

Incidental Diagnosis of Foreign Object in Untreated Rootcanal Tooth – A Case Report

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Abstract:-

- **Introduction:-** The line-up of an endodontic therapy is the complete debridement of the pulp tissue and the destruction of microorganisms found in infected root canals and provide an effective seal to prevent recolonization of the canal with bacteria. Thus, the primary endodontic treatment goal must be to ensure root canal disinfection and to prevent re-infection. Incomplete root canal treatment can trouble the patient leading to pain and irritation. This case explains how the patient tries to get rid of pain by placing a foreign body in complicated crown fracture with irritation.
- **Aim:-** To describe the consequences of incomplete endodontically treated tooth that can lead to endodontic mishap.

Keywords:- Self-inflicted Injury, Endodontic Mishaps, Incompletely Treated Endodontic Tooth, Trauma, Broomstick Retrieval

The dental pulp is an aseptic connective tissue covered by enamel, dentin, and cementum. Any insult of the pulp chamber causes inflammation and upshot in pulp necrosis if left untreated. Microorganisms pioneer the pulp tissue after necrosis as a consequence of trauma, resulting in periapical pathosis. Once the canal is infected pulp necrosis is inevitable. Children anticipate pain during dental procedures and hence avoid dental visits reducing sensation to confront painful situations.

Recruitment of extraneous objects in root canals is a challenging part as it is accidentally diagnosed on routine endodontic procedure which was not visualised on the radiograph. The foreign agent hinders the complete debridement of canal and also acts as a potential source of infection. Hence, their removal is necessary to re-negotiate the canal and complete the root canal treatment successfully.

I. CASE

An eleven-year-old boy turned up with the chief complaint of broken upper front tooth since 4 months. On history the father reported a fall while playing and are concerned about the aesthetics. No history of head injury, loss of consciousness, bleeding, lacerations had occurred. Patient did not have vomiting or swelling post trauma. Patient reveals no pain or sensitivity with the said tooth. Clinical examination revealed tooth fracture of enamel,

dentin and an exposed pulp in relation to 11. On inspection slight discoloration was noted; on palpation there was no associated mobility or deviation of the tooth. The tooth showed negative response on vertical percussion. On sensibility testing EPT showed no response in relation to 11 and normal response to 21 and 12. On radiographic examination; complete root formation was seen with respect to 11 and fracture of crown involving the enamel dentin and pulp. PDL space widening was noted and the lamina dura was intact. A diffuse periapical radiolucency of 1*1 cm was noted in relation to 11.

Past dental history revealed a visit to nearby dental clinic where treatment was not completed and hence the patient reported 4 months later to the Department for aesthetic rehabilitation.



Fig 1 Clinical



Fig 2 Occlusal view Showing Exposed Pulp



Fig 3 Mandibular Arch



Fig 4 EPT of the Said Tooth with no Response



Fig 5 EPT of the Adjacent Tooth with Normal Response



Fig 6 Radiographic Image Depicting complete Root Formation with Respect to 11 and Ellis Class III. PDL Space Widening and Intact Lamina Dura. A Diffuse Periapical Radiolucency of 1*1 Cm Wrt 11.
*No Evidence of Foreign Object was Revealed

➤ *Treatment Planned:*

- Root canal treatment wrt 11
- Pulpotomy wrt 65 followed by stainless steel crown
- Extraction wrt 63 and 55
- Pit and fissure sealant application wrt 36 and 46



