



Biodentine Pulpotomy and Color Stability of Primary Maxillary Anterior Teeth

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INTRODUCTION

Calcium silicate cements are considered gold-standard materials for pulpotomies in primary and permanent teeth. Among these, mineral trioxide aggregate (MTA) and Biodentine are commonly used. MTA products containing bismuth oxide in their formulas are not recommended in the esthetic zone due to causing discoloration. Laboratory and clinical studies with Biodentine in permanent teeth have not shown discoloration of the treated tooth.

OBJECTIVE

The purpose of this study was to investigate the long-term effect of Biodentine when used as a pulpotomy medicament in primary anterior teeth restored with a resin-based crown. We hypothesize that primary maxillary incisors treated with Biodentine after pulpotomy and restored with a resin-based crown will not discolor overtime.

MATERIALS AND METHODS

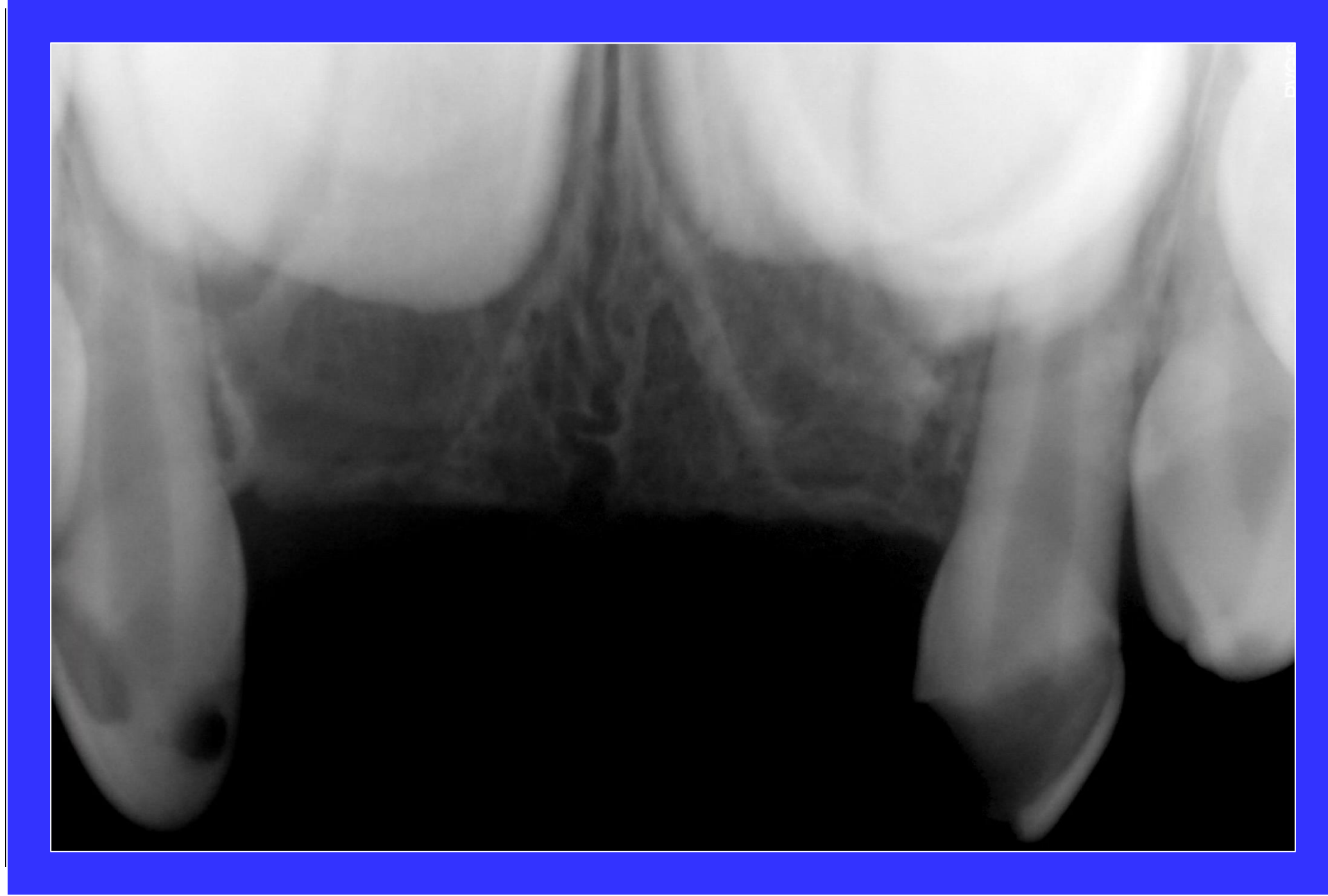
This ongoing observational study recruited healthy 3-to-5-year-old patients who were treated in the operating room for oral rehabilitation under general anesthesia. Primary maxillary incisors included contained deep, multi-surface and supra-gingival caries which had a vital pulpal exposure during caries excavation. After full coronal pulpotomy, Biodentine and a resin-modified glass ionomer liner restored the pulp chamber. The crown was then restored with a resin-based strip-crown. Treated teeth were photographed the day of treatment, 6 and 12 months post-operatively. Images were assessed independently for color change by two calibrated investigators.

