ABSTRACT
Objective: Vancomycin resistant enterococci (VRE) has become an important nosocomial pathogens because of its rapid spread, accelerating mortality rates, limited options for therapy, and the possible transfer of vancomycin resistance to more-virulent pathogens. Active surveillance should be done to prevent VRE infections in hospitals. Molecular typing is most convenient method to show route of transmission during a surveillance. However, easy-to-perform, and reproducible typing methods are lacking. In detecting the hospital outbreaks and in taking the control measures, the rep-PCR presents a rapid screening method with its ease of use and rapid turnaround time. In this study, it was aimed to assess the clonal analysis of VRE strains isolated in our hospital with rep-PCR method (repetetive sequence based polymerase chain reaction).
Method: A total of 48 VRE strains obtained from four clinical specimens, 18 rectal swab samples and 26 environmental cultures. Identification and antibiotic susceptibility tests of isolates was evaluated by automated Vitek-2 system (bioMérieux, France). Clonal analysis was performed by rep-PCR (DiversiLab, France) method.
Results: All the studied 48 strains were identified as E. faecium. The four clones which were determined by rep-PCR analysis, were named as A, B, C, D and in these groups sequentially the presence of 35, 3, 2, 2 strains were determined and no clonic similarity were observed in the six isolates.
Conclusion: The surveillance of VRE in risky clinics has been performed to prevent hospital infection since the first isolation of VRE in our hospital in 2004. However, it is important to show sources of contamination and route of transmission in a short time for more effective infection control. In this study, the clonal spreading of VRE strains with rep-PCR method was demonstrated. As a result the rep-PCR method was considered as a rapid, easily applied and evaluated method that can be used in epidemiological studies and can help infection control measures.
Key Words: Vancomycin resistance, Enterococcus faecium, rep-PCR, surveillance