

عنوان مقاله:

The Antibacterial Analysis of Alcohol-Free and Alcohol-Based Chlorhexidine Mouthwashes Against Oral Bacteria

محل انتشار:

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خلاصه مقاله:

Background: Chlorhexidine (CHX) is the gold standard chemical agent against oral pathogenic bacteria and is widely used for plaque/gingivitis control. The aim of the present study was to compare the effect of alcohol-based and alcohol-free CHX mouthwashes on oral microorganisms. **Methods:** In the present in vitro study, the standard strains of four microorganisms present in the oral cavity were prepared, including *Streptococcus mutans*, *Streptococcus sanguinis*, *Streptococcus salivarius*, and *Lactobacillus casei*. The serial dilutions of CHX antimicrobial agents were obtained, and the level of minimum inhibitory concentration (MIC) and minimum bactericidal concentration (MBC) was determined using the broth dilution method. Finally, data were analyzed using the Kruskal-Wallis test, the Mann-Whitney U test, and SPSS-16. **Results:** The MIC values of 0.1% and 0.2% alcohol-free CHX and 0.2% alcohol-based CHX for *S. mutans* were 1.17, 0.48, and 0.24 µg/mL, respectively. The MBC values of 0.1% and 0.2% alcohol-free CHX and 0.2% alcohol-based CHX for *S. mutans* were 18.78, 7.81, and 7.81 µg/mL, respectively. The MIC and MBC values of the tested CHX mouthwashes for *S. mutans* were significant ($P \leq 0.05$). **Conclusions:** Overall, the 0.2% alcohol-based CHX mouthwash had the highest antibacterial activity against gram-positive bacteria.

کلمات کلیدی:

Chlorhexidine, Mouthwashes, Minimum inhibitory concentration, Minimum bactericidal concentration, Alcohol

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