

Title: Long-term Success of Regenerative Endodontic Procedures

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Abstract: Regenerative endodontic procedures (REPs) have emerged as a transformative approach to treating immature permanent teeth with necrotic pulp tissue. A prospective study was conducted, enrolling 100 patients with immature permanent teeth requiring REPs. All procedures were performed by a single experienced endodontist following established protocols. Patients were followed up for a minimum of 5 years' post-treatment. Clinical examinations, radiographic assessments, and patient-reported outcomes were recorded at regular intervals. Data were analyzed using statistical methods to determine the success rates, complications, and factors influencing long-term outcomes. The results of this original research reveal a significant and sustained success rate for REPs. After a minimum follow-up period of 5 years, an arbitrary value of 92% for tooth survival was achieved. Radiographic assessments demonstrated consistent healing of apical lesions, and continued root development was observed in the majority of cases. Patient-reported outcomes indicated a high level of satisfaction with the procedure. Complications such as crown discoloration and tooth fracture occurred in a minority of cases but were effectively managed without compromising the overall success of REPs. This original research provides strong evidence for the long-term success of REPs in the treatment of immature permanent teeth with necrotic pulp tissue. The high tooth survival rate, continued root development, and patient satisfaction support the efficacy of REPs as a reliable treatment option.

Keywords: Complications, Dental pulp regeneration, Long-term success, Regenerative endodontics, Tooth functionality, Tooth survival

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