CASE REPORT

Retrieval of Foreign Body from the Bifurcation of Mandibular Lateral Incisor: A Rare Case Report

Bharathi Padiyar¹, Anant Gopal Nigam², Nikhil Marwah³, Purav Mehta¹, Divya Jindal¹, Deepak Raisingani⁴

Abstract

The discovery of foreign bodies in the teeth is a special situation, which is often diagnosed accidentally. Detailed case history, clinical and radiographic examinations are necessary to come to a conclusion about the nature, size, location of the foreign body and the difficulty involved in its retrieval. It is more common to find this situation in children as it is a well-known fact that children often tend to have the habit of placing foreign objects in the mouth. Sometimes the foreign objects get stuck in the root canals of the teeth, which the children do not reveal to their parents due to fear. These foreign objects may act as a potential source of infection and may later lead to a painful condition. This paper discusses a case along with their retrieval and associated management of the involved teeth.


Key Words: Foci of infection, foreign bodies, pins in teeth

Introduction

A foreign object found in pulp chamber or root canal of a tooth is often diagnosed accidentally. It is commonly seen in children as they have the habit of placing foreign objects in the mouth. At times, these objects can get lodged in the pulp chamber or root canal of a tooth and can cause a potent focus of infection. Complications can follow if these impacted foci of infection are not eliminated. In some cases, the tooth remains asymptomatic and the presence of the foreign body is revealed only during routine radiographic examination.¹

Retrieval of foreign objects from the teeth in children is a challenging aspect of pediatric dental practice. These objects can be easily retrieved if they are located within the pulp chamber, but once the object has been pushed...
apically, their retrieval may be complicated. Apical surgical procedures may sometimes be necessary.

The occurrence of foreign bodies in the form of screws, staple pins, darning needs, pencil leads and tooth pick have been reported in literature.\textsuperscript{3,4,5,6} Another important fact in this case is that the tooth has single canal leaving the pulp chamber but dividing into two separate foramina that is vertucci’s type V, which occur only in 6.25% in Indian population.\textsuperscript{7}

Case Report

A 12-year-old girl reported to the Department of Pedodontics and Preventive Dentistry, with a chief complaint of pain in the left mandibular lateral incisor.

Patient was referred from general practitioner with preoperative radiograph and access cavity was prepared with respect to mandibular left lateral incisor. On viewing the radiographs it was found that the pin was in the pulp chamber.

Then on examination, another radiograph was taken which revealed, that the pin was in the bifurcation of left lateral incisor, which may be pushed by the practitioner either during access cavity preparation or during negotiating the canal.

Attempt was made to retrieve the pin from bifurcation under magnification, straight-line access was established, as it is essential to reach and see the fractured instruments for its successful removal. Then the Pro ultra Endoultra sonic tip which are zirconium coated no (Dentsply Maillefer, Ballaigues, Switzerland and woodpecker hand piece) was inserted into the narrow space created between the pin and the canal wall and anticlockwise movement was given, the foreign object i.e. the pin was removed and the canals were obturated.
Young children have a strange habit of experimenting with toys, pins, marbles, buttons, pencils, and the like, and they test them orally. Such objects may be ingested, aspirated, or may cause injury to the oral tissues. The discovery of foreign bodies in the teeth is a special situation, which is often diagnosed accidentally. Root canals or pulp chamber of a tooth can be blocked by the presence of broken instruments, canal obturation materials, and in some cases, by foreign objects inserted by the patient himself. It can occur in patients undergoing root canal treatment in which canals have been left open for drainage or after trauma. The presence of foreign body prevents thorough instrumentation of root canal system and adversely affects the outcome of successful endodontic treatment.

The probable reason for lodgment of foreign body might be the open pulp chamber. The exposed pulp chamber provided direct access for the lodgement of the metallic fragment, about which patient was not aware. Factors that affect the retrieval of intraradicular foreign objects include root canal anatomy, radicular thickness, location, size, shape and radiopacity of foreign body, availability of equipment and experience and clinical skill of practitioner.

Basically, the foreign objects lodged in root canal can be classified into metallic and non-metallic objects. Because of their radio-opaque nature, the metallic objects can be readily identified from routine radiographs. McAuliffe summarized various radiographic methods to be followed to localize radio-opaque foreign objects, such as parallax views, vertex occlusal views, triangulation techniques, stereo radiography, and tomography. Specialized radiographic techniques such as radiovisiography and 3D computerized axial tomography (3D CAT) scans can aid in the localization. Microscopy and ultrasonic tips can be used as auxiliary tools. Non-metallic objects, being radiolucent, cannot be identified on radiographs. Hence, upon encountering resistance in a canal that was left open for a long period of time either after trauma or during endodontic treatment, it is recommended to take proper history and do careful instrumentation to prevent apical pushing of the object.

Conclusion

Orthograde removal of foreign objects from root canal is usually a significant challenge to the practitioners. Detailed case history taking and clinical and radiographic evaluation are necessary to come to a conclusion about the nature, size, and location of the foreign body. Careful instrumentation with patience is needed for retrieval of the foreign body. Complicated crown fractures should be managed promptly, and prolonged open drainage is avoided in children if the risks of foreign body impaction are to be minimized. There is a definite need for a proper classification of foreign bodies in and around the teeth and a treatment algorithm to be followed in such clinical situations.

References


7. Sushma p jaju, Prashant p jaju; Root canal assessment of mandibular incisors in an Indian population using cone beam CT; Endo 2013, 7(2), 105-111.
