezolid was the most effective antimicrobials against VRE and VIE strains isolated from the two hospitals. Linezolid, vancomycin, teicoplanin and ampicillin were the most effective antimicrobials against *Enterococcus* spp. isolated from KAUH and the MIC<sub>90</sub> for them were 2, 8, 2, 8 µg/ml respectively. Linezolid, vancomycin, teicoplanin, ampicillin and chloramphenicol were the most effective antimicrobials against *Enterococcus* spp. isolated from KFH and the MIC<sub>90</sub> for them were 2, 8, 1, <4, 8 µg/ml respectively. The strains isolated from the two hospitals showed high level of resistant to three antibiotics; quinupristin-dalfopristin, erythromycin and rifampicin. There were three phenotypes of vancomycin-resistant enterococci have been detected; Van A, Van B and Van C.
- Supervisor** : د. سعيد بركي المسعودي
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