PRELIMINARY RESULTS

#Teeth treated
8

6-month post-op
2

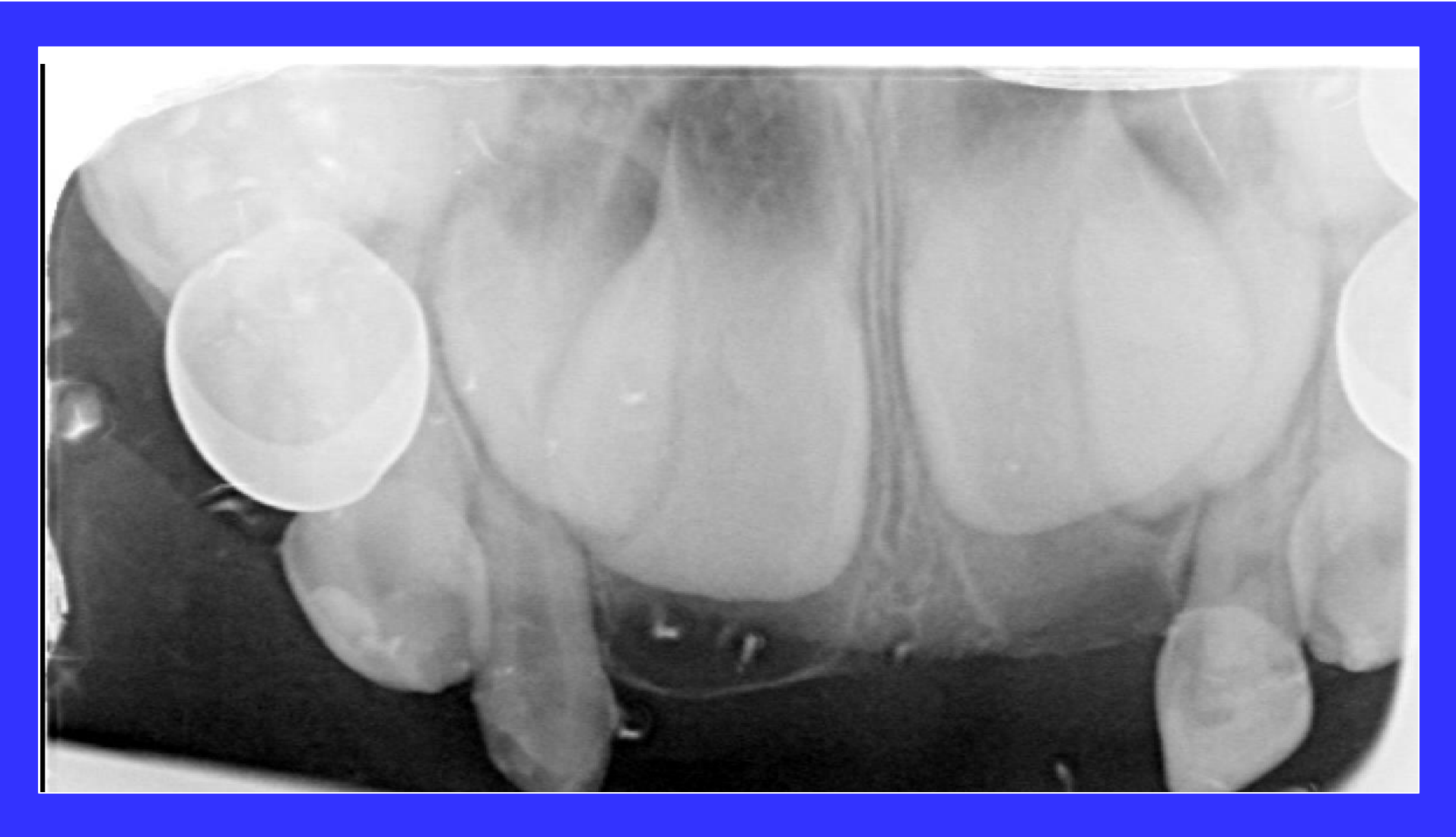
Tooth #G



Pre-op



Immediate post-op



6 month post-op



