



## FOREIGNERS TO PULP AND PERIODONTIUM – REPORT OF 2 CASES

## Dental Science

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## ABSTRACT

Presence of a foreign object embedded in and around a tooth is unusual. Such object may get lodged and become a source of pain and infection, causing the patient to present to the dentist. This paper present two such case reports of foreign body imbedded within or around the tooth. One of the reported cases is the first case in which staple pin is present in primary molar. Present article emphasizes upon maintenance of oral hygiene and regular dental check up can prevent such undesirable situation.

## KEYWORDS

Foci of infection, foreign bodies, staple pin.

## Introduction

Injury to both the hard and soft tissues may occur as a consequence of habit of placing foreign objects into the mouth. The possibility of these foreign objects getting impacted into the tooth is more when the pulp chamber is open either because of traumatic injury or a large carious exposure.<sup>1</sup>

Children and adolescent have a habit of placing foreign objects in the oral cavity.<sup>2</sup>The majority of foreign bodies are taken in mouth or ingested. Although, any age group may be involved but pediatric population is most commonly involved with peak incidence between 6 months to 6 years.<sup>1</sup>

Foreign objects may become a potent source of pain and infection. Retrieval of such objects from the teeth or supporting structure is challenging to dentist. In such cases it is essential that the dentist takes a thorough history and performs a detailed examination, including an appropriate radiographic examination. In depth examination ascertains the size, position and likely composition of the object, and also to establish the degree of difficulty that may be experienced in attempting to remove it.<sup>1</sup>

This paper discusses the importance of detailed examination in case of foreign body lodgment in and around the teeth. At the same time it also acknowledge about importance of maintenance of oral hygiene.

## Case report 1

A 7-year-old girl reported to the Department of Pedodontics and Preventive Dentistry, People's College of Dental Sciences, Bhopal (M.P) India with a chief complaint of pain in the right primary mandibular first molar since one month. Patient gives history of food lodgment in same tooth since 8 months. She use to utilize bobby pins, tooth picks or even some times staple pins to remove food lodged. While removing food particle 4 months back the staple pin got accidentally stuck in coronal portion of same tooth. Patient's parents were unaware of the accident. Later, pain got aggravated on chewing. When pain was unbearable parents seek dentist help and brought her to Pedodontia Department. On intraoral examination it was observed that the tooth was grossly carious and filled with food particles. After cleaning the food particle, metallic body was observed within the open pulp chamber of same tooth (Fig:1). Sinus and pus discharge was present on buccal side of same tooth. Radiographic examination of the tooth revealed a radioopaque object resembling a stapler pin present in the coronal pulp chamber passing through furcation area and reaching upto cusp of unerupted first premolar (Fig: 2). Keeping in mind large furcation defect due perforation by staple pin, extraction was considered as treatment of choice.

A tetanus vaccine booster dose was administered to the patient prior to

extraction. Local Anesthesia was administered. As staple pin might injure the successor tooth during extraction, it was carefully removed from coronal pulp chamber prior to extraction procedure. After retrieval of pin, affected tooth was extracted (Fig:3). Treatment plan has been made for space management of the extracted tooth.

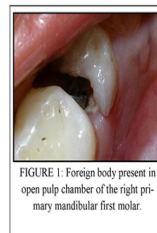


FIGURE 1: Foreign body present in open pulp chamber of the right primary mandibular first molar.

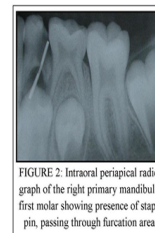


FIGURE 2: Intraoral periapical radiograph of the right primary mandibular first molar showing presence of staple pin, passing through furcation area.

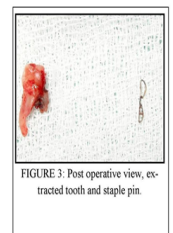


FIGURE 3: Post operative view, extracted tooth and staple pin.

