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Evidence-based assessment: evaluation of the formocresol versus ferric sulfate primary molar pulpotomy.

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Abstract

PURPOSE: Formocresol and ferric sulfate were evaluated as pulpotomy medicaments using evidence-based dentistry principles. Formocresol has been challenged as a potential carcinogen and mutagen, leading to consideration of ferric sulfate.

METHODS: The PICOT statement was: (P) In human carious primary molars with reversible coronal pulpitis, (I) does a pulpotomy performed with ferric sulfate, (C) compared with formocresol, (O) result in dinical/radiographic success, (T) in time periods up to exfoliation? Relevant papers (N=894) were identified from databases and inclusion criteria were applied; 94 papers remained (randomized clinical trials [RCTs]=7; clinical trials [CTs]=28; case-control studies=14; opinions, cohort, and cross-sectional studies=4; reviews=22; irretrievable papers=19). Three RCTs and 10 CTs (total teeth: formocresol=753; ferric sulfate=90) were meta-analyzed; 1 RCT and 1 CT were tested for homogeneity (odds ratios; 95% confidence intervals); 3 RCTs and 10 CTs were examined by student's t test.

RESULTS: Clinical data indicated ferric sulfate was significantly more successful than formocresol (OR=1.95; CI=1.01-3.80). Radiographic data indicated no difference between medicaments (OR=0.90; CI=0.58-1.39). Medicaments did not differ with t-tests of clinical (P>.10) and radiographic (P>.50) data.

CONCLUSIONS: This evidence-based assessment concluded that, in human carious primary molars with reversible coronal pulpitis, pulpotomies performed with either formocresol or ferric sulfate are likely to have similar clinical/radiographic success.