



Molecular identification and Control of some Gram negative bacterial isolates from Dental Unit Water Lines

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Abstract:The potency of biocides and disinfectants is very important for the prevention of diseases transmission through clinical pathogens. In this study, five bacterial strains were isolated on nutrient agar medium from a randomly selected dental unit, located in a public dental clinic in Giza governorate, Egypt. The obtained isolates were identified by molecular technical 16S rRNA as; *Pseudomonas monteilii* (DD2), *Pseudomonas monteilii* (DD3), *Pseudomonas aeruginosa* (DD4), *Stenotrophomonas* sp. (DD5) and *Stenotrophomonas* sp. (DD7) respectively and were deposited in the DDBJ/EMBL/GenBank nucleotide sequence databases with accession numbers. The identified strains' susceptibility towards different biocides was examined. The tested biocides were; SDS, H₂O₂, TW₂0, EDTA, NaOCl and phenol in the concentrations of 25%, 50% and 75%. Results obtained clearly indicated that; the largest inhibition zone observed was 5.9 cm in case of using 75% NOCl for (DD7) followed by the effect of 75% H₂O₂ in case of (DD5) giving inhibition zone of 4.9 cm. Phenol gave 4.5 cm inhibition zone in the concentration of 75% with (DD3). The most resistant strain was (DD4) showing the largest inhibition zone of 3.1 cm with 75% phenol and the smallest inhibition zone of 1.3 cm with 25% H₂O₂.

Key word:Dental unit water lines, Gram negative bacteria, culture characteristics, 16S rRNA, biocides.

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