## Case report 2:

A 34 year systemically healthy male patient reported to the Department of Periodontics, Peoples College of Dental sciences and Research centre with the chief complaint of sewing needle being broken in between permanent left upper first and second molar since two days with no associated symptoms. Patient gave the history of root canal treatment (RCT) in private clinic 6 months back due to pulpal involvement. After RCT the permanent restoration followed by crown was advised. Patient neglected the treatment advised as his pain was relieved after endodontic treatment. As per the patient after the endodontic treatment patient had problem of food lodgment in the same region, for which patient started using wooden stick / tooth pick and sewing needle for the removal of lodged food. On examination, fractured temporary restoration (occlusal and distal aspect) was observed on permanent second molar. Clinically, no metallic object was found. An intra oral periapical radiograph (IOPA) was advised for the region of 26, 27 and 28. IOPA revealed the presence of needle between maxillary left second and third molar. (Fig.4)A tetanus vaccine booster dose was administered to the patient. Under local anaesthesia buccal and palatal papilla were reflected in between 27 and 28, the piece of broken needle was visible which could not be gripped with the help of tweezer or tissue forceps. Carious lesion present was removed with the help of round bur (B R 41,Mani, INC,Japan), and needle was accessed than with the tweezer and removed( Fig 5). After removal of needle 3-0 non absorbable Mersilk black braided silk surgical sutures (Ethicon, Johnson and Johnson Ltd. Somerville, NJ, USA) were placed between the reflected papillas. Patient was than advised for IOPA which showed complete removal of broken needle piece. (Fig 6). After one week sutures were removed and patient was referred for permanent restoration followed by crown in respect to permanent upper left second molar.

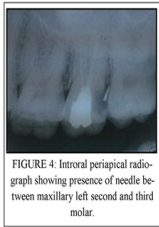


FIGURE 4: Introral periapical radiograph showing presence of needle between maxillary left second and third molar.

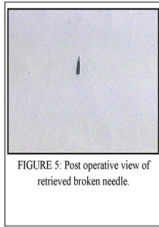


FIGURE 5: Post operative view of retrieved broken needle.



FIGURE 6: Post operative intraoral periapical radiograph ensuring complete removal of needle.

## Discussion

Self-inflicted injuries in children and adolescents can occur as a result of accidental trauma, premeditated infliction, or chronic habits such as finger-nail biting, digit sucking or objects such as pens, pencils, toothpicks, knives, thread, dental floss and pacifiers.<sup>3</sup> Ware reported a case of finger biting habit in a 5 year old patient. Local mechanical injury due to this habit had led to bacterial contamination and subsequent inflammation and swelling. <sup>4</sup> Gingival swelling due to embedded fingernails was seen in 9 and 8 year old boys. <sup>5,6</sup> These were retrieved either by subgingival curettage or by raising mucoperiosteal flap. The gingival lesion healed after the removal of fingernail. Sugarman and Weathers found a tooth brush bristle lodged in between cuspid and lateral incisor in mandibular arch.<sup>7</sup>

A variety of foreign objects were also reported to be lodged in the root canals and the pulp chamber. Hall <sup>8</sup> had described lodged pencil lead in the tooth. While others had mention presence of darning needles <sup>5</sup> metal screws <sup>10</sup> beads <sup>11</sup>, tooth pick, adsorbent points and even a tomato seed from the root canals of anterior teeth. <sup>12</sup> These foreign materials and certain food particles can reach the periapex and induce a foreign body reaction. <sup>13</sup> Aduri <sup>1</sup> had reported presence of staple pin within the root canal of permanent teeth in children. Presence of staple pin was also reported in root canal of central incisor by McAuliffe.<sup>14</sup> However, in all these reported cases staple pin were present in permanent teeth. This (case report 1) is one of the first reported case in which staple pin is present in primary molar. Recently, metallic screw was observed within the pulp chamber of primary second molar in 8 year old boy. <sup>15</sup> Holla <sup>16</sup> found broken head of sewing needle in open pulp chamber of grossly carious primary central incisor.<sup>15</sup> Foreign bodies present in the coronal portion of primary molar may cross the furcation area comparatively early and easily, because of smaller dimension of crown and cervical placement of furcation area relatively to permanent molars. This can cause harm to developing tooth bud underneath the primary teeth. Therefore, it is essential that parents keep a close check regarding the developing oral habits and get regular oral check up done for their children. This will not only prevent undesirable situation but also will prevent any harm to permanent dentition.

