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Comparison of enamel matrix derivative versus formocresol as pulpotomy agents in the primary dentition

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Aim: The purpose of this study was to compare the clinical and radiographic success rates of two different pulpotomy agents, one novel agent and the biologically active odontogenic protein enamel matrix derivative (EMD) versus formocresol (FC).

Methods & Materials: A randomized, single-blind, split-mouth study was used with a sample of 15 children aged 4 to 7 years (mean age, 5±0.73 years). A total of 15 pairs of teeth, 1 pair per child, were selected for treatment. One tooth from each pair was randomly assigned to either the EMD pulpotomy group or the FC pulpotomy group. All teeth were followed up clinically and radiographically at 2, 4 and 6 months.

Results: After 6 months, the clinical success rates for the FC and EMD groups were 67% and 93% respectively. Although most likely clinically relevant, the clinical success rate difference after 6 months was not statistically significant. After 6 months, the radiographic success rates for the FC and EMD groups were 13% and 60%, respectively. This was a statistically significant difference at $p \leq 0.05$

Conclusion: The clinical and radiographic assessment of EMD pulpotomized teeth in this study offers preliminary evidence that EMD is a promising material which may be as successful, or more so, than other pulpotomy agents.

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