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RESEARCH ARTICLE

Bizarre self obturation by God's Naughty Creation: A Rare Case Report

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Abstract

Inadvertent discovery of a foreign object embedded in a tooth is uncommon. Children are accustomed to insert objects into their mouth. These foreign objects may act as a potential source of pain and infection. This case reports the retrieval of foreign objects and management of the affected tooth in an 11-year old child.

INTRODUCTION

Endodontic treatment in children can be a demanding task and, occasionally, a clinician may encounter bizarre situations that require both skill and patience. Many children habitually place various objects that can cause hard or soft tissue injuries in the oral cavity. [(1)] The episodes of foreign bodies such as metal screws, staple pins, darning needles, pencil leads[(2)], beads, and tooth-picks lodged in the exposed pulp chambers of carious or traumatically injured primary and permanent teeth have been reported in the literature.[(3)] These objects may serve as foci of infection and cause serious infection if not eliminated. Most often teeth remain asymptomatic and detection of foreign objects occurs only during routine radiographic examination. Their removal and negotiation of the affected canals will ensure successful endodontic treatment. [(4)]

❖ CASE REPORT

An 11 year old boy reported to the Department of Pediatric and Preventive Dentistry, with a chief complaint of pain in the upper left back tooth region, since 2 months. Patient had no relevant medical history. In an attempt to alleviate the discomfort Patient developed the habit of inserting various objects like wooden stick, stapler pins etc in the affected tooth. On Intra oral examination grossly carious maxillary left first molar (26), with exposed pulp chamber was noticed (Fig-1). The floor of the pulp chamber was perforated in the centre and at the distal wall of tooth. A metal object at the floor of pulp chamber and portion of a wooden stick at the palatal canal orifice were visible. An intra-oral periapical radiograph revealed the presence of a linear radio-opaque object inside the Mesiobuccal root canal of 26, which extended beyond the apex (Fig-2).

After thorough deliberation of clinical and radiological findings, we arrived at the following treatment plan:

- Retrieval of metallic and wooden objects from the root canals
- Root canal treatment.
- Followed by perforation repair using MTA.
- Core build up.
- Stainless Steel Crown.

Fig 1: Clinical view of carious molar showing Metallic object

Fig 2: Radiograph showing metallic object in root canal

Fig 3: Retrieved metallic object

Fig 4: Retrieved wooden object

- Retrieval of the metal object attempted with the aid of mosquito forceps and lockable tweezers failed, due to the position of the object. In a final attempt a spoon excavator (OSUNG MND CO. LTD) was engaged below the object to elevate it. This allowed the object to be grasped with a lockable tweezers and its removal was accomplished. A wooden piece was firmly lodged inside the palatal canal. Space on one side of canal was created by pushing the wooden piece laterally with a sharp probe. In this space created, a

No.30 Hedstrom file (Mani Hedstrom file) was inserted, up to 15 mm and withdrawn in pullback motion. The wooden particle was engaged and retrieved successfully. After removal of both foreign objects (staple pin and wooden piece) (Fig- 4, 5), the canals were irrigated copiously with 3% Sodium Hypochlorite. (Percan,septodont) Total of four canals – MB1, MB2, DistoBuccal, and a Palatal canal were located. At the next visit, biomechanical preparation of root canals was performed and Calcium hydroxide as intra canal medicament (Endocal, Septodont) was placed. At the subsequent visit obturation with gutta-percha was performed.

- Post- obturation, perforation repair of the floor of pulp chamber and the distal wall of tooth was accomplished using MTA (ProRoot MTA, Dentsply Tulsa Dental) (Fig- 6).
- The patient was recalled after 2 days, for post endodontic restoration with Miracle Mix (GC Miracle mix) followed by the Stainless Steel Crown (3M ESPE Permanent molar crown No.7) after 2 weeks as a semi permanent restoration.

Fig 5: Clinical view showing Perforated Pulpal floor

Fig 6: Clinical view showing Placement of MTA on Perforated Pulpal floor

Fig 7: Post-operative Radiograph

❖ DISCUSSION

- When children are doing nothing, they are doing mischief." (Henry Fielding).This Statement is well supported by the myriad of reports in dental literature describing varied and unusual foreign objects in the pulp chambers and canals of the tooth. The most common being pins, ornaments, metal screws, nails, sewing needles, beads, etc.[5-9] Foreign objects are usually seen in wide open canals of anterior or lower posterior teeth, that have been exposed either due to caries or trauma. A foreign body can act as foci of infection, hence their retrieval at the earliest is imperative.[10]

- The foreign objects lodged in root canals can be categorized into metallic and non-metallic objects. Because of their radio-opaque nature, the metallic objects can be readily identified from routine radiographs unlike the non-metallic objects. Appropriate history records in conjunction with cautious exploration of root canal would prevent apical displacement of foreign objects.[4]

- For retrieval of foreign objects from the pulp chamber or canal, ultrasonic instruments [11], the Masserann kit [12], modified Castroviejo needle holders [13] and other systems have been used. Ethylene Diaminetetraacetic acid has been suggested as a useful aid in lubricating the canal when attempting to remove foreign object. The Steglitz forceps have also been described useful in silver-points removal from the root canal. McCullock [14] suggested that access to the foreign object is improved if small amount of tooth structure is removed. Chronic maxillary sinusitis of dental origin developed due to foreign objects pushed into maxillary sinus through the root canals was reported by Costa et al. [15]

- In the present case both metallic and non metallic objects were present in different root canals of 26. Complexity of the situation was enhanced due to the perforation of the floor and distal wall of the pulp chamber.

- A Metallic object (stapler pin) was lodged in MB l root canal, extending beyond root apex. In this case the 90 degree bend in the metal object facilitated ease of removal. The wooden object was firmly lodged up to 1/3 rd of the root canal, The flute design of the Hedstrom file facilitated easy removal of wooden object.[1]

- Calcium hydroxide has been used in a plethora of situations like treating perforations, resorption, weeping canals, etc.[16] Its effectiveness as an intracanal medicament is due to its antimicrobial effect, tissue dissolving property, anti-inflammatory property and osteogenic potential.[17] These facts encourage the use of this well established intra canal medicament.

- Among the various materials used in management of perforations, Mineral trioxide aggregate (MTA) has most of the ideal characteristics. MTA is endowed with good outcome in root-end surgery, direct pulpal coverage, apexification, radicular resorption, and repair of lateral radicular and furcal perforation.[18] Its suitability for managing all of these problems can be attributed to its biocompatibility, capacity for creating a seal between the pulpal chamber and periodontal tissues and its repair capacity.[19]
- Literature presents several cases of foreign objects discovered in anterior, lower posterior both in primary and permanent teeth. Ease of access allows the patient to mimic the dentist's actions hence insert objects into their teeth. Lack of access to dental care, forced our patient to attempt pain relief via staple pin insertion, in an inaccessible tooth. Such incidents in posterior maxillary molars, akin to the present case report are uncommon.

- Parental neglect or delay to seek timely dental care, may force children to attempt pain relief through placement of foreign objects. Dangers of such practices and need for immediate professional intervention must be emphatically explained to create parental awareness.

❖ CONCLUSION

- Discovery of any foreign objects in the root canal, calls for immediate retrieval and subsequent therapies to eliminate infections and complications. In the present case report both metallic and non metallic objects were extricated from the root canals of a molar tooth in an 11-year old boy. The procedure was performed with clinical acumen and instruments readily available in the dental operatory. Awareness created among parents to seek timely dental care, would avoid serious consequences for these patients.

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