

**An Intraoral Variation of Polyembolokoilamania: Self-Introduction of Carpenter Screw In Decayed Tooth by Children: A Series of Two Case Reports**

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**Conflicts of Interest:** Nil

**Abstract**

Polyembolokoilamania or self-introduction of objects into body orifices may be chance observation in paediatric dental practice which may be associated with injury to the involved soft tissues and dentition intraorally requiring immediate management to prevent further trauma by chances of swallowing or affecting the patency of airway depending on the size and location of foreign object engulfed. Its association with an underlying psychiatric impairment, though not always may be seen in certain situations. The aim of this study was to provide immediate care for retrieval of foreign object along with assessment of any underlying psychological impairment which if present required attention so that the treatment not just

ensured dental management but also ensured the resolution of behaviour which lead to this action.

**Keywords:** Polyembolokoilamania, foreign object, oral antrum

**Introduction**

Polyembolokoilamania is representative of a broad group of disorders describing self-insertion of foreign articles into body orifices.<sup>1</sup> Care required in such cases may often be multidisciplinary in nature involving physician, surgeon, psychiatrist and dental opinion.<sup>2</sup>

The complications of foreign body insertion into oral antrum may lead to injury to the hard and soft tissue structures due to its accidental or purposeful introduction by children.<sup>3</sup> The introduced foreign object may get impacted in teeth especially if pulp chamber is exposed as

a consequence of trauma or large carious exposure which may be discovered immediately if discovered by a caretaker or accidentally if the patient reports with associated pain and infection at that site.<sup>4</sup> Previous studies have reported incidences of injuries due to various foreign objects including paper clip, nail, sewing needle, incense stick, metal screws, beads, stapler pins.<sup>5,6,7,8,9,10,11,12</sup>

Detailed case history followed by clinical and radiographic examinations aid in assessing the nature, size, location of foreign object and the difficulty associated with its retrieval especially in paediatric dental practice as it manifests as a challenging analogy for the treating Pedodontist. Object retrieval is easier if it is contained within pulp chamber, but once pushed apically, the retrieval may become exhausting at times even ending up requiring apical surgical procedures which may be harmful to the underlying developing permanent dentition.<sup>3</sup>

This article describes two cases of foreign object impacted in the root canal of primary molars due to self-introduction by children which was eventually diagnosed and the subsequent management of these cases.

## **Case Report**

### **Case 1**

A 5 year old male child reported to the Department of Pedodontics and Preventive Dentistry with an unusual presentation of a foreign object lodged in his upper right back tooth region with associated pain. No past relevant medical history was told by the parents. On enquiring, the child initially did not express self-introduction, however better communication and warm rapport made him confirm self-introduction due to intermittent dull aching pain in the associated tooth to achieve relief from pain by probing the tooth with foreign object. On intraoral examination, the upper right maxillary second molar (55) was observed with an exposed pulp chamber with foreign

body lodged in it and associated mild active bleeding (Fig.1). Radiographic examination revealed a dislodged restoration leading to failure of a pulpectomy treated tooth (55), with the radio-opaque screw wedged into the pulp chamber space with apparent perforation of furcation continuity (Fig.2). Endodontic management of the tooth was beyond clinical scope and indicated poor prognosis. Parents were informed about the need for space maintenance post extraction but they didn't consent. Hence an extraction procedure was planned under local anaesthesia with appropriate precautionary measures to prevent loss of foreign object in airway. After administration of LA, screw was manipulated and found to be loosely embedded hence retrieved from the tooth carefully with the help of artery forceps(Fig.3) after which extraction was carried out for tooth( 55). The socket was irrigated with betadine solution and packed with gel foam. Haemostasis was achieved. Tetanus toxoid was administered and oral antibiotics and analgesics were prescribed. Patient was reviewed after 24 hours and follow up was done. Healing was uneventful.