Fig 7 WL Determination

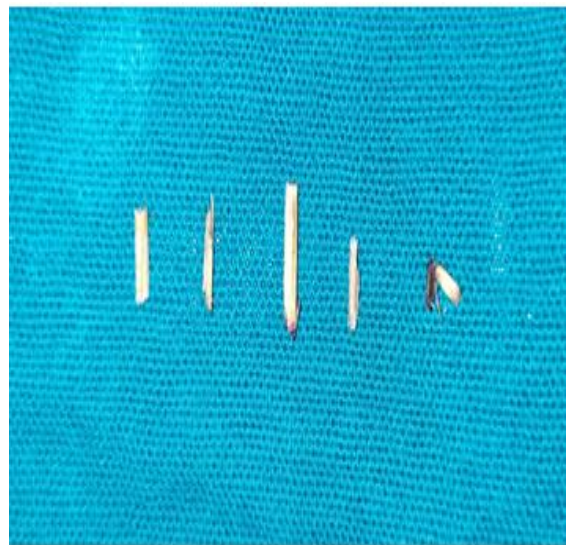


Fig 8 Broomstick Retrieval

Father was unconscious of habit of lodging of broomstick in the tooth, in response to further interrogation, the patient admitted the use of broomstick to relieve the discomfort associated. When broomstick fractured inside the canal, the patient did not reveal the incident.

Broomstick pieces were retrieved and copious irrigation of the canal was done. This was further followed by placement of triple antibiotic paste for the disinfection of the canal. The patient was recalled in 1 week for obturation with the same.



Fig 9 Placement of TAP



Fig 10 Placement of TAP

Master cone selection was done according to the apical fit and Obturation was completed using Gutta percha and calcium hydroxide sealer.



Fig 11 Master Cone Selection



Fig 12 Obturation with Post Endodontic Build IOPA Reveals Healed Lesion Wrt 11

II. DISCUSSION

The goal of endodontic treatment is to clean, shape, and seal the root canal system in three dimensions to eliminate or prevent reinfection. Endodontic failure means the recurrence of clinical symptoms along with the presence of a periapical radiolucency. The most common cause of traumatic injuries was "fall" followed by "impact/collisions." It is observed that most of the injuries occurred at home followed by at school and playground.

Children use foreign objects that can be easily inserted and are readily available to remove food particles entrapped inside the open pulp chambers of fractured teeth. These acts provide relief from irritation and pleasure during the removal of food particles. The child knows about the act but never expresses it to the parents until and unless consequential complications like pain develop.

There is a significant chance of a self-injurious act performed by the child with atypical foreign objects that might result in complications such as exposure of the vital pulp or that might result in breakage of the foreign object leading to dental pain and infection. In light of this evidence, alerting parents of these possible self-injurious acts with atypical foreign objects in cases of untreated caries and traumatized teeth in young children seems to be an imperative factor that can be integrated in the anticipatory guidance.

Importantly, anticipatory guidance to parents should also include the possible complications caused due to self-injurious behaviour with foreign objects in the young child.

➤ *Why is this Paper Important to Pediatric Dentists?*

- Anticipatory guidance and awareness for the dental treatment in both primary and permanent teeth at the earliest.
- Children tend to use foreign objects in teeth with open pulp chamber to remove the irritation by food lodgement.

- Behaviour modification of the anxious children to reduce the anticipated pain towards dental procedures.

REFERENCES

- [1]. Srivastava VK. Self-inserted foreign objects inside root canal of fractured incisors: an unusual behaviour. *J Indian Dent Assoc* 2014 Aug;8(8):31–35.
- [2]. Katge F, Mithiborwala S, et al. Incidental radiographic discovery of a screw in a primary molar: an unusual case report in a 6 year old child. *Case Rep Dent* 2013;2013:296425. DOI: 10.1155/2013/296425.
- [3]. Diangelis AJ, Andreasen JO, Ebeleseder KA, Kenny DJ, Trope M, Sigurdsson A, et al. International Association of Dental Traumatology guidelines for the management of traumatic dental injuries: 1. Fractures and luxations of permanent teeth. *Dent Traumatol* 2012;28:2-12.
- [4]. Rangeeth BN, Moses J, Reddy NV. Self-injurious behavior and foreign body entrapment in the root canal of a mandibular lateral incisor. *J Indian Soc Pedod Prev Dent* 2011;29:S95-8.
- [5]. Dietschi D, Jacoby T, Dietschi JM, Schatz JP. Treatment of traumatic injuries in the front teeth: Restorative aspects in crown fractures. *Pract Periodontics Aesthet Dent* 2000;12:751-8.