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Comparison of Calcium Hydroxide and Bioactive Glass after Direct Pulp Capping in Primary Teeth

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Abstract:

Objective:

Bioactive glass is often used as a filler material for repair of dental bone defects. In different studies osteogenic potential of this material was proved, but its dentinogenesis property is in doubt. The purpose of this study was to evaluate the histological pulp responses of Calcium hydroxide and Bioactive glass placed directly on exposed pulp tissues.

Materials and Methods:

Twenty teeth to be extracted due to orthodontic reasons were selected. These teeth were divided into two groups and treated with direct pulp capping. Calcium hydroxide was used for 10 teeth and Bioactive glass for 10 teeth. After 60 days the teeth were extracted and prepared for histological evaluation. Finally the data was analyzed with exact Fisher test.

Results:

All teeth treated with Calcium hydroxide showed inflammation. Internal resorption was seen in six teeth, abscess in five teeth and dentinal bridge in two teeth. Inflammation was seen in three Bioactive glass samples and dentinal bridge in seven teeth, but internal resorption and abscess were not seen.

Conclusion:

Bioactive glass appears to be superior to Calcium hydroxide as a pulp capping agent in primary teeth.

Keywords:

Biogran; Calcium Hydroxide; Dental Pulp Capping

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