ABSTRACT

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Background *Calcium hydroxide have shown the best results, since they favor repair of the injured pulp tissue and stimulate the formation of a hard tissue barrier, but however, that the high pH generated by calcium hydroxide is potentially toxic to pulp tissue and causing cell necrosis. It can cause " Tunnel defect" formation. Calcium Hydroxide combined propolis had good biocompatibility in fibroblast cell.* ***Aim:*** *This study aim to compare the in vitro viability of fibroblast pulp cell following application combination of Calcium Hydroxide and propolis.* ***Method:*** *In this in vitro study, the culture cell divided into 7 groups: Group 1 - calcium hydroxide 10 µg; Group 2 – propolis 10 µg; Group 3 propolis 15 µg; Group 4 propolis 20 µg; Group 5 calcium hydroxide-propolis 1:1; Group 6 calcium hydroxide-propolis 1:1,5; Group 7 calcium hydroxide-propolis 1:2. After the calcium hydroxide, propolis and the combine were applied in culture cell, then placed in incubator for 24 hours. The methylthiazolyl diphenyl-tetrazolium bromide (MTT) was carried out to eavluate the viability of fibroblast pulp cell.* ***Result:*** *All sample were examined and data was statiscally analysed using Oneway Anova and following Tukey-HSD. Comparison of cell viability showed that cells subjected to combination of calcium hydroxide-propolis were more viable when compared to calcium hydroxide and propolis ($P < 0.05$).* ***Conclusion:*** *application combination of calcium hydroxide and propolis extract have better biocompatibility in fibroblast cell viability rather than calcium hydroxide or propolis alone.*

Keyword*: Calcium Hydroxide, Propolis, Fibroblast Cell*