Foreign object in Peri-radicular area: Report of Two dental Cases

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Abstract: Foreign objects in the pulp chamber or root canal are not unusual findings in patients undergoing root canal treatment in which canals have been left open for drainage. These can be easily removed with care not to push the objects apically, but once the object has been pushed to periapical area, the case becomes very difficult especially when the root end is immature. The presence of a foreign body increases the difficulty of eliminating infection by intracanal treatment alone. The options left are either periapical surgery or intentional re-plantation to remove the foreign objects in addition to canal filling.

Keywords: Foci of infection, foreign object, root canal, radicular cyst

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Introduction:

The discovery of foreign objects 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 the foreign objects found in the tooth and reports a case along with their retrieval and associated management of the involved teeth.

CASE REPORT:

A 17-year-old female patient reported with a history of pain in the upper front tooth. She had suffered dental trauma two years back.

Intra-oral examination revealed a complicated enamel-dentine fracture with a slit-like opening involving the pulp chamber of the tooth 21. The tooth exhibited the following clinical features:

- Swelling in the labial vestibule.
- Tenderness in the labial sulcus.
- Pain on percussion

An intra-oral periapical radiograph revealed the presence of radio-opaque object in the periapical region of left maxillary central incisor. History revealed that the patient had inserted pins when swelling is occurred intra-orally due to pain relived.

A radiograph was taken that showed an immature apex and the presence of what appeared to be a broken instrument in the periapical area with the head of the instrument near the root apex, along with circular cyst like lesion. When asked how it happened the child refused to admit anything; but on further questioning she admitted to having pushed in the pin a few days earlier while studying. He also tried to remove it but could not succeed. He did not inform to the parents about the pin due to fear of scolding.

Figure 1 : Pre operative Radiographic picture

Figure 2 : Intra operative view

Figure 3 : Removed Metal Pin

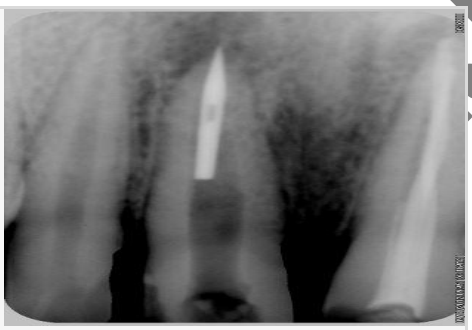
Considering the case as an emergency immediate peri-apical surgery was planned. After giving an infra-orbital block and infiltration anesthesia, a mucoperiosteal flap was raised and the buccal cortical plate was pierced using a bur and adequate coolant, pus was escaped out due to tear in the lining. After gaining access to the peripical area the head of the straight pin was identified and gently removed and also the cystic lining was enucleated. The broken pin was lying almost parallel to the palatal bone, which was removed. The canal was obstinate and a retrograde filling placed. Cystic lining was enucleated and sent for histo-pathological examination which confirmed radicular cyst. Antibiotics and analgesics were prescribed. Interrupted suturing was done.

Figure 4 : Granulation tissue

Figure 5: Post operative radiographic picture

Case 2

A 22-year-old male patient reported with discolored upper anterior tooth with an intraoral draining sinus. The intraoral periapical radiograph revealed a radio-opaque object in the canal. On careful history from the patient revealed that he had inserted a piece of common pin in the open pulp chamber of 11. He had sustained trauma approximately three years back and after 2-3 months of pin insertion the sinus tract was appeared. Surgery was planned and the same procedure repeated in this case too.

CASE 2: Figure 6: pre-operative radiographic picture	
CASE 2: Figure 7: removed metal pin	

Discussion:

Various foreign objects were reported to be lodged in the root canals and the pulp chamber, which ranged from pencil leads [1] , darning needles [2] , metal screws [3] , to beads [4] and stapler pins. [5] Grossman [6] reported retrieval of indelible ink pencil tips, brads, a tooth pick, adsorbent points and even a tomato seed from the root canals of anterior teeth left open for drainage. Toida [7] have reported a plastic chopstick embedded in an interrupted supernumerary tooth in the pre-maxillary region of a 12-year-old Japanese boy. The patients had inserted these objects in the root canal to remove food plugs from the teeth.

Weine [8] recommends that the patient remains in the office with a draining tooth for an hour or even more and finally ending the appointment by sealing the access cavity. With the access cavity closed, no new strains of microorganism system are introduced and food debris and foreign body lodgment within the tooth can be avoided [9].

For retrieval of foreign objects lying in the pulp chamber or canal using ultrasonic instruments [10] , the Masserann kit

[11], modified Castroveijo needle holders [12] have been used. Ethylenediaminetetraacetic acid has been suggested as a useful aid in lubricating the canal when attempting to remove the foreign object. The Steglitz forceps have also been described for use of removal of silver points from the root canal. There is a description of an assembly of a disposable injection needle and thin steel wire loop formed by passing the wire through the needle being used. This assembly was used along with a mosquito hemostat to tighten the loop around the object. [13] Srivastava and Vineeta [14] have suggested periapical surgery or intentional reimplantation to remove such objects.

Pain and swelling in the upper anterior area were probably due to the presence of the contaminated pin in the periapical area. It might have pushed deep beyond the apex in an attempt by the child to remove it from the root canal. The parents said that the tooth was asymptomatic for the last 2 yr, and due to a low economic status and unwillingness to extract the tooth they did not seek treatment.

Conclusion:

In the case, a pin lodged in the periapical portion of 21 with an immature apex was discovered on radiographic examination of a patient with a complicated crown fracture. Eventually, the object was retrieved by Apicoectomy.

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