

The 225th

MANA Seminar



Cytotoxic effect of pulp capping materials containing calcium hydroxide on dental pulp stem cells

Chair: Dr. Guoping Chen (MANA PI)

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Calcium hydroxide has widely used as pulp capping materials when it requires pulp tissue repairing because of its high pH (10-13). The aim of this study was to evaluate the cytotoxic effect of calcium hydroxide materials on Dental Pulp Stem Cells (DPSCs). We tested the effects on cell growth and survival of four calcium hydroxide materials by evaluating the tetrazolium-based enzyme activity (MTT). And we observed the cell nucleus stained with propidium iodide and analyzed cell cycles using Fluorescent Activated Cell Sort (FACS) analysis. Various calcium-hydroxide-containing pulp capping materials showed cytotoxic effect on DPSCs except for light-cured Calcimol LC. Under-cured Ultrablend was highly toxic. But the pH for all materials tested was normal (pH 7.2-7.6). Most cells grown in the media were under G1 phase arrest of cell cycle. However, cells in grown light cured-calcimol LC were undergo S phase. Overall, the under-cured materials were more toxic than fully-cured ones. But they did not show apoptotic cell death.

Venue: 4F, Seminar room #431, MANA Bldg., Namiki Site

Date: October 14th (Fri) **Time:** 15:30-16:15

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