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Effect of denture cleaner using ozone against methicillin-resistant Staphylococcus aureus and E. coli T1 phage.

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Abstract

We examined the bactericidal and virucidal effectiveness of a denture cleaner that uses ozone (ozone concentration, 10 ppm) against methicillin-resistant Staphylococcus aureus (MRSA) and T1 phage, respectively. In the bactericidal activity test, with the ozone supply turned on, the number of bacteria was 3.1 x 10(3) CFU/mL at the beginning of the experiment, fell to 1.0 x 10(0) CFU/mL 10 min later, and was 1.0 x 10(0) CFU/mL or less afterwards. In contrast, when the ozone supply was cut off (air bubble only), the number of bacteria was 3.4 x 10(3) CFU/mL at the beginning of the experiment, and had fallen to 3.0 x 10(3) CFU/mL 60 min later (no statistically significant difference). In the virucidal activity test, the number of phages was 1.2 x 10(6) PFU/mL before ozone treatment, fell to about 1/10 of that number 10 min later, and was 6.1 x 10(0) PFU/mL 40 min later. These results indicate that the use of ozone in this denture cleaner is effective against MRSA and viruses.

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