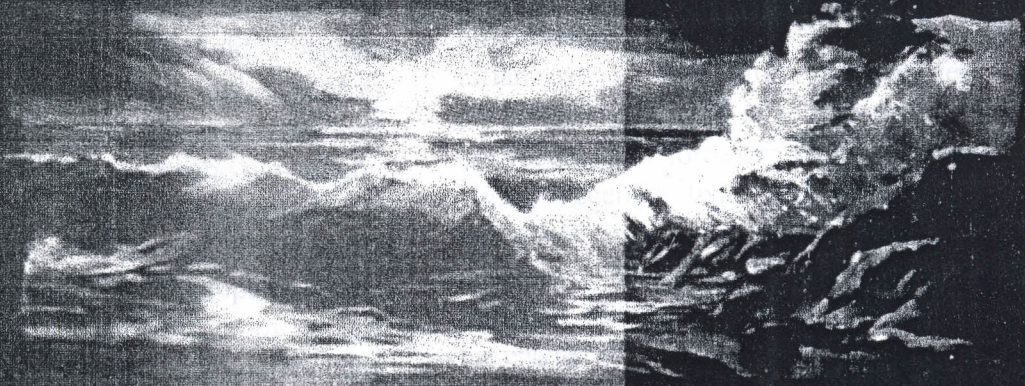


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## CLINICAL, RADIOGRAPHIC AND HISTOPATHOLOGICAL STUDY OF THREE PULPOTOMY MEDICAMENTS FOR PRIMARY MOLARS

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### ABSTRACT

The purpose of this study was to evaluate ferric sulfate and tetradrine in comparison to formocresol as pulpotomy medicaments for primary molars, clinically, radiographically and histopathologically. The clinical part was carried out on 80 carious primary molars of 40 healthy children 3-7 years old. In every child one molar in one side was treated with ferric sulfate or tetradrine, while the other contralateral side tooth was treated with formocresol as control. Children were followed up clinically and radiographically at 48 hours, 1,6,12 and 18 month. The histopathological study was carried out on 80 primary molars of 8 puppies 4-8 weeks old divided into two groups, 40 molars for each. The first 40 molars were divided equally for ferric sulfate and its formocresol at the contralateral side of the same animal. The second group (40 molars) were divided equally for tetradrine in one side and formocresol in other side as control. The animals were sacrificed after one day, one week, and one and two month, and the treated teeth were prepared for histological evaluation. By the end of this study, the clinical, radiographic and histopathological evaluations revealed better results of molars treated with ferric sulfate and tetradrine than that treated with formocresol.

### INTRODUCTION

Despite the well-documented decline in dental caries in permanent dentition, extensive

dental decay in the primary dentition that progresses to the dental pulp remains a common problem.<sup>(1)</sup>

One of the major concern of pediatric dentistry is to preserve the integrity of the dental arch form of the primary dentition in an intact state until it is replaced by the permanent dentition.<sup>(2)</sup> This means that every effort should be provided to preserve pulpally involved primary teeth. Pulpotomy technique is widely used for such preservation.<sup>(3)</sup> Vital pulpotomy technique involved the removal of inflamed coronal pulp tissue and application of dressing to preserve the pulp in an attempt to promote healing or fixing the upper portion of the radicular pulp and preservation of the apical tissues.<sup>(4,5)</sup> The ideal medicament for pulp dressing after pulpotomy should be non toxic, possess antimicrobial activity and anti-inflammatory potential to control pre-existing inflammatory state and not interfere with physiological process of root resorption.<sup>(6)</sup> Until the recent time formocresol has been the most widely accepted fixative agent for pulpotomy procedure in primary teeth.<sup>(7)</sup> A number of problems, such as post-operative systemic transport of the formocresol, possible effects on the enamel of succedaneous teeth and carcinogenic effect in laboratory animals had been reported.<sup>(8-10)</sup> Because of these short comings, other agents have been suggested as alternative to formocresol such as glutaraldehyde, Calcium hydroxide, electro-surgery, carbon dioxide laser, ferric-sulfate<sup>(11)</sup> and tetradrine.<sup>(12)</sup> Since

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