DENTINOGENIC EFFECT OF A NEW ADHESIVE RESIN SYSTEM ON EXPERIMENTALLY EXPOSED PULPS OF DOGS

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Aiming for a long term success of direct pulp capping procedures, many capping materials were tried during the last years. Reports in primates showed that adhesive systems and composite resins are biologically compatible with pulpal tissue when placed on the exposed healthy vital pulps provided that, bacterial leakage is prevented. The aim of the present study was to test the ability of two viscosities of Epiphany (a new resin flowable composite used as an adhesive endodontic sealer)in enhancing dentin bridge formation as compared to calcium hydroxide in direct pulp capping in dogs. In this study. twenty seven teeth from three dogs were used, teeth were classified into three groups 9 teeth each. Group A- Culcium hydroxide (control), groups B and C- Epiphany half and full viscosity respectively. Class five cavities with pinpoint exposures were made. after control of bleeding exposure sites were directly capped with the experimental capping materials and restored with amalgam. Observation periods were 2.6,and 10 weeks after which the animals were sacrificed and histological sections were prepared for microscopic examination. Three parameters were investigated including, inflammatory reactions, tissue disorganization, and hard tissue formation Calcium hydroxide control group gave a classical result starting with mild inflammation at the 2 weeks period and ending at the 10 weeks observation period by a denim bridge formation. Epiphany full viscosity group gave initially features of mild inflammation as well as minimum disorganization which was found to improve with lime as well as hard tissue formation by the last observation period, but of a lower score than the control group. However, no statistical difference was found between them. On the other hand, Epiphany half viscosity resulted statistically in the most deleterious pulpal effect demonstrated as acute inflammation and tissue disorganization with absence of dentinal! bridge formation.