

## بررسی اثرات خمیر پانسمان پرپودنتال همراه با هیدروکسید کلسیم بر سلولهای فیبروبلاست L929 در محیط آزمایشگاه (In-Vitro)

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**Title:** In-vitro evaluation of periodontal dressing plus calcium hydroxide on L929 fibroblast cells

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**Introduction:**

In most cases, after the surgical procedures were completed, the area was covered with a surgical pack. Dentin hypersensitivity is one of the common problems after periodontal surgeries. Calcium Hydroxide is an inexpensive and available material used for desensitizing. The purpose of this study was to evaluate the cytotoxicity of mixture of calcium hydroxide and periodontal dressing on L929 fibroblasts.

**Materials & Methods:**

In this study Rat fibroblasts were used. For preparing extracts, we added 0, 1, 5 and 10 mg of calcium hydroxide to 1 gr of periodontal dressing. Then, they were placed in autoclave followed by 5<sup>cc</sup> of basal media (DMEM). A control group consisting of L929 fibroblasts plus basal media was also considered. After 24, 48 and 72 hours incubation, we examined the numbers (quantity) as well as the morphology of the cells (quality). For quantitative evaluation (MTT assay) after adding Tetrazolium salt to cells, we read the optical density of each plate using ELISA reader. The data were analyzed statistically using chi-square and Kruskal wallis test.

**Results:**

All of the plates had the same quality but the cells in the control group showed more proliferation. All of the plates had plenty of vital and normal fibroblasts but in comparison with the control group the cells had developed less proliferation. Statistical test analysis of the data showed a significant difference between the optical density of the experimental plates and the control group indicating that the number of vital cells in control group was significantly greater than the test groups.

**Conclusion:**

Because the number of active vital cells in the plates with periodontal dressing was equal to other plates but less than control group, it can be concluded that the cytotoxic effects in the different plates were related to periodontal dressing, not Calcium hydroxide.

**Key words:**

Calcium hydroxide, fibroblast, L929 cell, periodontal dressing.

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