Immediate Post-op



6 month Post-op

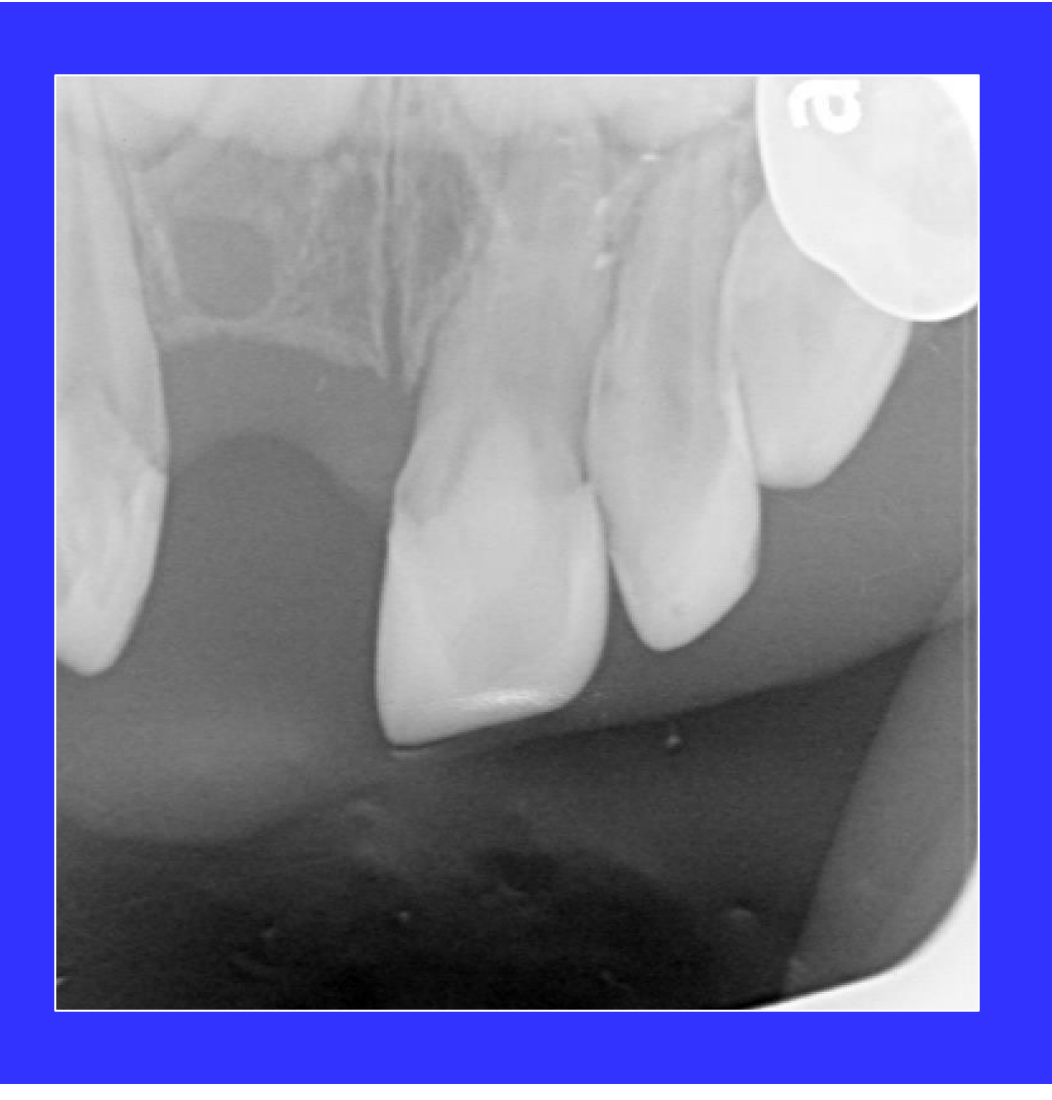
Tooth #F



Pre-op



Immediate post-op



6-month post-op



Immediate Post-op



6 month Post-op