

Sodium Hypochlorite Pulpotomies: 10 Years After

Kyle Nordeen DDS

Research Mentors: Matt Geneser DDS and Fang Qian PhD

Objective

To evaluate the clinical and radiographic success rates of sodium hypochlorite (NaOCl) pulpotomies in primary molars and to compare to published data of other commonly used pulpotomy medicaments.

Methods

A computer-assisted search of patient records was completed to identify patients who had a primary molar treated with a NaOCl pulpotomy and stainless-steel crown with at least 1 subsequent radiographic analysis between 4/1/2008 and 3/31/2018. Patients with multiple teeth meeting the inclusion criteria had 1 tooth randomly selected. A single researcher (KN) was responsible for all chart reviews and radiographic interpretations. A clinical failure occurred with the presence of any or all of the following: loss of restoration, spontaneous pain, tenderness to palpation or percussion, soft tissue swelling, sinus tract, or pathologic mobility. Teeth were deemed a radiographic failure with the presence of any of the following sequelae: external resorption of $>2/3$ root, perforating internal root resorption, or a furcation radiolucency.

Results

A total of 382 teeth were included in the study, with a mean age at time of treatment of 5.6 ± 1.7 years. All treatment was completed by either a pediatric dental resident (85%) or faculty member (15%). The average time elapsed since pulpotomy was 2.7 ± 1.5 years. Clinical success was found to be 82.5%, with 80.6% for the first primary molar and 85.2% for the second primary molar. Radiographic success was found to be 83.3% with 82.8% for the first primary molar and 83.9% for the second primary molar.

Conclusions

The clinical (82.5%) and radiographic (83.3%) success rates of NaOCl pulpotomies performed by pediatric dentistry faculty and residents at the University of Iowa are comparable to the published data of other commonly used medicaments for primary molar pulpotomies.