

عنوان مقاله:

?Does Adding Fluorescein to Toothpastes Increase their Cytotoxic Effect on the Oral Cells

محل انتشار:

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خلاصه مقاله:

Background: The role of fluorescein in detecting dental plaque has been introduced recently. However, the effect of adding fluorescein to toothpastes and its cytotoxic effects on gingival cells are still unknown. The aim of the present study was to evaluate the cytotoxic effects of fluorescein on human gingival fibroblasts using MTT assay. Methods and Materials: In this in-vitro study, 0.1% fluorescein was added to three different toothpastes including Sensodyne ProNamel, Signal Complete λ , and Darougar ν . Next, different concentrations of each toothpaste (3%, 25% and 50%) were prepared. The same concentrations of each toothpaste without fluorescein were served as controls. Human gingival fibroblast cells in contact with various concentrations of toothpastes were incubated for 2, 5 and 10 minutes. The mean cell viability was evaluated by MTT assay. Results: The mean cell viability of toothpastes with and without fluorescein was reported to be $40.88\% \pm 31.62\%$ and $47.18\% \pm 31.82\%$, respectively. No significant difference was found between the cell viability of these groups ($P=0.73$). There was a significant difference in cell viability between the three different concentrations of each toothpaste ($P<0.0001$). A significant difference in cell viability was also found between the three different types of toothpastes ($P<0.0001$). Pronamel and Darougar toothpastes had the highest and lowest cell viability, respectively. As the exposure time increased, the mean cell viability decreased. However, the difference was not statistically significant. Conclusion: It seems that the addition of fluorescein to toothpastes did not increase their cytotoxic effects on gingival fibroblasts.

کلمات کلیدی:

Fluorescein, toothpaste, Cytotoxicity

