Calcified Non-Vital Anteriors : A Case Report

Dr. Barkha Jay Idnani
Professor

Dr. Dipti Choksi
Professor & HOD

Department of Conservative & Endodontic, Faculty of Dental Science, Dharmsinh Desai University, Nadiad, Gujarat, India

Abstract

Root canal calcification can be partial or complete. Pulp calcification can be caused due to trauma, age changes, sudden injury or blow.[1] Pulp calcification can be physiological, pathological or as response to iatrogenic error during cavity preparation. Calcifications can be further classified as calcification in the pulp chamber, partial pulpal canal obliteration, apical calcification and complete canal obliteration.[2,3] In this case both the anterior teeth were having orifice calcifications. The calcification were restricted to the pulp chamber and the root canals could be seen radiographically. This article describes the technique to negotiate the orifice calcification. A thorough knowledge of the tooth anatomy, root canal anatomy, radio graphic interpretation and clinical expertise are the factors which govern the success of the treatment in a calcified tooth. [7]

Key-words: Trauma, Calcified Canals, Root Canal Treatment.

Key Messages : Pulpal orifice obliteration and or calcifications can be treated successfully with Ethylene diamine triaceticacid (EDTA) in cream form along with Gates Glidden Drills (GG), Peeso reamers, rigid stainless steal kerral (K) files.

Introduction

Pulp chamber calcifications are very common in cases of Trauma.[1] The sudden injury causes the pulpal changes i.e. pulp necrosis and calcifications of orifice and partial obliteration of root canals.[2,3] An attempt can always be made non surgically to negotiate and treat the tooth. Calcified canals are unforgiving. They must be managed correctly from the first file inserted. Always have root canal irrigant in the canal at the time of attempted negotiation. Once the canal is located, from the first file insertion to the last file in most of challenging cases, one false step can leave to blockage or iatrogenic outcomes[4]. The use of Ethylene Diamine Triacetic Acid (EDTA) in cream form, Gates Glidden(GG) Drills, Peeso Reamers can aid in opening of a calcified pulp chamber in adjunct with Stainless Steel Hand Kerr(K) files.

Case Report

The female patient aged 28 years reported with discolored right central incisor (11), Left central incisor (21). The medical history was irrelevant. But history of fall before five years was given by the patient. On clinical examination it was observed that both 11, 21 gave negative response to vitality tests and radiographic findings revealed pulp orifice calcifications (obliteration). Fig 1.

After rusber dam application ideal access opening were made in 11, 21 and EDTA was kept in pulp chamber for two minutes. After two minutes the shadow of orifice was seen and the dentin over orifice became soft which was then felt with endodontic probe. The GG drill number one, two were used in direction of pulpal space which is a blind method and each time direction re-confirmed by radiographs. After enough penetration in pulp chamber the use of peeso reamer number one was done to penetrate deep into the path that is along the root canal space till there was a sink in the reamer. Once there was sink in reamer a rigid stainless steel file number ten with tip cut one millimetres (mm) was used with EDTA to push its way into the canal. The canals once negotiated with a number ten file were then cleaned and shaped. Bio-mechanical preparation was completed by a balanced force technique with kerr (K) files up to size 30 number Final obturation was done in 11 and 21 with lateral condensation technique. Fig. 2.

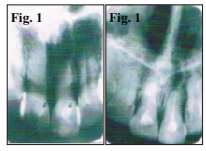
Discussion and Conclusion

Calcific metamorphosis (CM) is commonly in the dental pulp after traumatic tooth injuries and is recognized clinically as early as three months after injury. Calcific metamorphosis is characterized by deposition of hard tissue within the root can space and yellowish discoloration of the clinical ground[4]. These teeth provide an endodontic treatment challenge; the critical management decision being whether to treat endodontically immediately upon detection of the pulpal obliteration or to wait until symptoms or signs of pulp and or periapical disease occur[5,7]. Gaining access to calcified canals can be difficult or at times impossible. With the aid of EDTA and GG drills, Peeso reamers, the task can be facilitated[6,7].

Legends

Fig. 1 Preoperative radio graph showing pulp orifice obliteration. (arrow)

Fig. 2 Post operative radio graph with obturation in 11, 21.



References

1. Akapata ES. Traumatised anterior teeth in Lagos school children. Nig. Med. 1969;6;40-45.
2. Baghdady VS, Ghose LJ, Enke H. Traumatised anterior with teeth in Iraqi and Sudanese children A comparative study. J Dent Res. 1981;60:677-680[PubMed].
3. Amir FA, Gutmann JL, Witherspoon DE, Calcific metamorphosis: a challenge in endodontic diagnosis and treatment. Quintessence int. 2001;32:447-455. [PubMed]
4. Forsberg CM, Tedestam G. Traumatic injuries to teeth in Swedish children living in an urban area. Swed Dent J. 1990;14:115-122.[PubMed]
5. McCabe PS, Dummer PM Pulp canal obliteration: an endodontic diagnosis and treatment challenge. IEJ 2012;45:2:177-197.
6. DDS George G Stewart, Professor Emeritus. Gaining access to calcified canals. OOOE 1995;79:6:764-768.
7. Richard E Mounce, Management of Calcified Canals: Negotiation the unforgiving. Dental News 2009;16:1:13-16.