

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

ScienceDirect

journal homepage: [www.elsevier.com/locate/mjafi](http://www.elsevier.com/locate/mjafi)

## Case Report

# Aesthetic management of a discoloured non-vital immature maxillary central incisor



Maj R. Srinivasan<sup>a,\*</sup>, Maj Gen T.K. Bandyopadhyay<sup>b</sup>,  
Lt Col Nilav Bhagabati<sup>c</sup>, R. Jaya<sup>d</sup>

<sup>a</sup> Dental Officer (Conservative Dentistry & Endodontics), Military Dental Center, Bolarum, Secunderabad 500010, India

<sup>b</sup> Commandant & Command Dental Adviser, Command Military Dental Centre (Southern Command), Pune 411040, India

<sup>c</sup> Graded Specialist (Conservative Dentistry & Endodontics), Command Military Dental Centre (Southern Command), Pune 411040, India

<sup>d</sup> Professor & Head (Conservative Dentistry & Endodontics), Priyadarshini Dental College and Hospital, Chennai, India

## ARTICLE INFO

## Article history:

Received 19 November 2013

Accepted 25 July 2014

Available online 13 November 2014

## Keywords:

Apexogenesis

Apexification

Mineral trioxide aggregate

Blunderbuss canal

their appearance and function. In particular, a single anterior discoloured tooth often presents as an aesthetic challenge as it is seldom satisfactorily managed by direct and indirect restorative modalities. Moreover, in children and adolescents, migration of the gingival margin can lead to deterioration in esthetics if definitive restorations are planned.<sup>3</sup>

The subjected case report presents the management of a trauma induced intrinsically discoloured non-vital open apex tooth by “walking bleach” technique along with the use of mineral trioxide aggregate (MTA) as a bleaching barrier material and as an apical plug.

## Case report

A 15-year old patient presented with the chief complaint of a discoloured right upper front tooth for past 4 years. The patient sustained trauma of the tooth following a bicycle accident. On clinical examination, the maxillary right central incisor (11) was discoloured with physiologic mobility; it was however asymptomatic (Fig. 1A). Radiographic examination revealed a blunderbuss root canal (Fig. 1B). Pulp vitality tests were suggestive of non-vitality.

The case was diagnosed as a non-vital maxillary right central incisor with blunder buss canal. One step apexification

## Introduction

Intrinsic discolouration of the tooth following pulpal necrosis occurs due to the penetration of the hemolysed products of the erythrocytes into the dentinal tubules.<sup>1</sup> Moreover, pulpal necrosis occurring during early stages of apexogenesis may result in formation of a blunderbuss root canal.<sup>2</sup>

Cases of trauma induced intrinsically discoloured non-vital tooth with open apex requires comprehensive endodontic, restorative and aesthetic management to restore

\* Corresponding author. Tel.: +91 8411075654 (mobile).

E-mail address: [docsrini.mds@gmail.com](mailto:docsrini.mds@gmail.com) (R. Srinivasan).

<http://dx.doi.org/10.1016/j.mjafi.2014.07.010>

0377-1237/© 2014, Armed Forces Medical Services (AFMS). All rights reserved.

