

Cleaning Ability of Disinfectants for Dental Steel Burs

Abstract

Dental burs are a source of bacterial contamination due to its direct contact with carious teeth, saliva and blood. Objective: The aim of this study was to evaluate the disinfecting and cleaning ability of selected commercially available disinfectants on dental burs. Method: Size 5 round stainless steel burs were used to excavate caries from freshly extracted human molars. The burs were then immediately immersed in Grotanat Drill Bath (Shülke & Mayr, Germany), Micro 10 (Unident, Swizerland), Gigasept FF (Shülke & Mayr, Germany), Lysetol AF (Shülke & Mayr, Germany) and 70% Isopropyl alcohol (J.Y. Baker, USA) according to the manufacturer's instructions. Each test groups consisted of 10 burs. Positive and negative control groups (n=10) were also included in this study. The disinfecting ability of the disinfectants was evaluated using bacterial culture where presence and absence of bacterial colonies were noted. The cleaning ability was then assessed using scanning electron microscopy. Results: The results showed that the disinfecting ability of Grotanat Drill Bath was statistically significant when compared to all disinfectants evaluated, $p < 0.05$. There was also a significant difference between the positive and negative groups. Examination of scanning electron micrographs showed that Grotanat Drill Bath exhibited the best cleaning ability compared to the other disinfectants evaluated. A positive correlation between bacterial growth and cleaning ability of disinfectants was also evident. Conclusion: It can be concluded that Grotanat Drill Bath is an effective disinfectant for the disinfection and cleaning of round stainless steel burs.

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