It is interesting to know that in most of the cases, foreign bodies were present in open pulp chamber or root canal either because of unattended large carious exposure or trauma. In case 2 foreign body was present in the supporting tissue between molars. This case showed the negligence on patient part by avoiding the complete treatment of permanent restoration and crown advised by the dentist which had led to food lodgement. Patient started using sewing needle to remove the lodged food instead of using proper interdental cleansing aid depending on the embrasure spaces. Hence, improper maintenance of oral hygiene and neglecting the dental treatment had led to foreign body lodgment. To avoid such situation dentist should emphasize on maintenance of the oral hygiene and consequence of avoiding the dental treatment. Present article also emphasized that pain remain the main reason for seeking dental treatment by many patients.

## Conclusion

Foreign body can be one of persistent source of pain and infection, whether it is present within the tooth or its supporting structure. Hence, detailed case history, clinical and radiographic examinations are necessary in such patient to come to a conclusion about the nature, size, location of the foreign body and the difficulty involved in its retrieval. If appropriate method of diagnosis and prompt treatment planning is done, management of similar cases in operator becomes straightforward. Dentists play an important role in motivating patients regarding oral hygiene maintenance. Regular dental check up and treatment can avoid such unwanted situation.

## References

- 1) R Aduri , R Reddy , K Kiran .Foreign objects in teeth: Retrieval and management. J Indian soc Pedod Prevent Dent 2009;27(3):179-183.
- 2) Eisen G.M et al. Guidelines for the management of ingested foreign bodies, American

- society for Gastrointestinal Endoscopy 2002;55(7):802-806.
- 3) Charlene B. Krejci. Self-inflicted Gingival Injury Due to Habitual Fingernail Biting. J Perodontol 2000;71:1029-1031.
- 4) Ware EM. Tooth loss from fingernail biting. Tex Dent J 1980;98(6):9.
- 5) CJ Creath, S Steinmetz and R Roebuck and Charlene B. Krejci. Self-inflicted Gingival Injury Due to Habitual Fingernail Biting. J Am Dent Assoc 1995;126:1019-1021.
- 6) Charlene B. Krejci. Self-inflicted Gingival Injury Due to Habitual Fingernail Biting. J Perodontol 2000;71:1029-1031. Sugarman EF
- 7) ,Weathers DR. An unusual foreign body reaction - a case report. J Periodontol 1977;48(5):290-3.
- 8) Hall JB. Endodontics - Patient performed. J Dent Child 1969;36:213-6.
- 9) Nernst H. Foreign body in the root canal. Quint 1972;23:26.
- 10) Prabhakar AR, Basappa N, Raju OS. Foreign body in a mandibular permanent molar: A case report. J Indian Soc Pedod Prev Dent 1998;16:120-1.
- 11) Subba Reddy VV, Mehta DS. Beads. Oral Surg Oral Med Oral Pathol 1990;69:769-70.
- 12) Grossman JL, Heaton JF. Endodontic case reports. Dent Clin North Am 1974;18:509-209-27.
- 13) P. N. R. Nair. On the causes of persistent apical periodontitis: a review. Int Endod J 2006;39:249-281.
- 14) Macauliffe N, Drage NA, Hunter B. Staple diet: A foreign body in a tooth. Int J Paediatr Dent 2005;15:468-71.
- 15) Urvashi Sharma, Pawandeep kaur sandhu virk. Incidental discovery of a screw in a deciduous molar. Oral Radiol 2010;28(1):45- 6.
- 16) Holla G,Baliga S,Yeluri R,Munshi A.K. Unusual object in the root canal of deciduous teeth:A report of two cases. Contemp Clin Dent 2010;1(4):246-248.