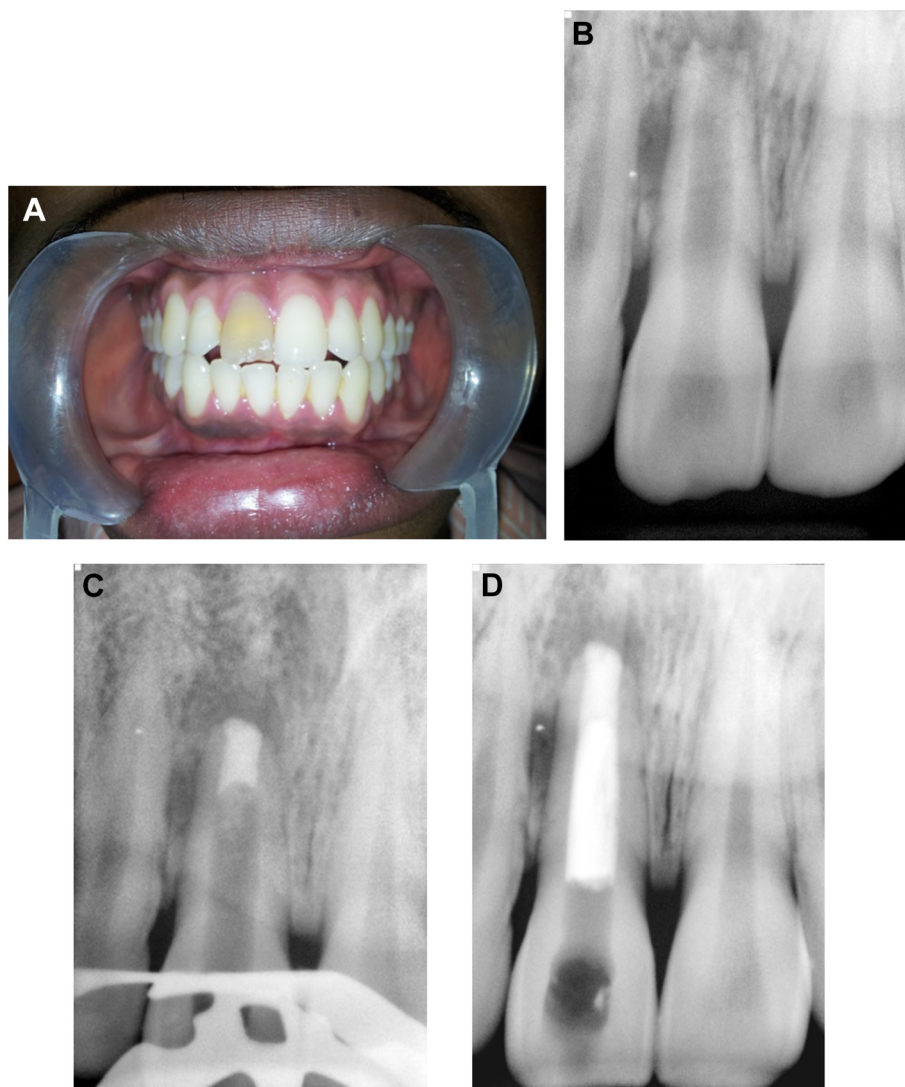
using MTA followed by “walking bleach” technique for aesthetic management was proposed and informed consent of the parents was taken.

Access cavity of 11 was prepared under rubber dam and the working length determined. The root canal was instrumented using K-file of size no.60 and copious irrigation of 0.5% sodium hypochlorite was done. In order to disinfect the root canal system calcium hydroxide (Metapex, Meta Biomed Co., Ltd.) was placed as an intra-canal medicament and the tooth was coronally sealed with temporary restoration. After a time span of one month, the canal was reentered and irrigated to remove calcium hydroxide.

White MTA (ProRoot, Dentsply) was mixed according to manufacturer's instruction and delivered at the apical portion of the canal using MTA Gun System (Dentsply Maillefer, Switzerland) in order to achieve a periapical plug of about 4 mm thickness. Condensation of MTA at the apex was carried out using an appropriate sized endodontic plugger (Schilder's plugger) and a subsequent intraoperative radiograph was taken to confirm its apical position (Fig. 1C). A moist cotton pellet was

placed inside the canal over the MTA plug to favour hydration process. Next day the patient was recalled and the hard set of the MTA was verified using an endodontic file. The canal was obturated with gutta percha (GP) cones (Dentsply Maillefer, Switzerland) using lateral condensation technique. Thereafter, a No.3 Gates Glidden drill (Mani Inc, Tochigi, Japan) was used to remove GP up to the level of cemento-enamel junction (Fig. 1D).

White MTA was placed as a bleaching barrier for about 2 mm thickness. The patient was recalled next day and the access cavity was etched with 37% orthophosphoric acid in order to provide an adhesive temporary restoration before application of the bleaching agent. A mixture of 30% hydrogen peroxide and sodium perborate (Degussa, Hanau, Germany) in the ratio (0.5 ml of liquid to 1 gm of powder), was made and placed in the pulp chamber over the MTA barrier using amalgam carrier. The dentin bonding agent was impregnated in a cotton pellet and was placed over the bleaching mixture and then light-cured. Resin composite material (Filtek Z350, 3MESPE, MN, USA) was placed as adhesive temporary filling material.



**Fig. 1 – A: A single discoloured 11, B: blunder buss root canal, C: one step apexification using MTA, D: GP retrieved up to the level of CEJ.**

Download English Version:

<https://daneshyari.com/en/article/3161096>

Download Persian Version:

<https://daneshyari.com/article/3161096>

[Daneshyari.com](https://daneshyari.com)