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Biofilm Formation andMultiple Antibiotic Resistance Index of Bacteria Isolates from Saliva, Teeth and Necrotic Roots Canals of Teeth of Dental Patients

Merriam Ghadhanfar Alwan[1,]*, Ashraf Abbas Drais[1]and Asmat Ahmad[1]

[1]School of Bioscience and Biotechnology,Faculty of Science and Technology, UniversitiKebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia.

Abstract : Globally, antibiotic resistance among oral microbiota has constituted an increasing health challenge, and limited information regarding such resistance is available. This study was designed to isolate both aerobic and anaerobic bacteria from different sources of oral samples and screen the isolates for biofilm forming and antibiotics resistance abilities. A total of 72 samples were collected, 21, 31 and 20 were from saliva, teeth and necrotic roots canals respectively. In general, among 267 total isolates, 16.2% were identified as *Enterococcus* sp. and it was considered as the most prevalence genus, followed by *Streptococcus* sp. (15.8), *Staphylococcus* sp. (13.5%), *E. coli* (7.5%), *Bacillus* sp. (6.4%), *Enterobacter* sp. (5.6%), *Pseudomonas* sp. (4.5%), *Proteus* sp. (4.5%), *Clostridium* sp. (4.1%), *Actinomyces* sp. (3%), *Peptostreptococcus* sp. (3%), *Klebsiella* sp. (2.6%), *Bacteroides* sp. (2.6%), *Lactobacillus* sp. (2.3%) , *Fusobacterium* sp. (1.9%), *Micrococcs* sp. (1.5%), *Salmonella* sp. (1.1%), *Provotella* sp. (1.1%), *Shigella* sp. (0.8%), *Eubacterium* sp. (0.8%), *Aerococcus* sp. (0.8%), *Chromobacterium* sp. (0.4%).Three methods were used to detect the biofilm formation ability of the isolates. The results showed that the percentages of strong biofilm formation of the isolates for each method were 11.9%, 27.7%and 39% for Congo red agar method, Tube method and Microtitre plate methodrespectively. The highest multiple antibiotic resistance index (MAR)was among the isolates from necrotic roots canals (0.82) followed by teeth (0.71) and saliva (0.69). According to isolate's genera, *Enterococcus* sp. showed the highest MAR indices among the isolates, which recorded 0.97, 0.96, and 0.89 for the isolates from saliva, necrotic roots canals and teeth respectively.

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