

Poster Presentations
Clinical Case Presentation



Management of wide open apices using mineral trioxide aggregate



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ABSTRACT

Introduction: Wide open apices are a major effect caused by trauma in young permanent teeth. The major challenge in performing root canal treatment is to obtain an optimal apical seal. As dentists we need to induce root end barrier formation, through a technique called apexification. Mineral trioxide aggregate (MTA) has been successfully used for one-visit apexification in which the root canal can be obturated immediately. This study was conducted to assess the outcome of apexification using MTA.

Case: A 21-year-old woman was referred for management of failed endodontic treatment of the mandibular right canine tooth (tooth #43). However, the tooth had become essentially non-vital as a result of a motor vehicle accident some 4–5 years earlier. Soon after the accident, endodontic treatment was attempted but failed. Radiographic examination revealed a poorly endodontically treated mandibular right canine with a relatively short root and an associated periapical radiolucency roughly 4 mm in diameter. Retreatment with apexification using MTA was chosen for this case. The old gutta-percha filling was easily removed. The working length using was measured with an apex locator, and irrigation continued using sodium hypochlorite, EDTA, hydrogen peroxide, and dressing using Ledermix paste. At the second appointment, apexification was done using calcium hydroxide paste (Pulpdent) and sealed with Cavit G. The next appointment was scheduled 6 months later.

Conclusions: This case report confirms that apexification can be performed regardless of previous endodontic or surgical procedures to the tooth or apical tissues.

Keywords: Apexification; MTA; Wide open apices