

Management of internal root resorption: A case report

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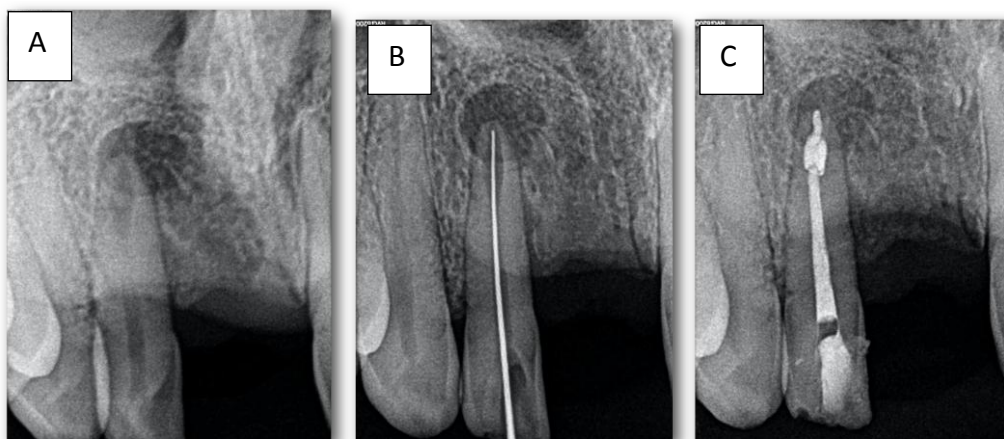
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INTRODUCTION

Root resorption is considered a pathologic process having various causative factors. Clinical presentation is diverse and makes it difficult to diagnose and treat. Odontoclasts are the key cells involved in process of tooth resorption which are multinucleated cells producing resorption lacuna. Resorption can be classified as internal and external resorption. Internal resorption is rarely seen in comparison to external resorption. The present paper describes a case of internal resorption and its management. Early diagnosis and extent of resorption are the main factors determining the prognosis of tooth. American Association of Endodontists, defined resorption as loss of dentin, cementum or bone that is associated with either a physiologic or a pathologic process. Physiologic resorption is presented mainly in primary teeth resulting in exfoliation and it allows subsequent permanent successors eruption. Trauma, orthodontic tooth movement, or chronic infections of the pulp or periodontal structures are causative factors for pathologic resorption. If left untreated, it can result in loss of affected permanent tooth.

CASE REPORT

A 19-year-old female patient was referred for missing right maxillary central incisor. After routine radiographic check-up right lateral incisor was diagnosed with internal resorption at the apical third. Patient was completely asymptomatic and gave history of trauma 1 year back through road traffic accident. Medical history was non-contributory. Clinical and radiographic examination was done. Right maxillary lateral incisor on clinical and radiographic examination was diagnosed non vital, with no signs of mobility and was not tender on percussion. Radiographs from different angulations were taken that confirmed the diagnosis of internal resorption. Local anaesthesia (2% xylocaine with 1:80,000 epinephrine) was administered. Tooth was accessed under aseptic conditions using rubber dam with sterile carbide bur. After proper access cavity preparation working length was determined. Root ZX apex locator (J Morita, Tokyo, Japan) was used for working length determination and later on it was verified using taking radiograph. 5 mL 5.25% sodium hypochlorite (NaOCl) (Prevest Denpro, Jammu, India) was used for irrigation subsequent to changing each instrument. Canals were thoroughly irrigated with 5.0 mL 17% EDTA (Prevest Denpro, Jammu, India) for 1 minute followed by a final irrigation with 5.0 mL 5.25% NaOCl after complete canal instrumentation. Calcium hydroxide (Prevest Denpro) was used as intracanal medicament and patient was recalled after one week. In next appointment, Hedstrom files (Mani Inc, Brussels Germany) along with copious irrigation of 5.25% NaOCl were used for calcium hydroxide removal. Tooth was obturated by initial downpack followed by backfill from calamus machine. Tooth was restored using composite restoration on the same appointment.



A. Preoperative radiograph

B. Working length radiograph

C. Postoperative radiograph



DISCUSSION

Once a clinician makes a diagnosis of internal root resorption, the first step in its management includes assessment of hard tissue destruction and making a thoughtful clinical decision about tooth prognosis. If the tooth in question is salvageable with a reasonable prognosis, root canal therapy is necessary for management. This treatment procedure serves an adjunctive purpose if resorption is still active process. Root canal treatment removes the vital apical pulp that is essential for resorption process to continue. Irregularly concave nature of resorption defects makes them inaccessible to direct mechanical debridement. To obturate the resorptive defect, the root-filling material must be able to flow. The Obtura and Microseal systems apparently are expected to produce the better results for obturating canals with internal rootresorption.