tial of FIPS as an objective and reliable tool not only in evaluating fixed implant restorations in a research setting and in daily clinical practice, but also to compare follow-up observations and to identify potential risks of failure.

Plaque detectors on acrylic resin for removable prostheses: a comparative *in vitro* analysis

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BACKGROUND: Acrylic resin prostheses have microporous surfaces easily colonized by oral biofilm. Poor hygienic maintenance as well as aging of restorative materials can contribute to determine the onset of oral and systemic pathologies, that can be prevented, therefore, by accurate cleansing of the prostheses. The aim of this study was to evaluate the motivational effectiveness of 3 different plaque detectors, testing their ability to highlight the oral biofilm and ease of removal from acrylic resin.
METHODS: Thirty discs of acrylic resin were used, with thickness of 0.5 mm and diameter of 2.5 cm; just one surface on each specimen was polished to simulate the surfaces of removable resin prostheses. Resin aging was performed immersing all the discs in 96% ethanol for 15 days; subsequently, they were exposed to sunlight for 15 days to promote aging. Four volunteers were selected to collect physiological saliva; then, all the specimens were stored in saliva with the addition of 15 gr of sucrose to promote bacterial growth for 15 days. Three different plaque detectors were used for the experimental tests: RED-COTE, MIRA-2-TON and PLAQUE TEST tablets; each plaque detector was applied onto 10 discs. To test the removability of the detectors, the samples were eventually cleaned with an electric toothbrush and handwash detergent.
RESULTS: After performing ethanol aging, a noticeable amount of porosities was detected on both surfaces of the discs; at the same time, a color change was observed. The MIRA-2-TON solution showed 12% of plaque on the porous surface and 9% on the smooth surface but its easy removability did not allow to accurately highlight the plaque on both resin surfaces. The RED-COTE tablets detected 70% of plaque on the porous surface and 30% on the smooth surface. The PLAQUE TEST solution showed 60% of plaque on the porous surface and 37% on the smooth surface. The RED-COTE tablets highlighted the plaque more effectively but, being chewable tablets, their application was difficult; consequently, even though the results were similar to the PLAQUE TEST, it was not possible to confirm its reliability. Moreover, being a fluorescein sodium-based material, the Plaque Test requires a light-curing unit to detect plaque on the surface. After cleansing, all the different plaque detectors were removed without any residual stain. The present study, however, did not take into account the possibility of staining artificial teeth.
CONCLUSIONS: Within the limitations of the present in vitro study, it was possible to conclude that:
- the plaque detectors that showed greater ability to detect the oral biofilm were
PLAQUE TEST and RED-COTE;
- the use of the PLAQUE TEST may be useful in dental practice as an efficient motivational tools;
- RED-COTE tablets can be considered a valid and simple home aid for the correct hygienic maintenance of resin removable prosthesis.

Decontamination of tissue conditioning materials for removable dentures: an in vitro study

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BACKGROUND: To evaluate the in vitro antifungal activity of chlorhexidine gluconate (CHX), magnesium oxide (MgO) and cetylpyridinium chloride (CPC) against yeasts of the genus Candida contaminating two tissue-conditioning materials (Visco-gel VG and GC Tissue conditioner). Two disinfection techniques were tested: a) immersion in liquid solution for 10 minutes; b) inclusion of the three tested substances in the mixture of the conditioning material in the form of powder (MgO and CPC) or liquid solution (CHX).
METHODS: A contaminating broth was prepared by mixing cultures of three species of Candida (C. albicans ATCC 90029, C. glabrata ATCC 90030, C. tropicalis ATCC 70050) in peptone water up to a turbidity of 5 Mc Farland, corresponding to a total microbial load of 10^7 CFU/ml. Technique a): 24 specimens of each conditioning material (VG and GC) were prepared according to the instructions of the manufacturers and using a silicone mold for standardizing the dimensions (2 cm in diameter and 0.8 in thickness). All specimens were immersed in 50 ml of contaminating broth for 24 hours at 35°C, then rinsed with sterile water, divided into three test groups and one control group for each material. The specimens of the test groups were immersed for 10 minutes in a disinfectant solution (CHX 0.2 %, MgO 7% or CPC 0.3%). The specimens of the control group were immersed in sterile water for 10 minutes. Then all the specimens were swiped into Candida CHROMagar plates, incubated for 48 hours at 35°C. Technique b): 30 specimens were prepared for this technique and divided into four test groups and one control group. The test specimens were made incorporating the disinfectant agents into the conditioning materials during their mixing in proportions of 0.2% and 1% for CHX, 7% for MgO and 0.3% for CPC; the controls did not contain disinfectants. After contamination for 24 hours in the broth, the specimens were plated. All tests were performed in duplicate.
RESULTS: Technique a): Immersion in CHX 0.2% and in CPC 0.3% for 10 minutes almost completely reduced the fungal load of the 3 species of candida of both the conditioning materials (CFU <20 and CFU <10 for CHX 0.2% and for CPC 0.3% respectively), while 7% MgO immersion was not effective (CFU> 330) for any conditioning material. Technique b): In the inclusion technique, no tested disinfectant agent resulted effective in the disinfection of GC and VG (CFU> 330); only 1% CHX incorporated in the GC moderately reduced C. tropicalis (CFU <100).
CONCLUSIONS: The immersion of the conditioning materials in CHX 0.2% and in CPC 0.3% proved to be effective against fungal contamination. The inclusion of disinfectants in the material mixture proved to be ineffective, with the exception of 1% CHX which exhibited moderate antifungal activity. In conclusion, the immersion of relined dentures for at least 10 minutes a day in CHX 0.2% or in CPC 0.3% can help to drastically reduce the fungal colonization of the conditioning materials.