OPEN ACCESS Freely available online

ISSN: 2161-1122
Dentistry

Perspective

Analyzing Predictive Factors for Regenerative Endodontic Procedures

Impens Cornelis*

Department of Orthodontics, University of North Carolina, North Carolina, United States

ABOUT THE STUDY

In immature permeant teeth, trauma, developmental abnormalities, or cavities can result in pulp necrosis and impede root development. Since Banchs and Trope introduced the modified clinical regenerative endodontic protocol in 2004, Regenerative Endodontic Procedures (REPs), a biologically based treatment, have been employed extensively to treat the aforementioned instances. Due to the rapid advancement of research findings in this area, the American Association of Endodontists' (AAE) recommendations for REPs have undergone multiple revisions. However, the AAE constantly lists the following as the objectives of REPs: primary objective (resolve symptoms and promote apical healing), secondary objective (root development), and tertiary objective (obtain a positive response to vitality testing).

Clinical success in many cases of REPs has been demonstrated by the elimination of periapical lesions and continuing root development (primary goal). The success rate of REPs has also been demonstrated in numerous clinical investigations to range from 83.3% to 100%. After REPs, teeth's root development is still unpredictable. The prognostic factors that could affect REP results have thus attracted a lot of interest. The prognostic variables affecting the success rate of REPs have so far been documented in a few studies. Age and preoperative root morphology, including foramen diameter, have reportedly been linked to the effectiveness of REPs. Our previous study found that dens evaginatus cases had a greater success rate at 12 months after getting REPs than trauma cases, indicating that the aetiology may possibly be a prognostic factor. However, no firm conclusion has been made regarding the impact of the aforementioned parameters on the result of REPs due to the sample size and study design limitations. On the basis of a sizable sample size, the current retrospective study attempted to analyse the preoperative determinants for the root change outcome of REPs.

Clinicians frequently face difficulties during endodontic treatment of developing permanent teeth with necrotic pulp because of the fragile root wall and diverging apical foramen. Because they permit further increases in root length and root wall thickness, which result in the closure of the apical foramen, REPs have been routinely employed to treat the aforementioned situations to date. Although research has shown that REPs are effective at healing apical lesions, the results of further root development are still unknown. A few researches have looked into the prognostic variables influencing REP results to inform clinical work. These studies' sample sizes were rather tiny, therefore no conclusions could be formed.

With a very large sample size of 116 patients from 2013 to 2017, we undertook this retrospective analysis using our REPs database to better understand the potential prognostic factors impacting the outcome of REPs. We are aware that preoperative variables and treatment regimens may influence the results of REPs. In the current study, we concentrated on how preoperative factors affected the root development of REPs as a result of the included patients' routine surgical treatment.

As a predictive factor for REPs, preoperative root status and root morphology have also been studied. Teeth with preoperatively broader diameters (1 mm) showed bigger increases in root thickness, length, and apical narrowing. Here performed a literature search and came to the conclusion that teeth with apical diameters of less than one millimetre (1.0 mm) had clinical success after REPs, and teeth with apical diameters of between half and one millimetre (0.5 mm-1.0 mm) had the highest clinical success rate. It was suggested that dental roots shorter than 17 mm might have a higher success rate of REPs. The initial apical foramen size in the trauma group in our study had an effect on the root development of REPs. The ample blood supply offered by the bigger apex may have contributed to the larger apical foramen's ability to produce more Type I outcomes after REPs.

Correspondence to: Impens Cornelis, Department of Orthodontics, University of North Carolina, North Carolina, United States, E-mail: impens.c@gmail.com

Received: 28-Nov-2022, Manuscript No. DCR-22-19257; **Editor assigned:** 01-Dec-2022, Pre QC No. DCR-22-19257 (PQ); **Reviewed:** 15-Dec-2022, QC No. DCR-22-19257; **Revised:** 22-Dec-2022, Manuscript No. DCR-22-19257 (R); **Published:** 30-Dec-2022, DOI: 10.35248/2161-1122.22.12.612.

Citation: Cornelis I (2022) Analyzing Predictive Factors for Regenerative Endodontic Procedures. J Dentistry. 12:612.