DETECTION OF VANCOMYCIN RESISTANCE AMONG ENTEROCOCCUS FAECALIS ISOLATED FROM DENTAL CARIES POPULATION

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Antimicrobial susceptibility test

Table 1 Results of antibiotic sensitivity pattern of Enterococci

| Antibiotics | Sensitivity | Intermediate | Resistance |
|-------------|-------------|--------------|------------|
| Ampicillin  | 1(5%)       | 2(10%)       | 17(85%)    |
| Vancomycin  | 15(75%)     | 1(5%)        | 4(20%)     |
| Teicoplanin | 12(60%)     | 3(15%)       | 5(25%)     |
| Erythromycin| 2(10%)      | 0            | 18(90%)    |
| Ciprofloxacin| 6(30%)     | 0            | 14(70%)    |
| Amikacin    | 1(5%)       | 1(5%)        | 18(90%)    |
| Gentamycin  | 2(10%)      | 2(10%)       | 16(80%)    |
| Tetracycline| 4(20%)      | 4(20%)       | 12(60%)    |
| Linezolid   | 18(90%)     | 1(5%)        | 1(5%)      |
For ampicillin, amikacin, erythromycin, gentamicin, our isolates were found to resistant between 80-90%. Better sensitivity was observed in linezolid, teicoplanin and vancomycin antibiotics. The detailed results of antibiotic sensitivity pattern of Enterococci was given in table 1.

**Results of vancomycin resistance**

Isolates that showed resistance to vancomycin in disc diffusion method was detected for the same by agar screening method using vancomycin powder. Using this method, all our isolates were found to be uniformly sensitive to vancomycin in a concentration of 6μg/ml, which indicates that there was no Vancomycin Resistant Enterococci (VRE).

**CONCLUSION**

In this study we did not find any Vancomycin Resistant Enterococci. By disc diffusion method, it showed lesser percentage of vancomycin resistance. However these statins were confirmed to be vancomycin sensitive strains. This indicates the promptness of agar screening method with vancomycin. Hence it can be concluded that this method may be included in the routine drug susceptibility pattern of Enterococci for the better treatment modalities.

**References**

1. Bhalla A, Pultz NJ, Gries DM, Ray AJ, Eckstein EC, Aron DC, et al. 2004. Acquisition of nosocomial pathogens on hands after contact with environmental surfaces near hospitalized patients. *Infect Control Hosp Epidemiol.* 25(2):164-7.
2. Kayaoğlu G, Örstavik D. 2004. Virulence factors of Enterococcus faecalis: Relationship to endodontic disease. *Crit Rev Oral Biol Med.* 15(5):308-20.
3. Nallapareddy SR, Singh KV, Duh RW, Weinstock GM, Murray BE. 2000. Diversity of ace, a gene encoding a microbial surface component recognizing adhesive matrix molecules, from different strains of Enterococcus faecalis and evidence for production of ace during human infections. *Infect Immun.* 68(9):5210-7.
4. Udo EE, Al-Sweih N, Phillips OA, Chugh TD. 2003. Species prevalence and antibacterial resistance of enterococci isolated in Kuwait hospitals. *J Med Microbiol.* 52:163-8.
5. Clinical Laboratory Standards Institution: Performance standards for antimicrobial susceptibility testing. In NCCLS approved standard M2-A8. Wayne, PA USA: CLSI, 2004.
6. Wootton M, Howe RA, Hillman R, Walsh TR, Bennett PM, MacGowan AP. 2001. A modified population analysis (PAP) method to detect hetero-resistance to vancomycin in *Staphylococcus aureus* in a UK hospital. *J Antimicrob Chemother.* 47:399-403.
7. Descheemaeker P, Leven M, Chapelle S, Lammens C. Prevalence and molecular epidemiology of glycopeptide-resistant enterococci in Belgian renal dialysis. *J Infect Dis* 2000; 181:235-41.
8. Karlowsky JA, Zhanel G, Hoban D, et al. 1999. The Canadian VRE Surveillance Group and Vancomycin resistant enterococci (VRE) colonization of high risk patients in tertiary care Canadian hospitals. *Diagn Microbiol Infect Dis.* 35:1-7.
9. Srinivasan A, Dick JD, Perl TM. 2002. Vancomycin resistance in Staphylococci. *Clin Microbiol Rev.* 15(3):430-438.

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