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### **Tooth Discoloration Induced by Hydraulic Calcium Silicate Cements After Pulpotomy.**

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**Objectives** To compare coronal discoloration 1 and 2 weeks, 1 and 3 months after full pulpotomy in anterior teeth using different hydraulic calcium silicate cements (HCSCs).

**Methods** A coronal pulpotomy was performed in eighty anterior extracted teeth. In half of them the pulp chamber was filled with blood and the rest with serum. Specimens were further divided into five experimental groups according to the HCSC used (n=8): 1) Control group; 2) Biodentine; 3) ProRoot WMta; 4) NeoMta2 and 5) Neoputty. Color parameters ( $L^*a^*b^*$ ) were determined with VITA Easyshade spectrophotometer before HCSCs placement (T0), after 1 week (T7), 2 weeks (T2w), 1 month (T1m) and 3 months (T3m). Colour change was calculated by  $\Delta E_{00}$ .  $\Delta E_{00}$  values among HCSCs were compared by Kruskal-Wallis and Mann-Whitney tests and the influence of time by Friedman and Wilcoxon tests ( $p < 0.05$ ).

**Results** Similar  $\Delta E_{00}$  were detected for all the HCSCs tested at different evaluation times when they were placed over serum. Moreover, only teeth treated with Biodentine exhibited a significant higher  $\Delta E_{00}$  after 1 and 3 months, in comparison with one-week measurements. Regarding specimens filled with blood only specimens treated with Neoputty and Prorroot WMta showed significantly higher  $\Delta E_{00}$  at 1 week and 1 month evaluation, respectively. The increase in  $\Delta E_{00}$  was significant for Biodentine after 1 month and for Proroot WMTA, after 1 and 3 months.  $\Delta E_{00}$  remained similar for NeoMTA2 and Neoputty specimens in presence of blood.

**Conclusions** All HCSCs exhibited perceptible  $\Delta E_{00}$  values after 1 week that were not clinically acceptable. Colour changes increased with time, especially for those cements that were in contact with blood, except for NeoMTA2 and Neoputty. After 3 months all HCSCs exhibited a similar color change.