### **Case 2**

A 10 year old male child reported to the department with a chief complaint of a foreign object lodged in his lower left back tooth region with associated pain. Medical history was insignificant but a doubt of an underlying psychological involvement was raised as it took a lot of effort in making the child confess self-introduction after initial denial as the child kept on evading questions raised by the accompanying attendant and the examinees. The accompanying attendant revealed that the child lived with an apparent lack of attention as he resided in an orphanage and often conducted mischiefs to garner attention. On clinical examination a deep proximally carious left lower primary second molar (75) with a foreign object lodged in its exposed pulp chamber was seen(Fig.4). On

radiographic examination, the tooth had a radiopaque metal screw lodged in its pulp chamber extending till furcation region (Fig.5). Resorption of inter-radicular bone and discontinuity of lamina dura with respect to its mesial and distal roots was also observed. The screw was found to be firmly embedded in tooth henceforth careful extraction of tooth(75) along with screw was performed under local anaesthesia taking necessary precautions(Fig.6). Local haemostatic measures were used to arrest bleeding after irrigation of socket with betadine solution. Patient was administered tetanus toxoid and an antibiotic and analgesic cover was provided. Uneventful healing was seen on follow up examination.

Both the patients were then taken up for behaviour consultation after emergency treatment completion. During consultation, the first child revealed that he accidentally introduced the screw while performing mischief during playing to get relief from his tooth pain and feared telling his parents about the incident as an escape mechanism and evading strategy until his mother noticed bleeding from his tooth intraorally and rushed him to the paediatric dental department. The second child however wanted to garner attention towards the pain in his tooth which went unnoticed by the orphanage caretakers. Both children were diagnosed to be normal psychologically but with an accidental yet purposely done exploratory misadventure and were explained about the not understood consequences of their actions during remedial therapy session. They were taught harm reduction strategies during the session and eventually showed successful resolution of behaviour after getting necessary attention.

### **Discussion**

Self-introduction of objects into body orifices may injure intraoral hard or soft tissue if the concerned orifice is the oral cavity.<sup>3</sup> In such cases, the first examination for a child

may often be done by a paediatric dentist thus becoming imperial for them to be vigilant during history taking and examination for planning treatment in such cases.

In the present case, both children had introduced a screw into their oral cavity and lodged it into the pulp chamber of their tooth as the first case reported with a post endodontic restoration failure and the second had deep carious involvement of the associated tooth. Prabhakar et al had also reported a screw shaped foreign object lodgement in the pulp chamber of left mandibular first permanent molar in their study.<sup>13</sup>

Radiographs were taken to aid in diagnosis and treatment planning as they helped in determining the depth of penetration of the inserted radiopaque screw and the subsequent damage it caused to the coronal and radicular morphology of tooth. McAuliffe et al also summarized various radiographic methods in their study which may aid in improving the diagnostic ability of localising any foreign object intraorally.<sup>14</sup>

When treatment for such cases is considered, emergency management may be needed and may also lean towards an extensive surgical course based on the extent of inflicted injury.<sup>15</sup> In both cases, since the screw was localised inside the tooth structure and was not associated with any soft tissue injury, swelling or profuse bleeding, extraction procedure was observed to be the best treatment strategy keeping in mind the poor prognosis of the associated teeth. Gelfman et al also reported of performing extraction in a 3-year-old child who had inserted two straws into the root canal of a primary central incisor in their study.<sup>16</sup> The access to these foreign objects may often be improved by removing small amount of tooth structure if found necessary.<sup>17</sup>

Complications like Actinomycosis and chronic maxillary sinusitis have also been reported in previous case reports as the impacted objects were not eliminated at the right

time.<sup>18,19</sup> Hence timely provided treatment may eliminate the unnecessary complications that may follow if not treated at the right time.

Since the foreign body insertion was attributable to an underlying accidental yet harmful self- introduction, a detailed assessment facilitated in deeper understanding of the child patient and their threaded complexities hence unearthing the aetiology of foreign body insertion in polyembolokoilamania cases thus leading to more efficient and lasting care by provision of counselling session.

### Conclusion

Self- insertion of foreign objects may injure oral structures in children. A prudent need for history taking and observation of the child's attitude is required by treating paediatric dentists so that apart from providing necessary emergency management they may refer the child to a psychiatrist if required based on their assessment of child behaviour so that the underlying psychological reason is also addressed and the child is reasoned with putting an end to their inadequate habit and never repeat it thus preventing the harm that may follow.

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**Legend Figure**

Fig.1: Intraoral pre-operative photograph showing screw embedded in tooth (55)



Fig.2: Pre-treatment radiograph showing embedded screw

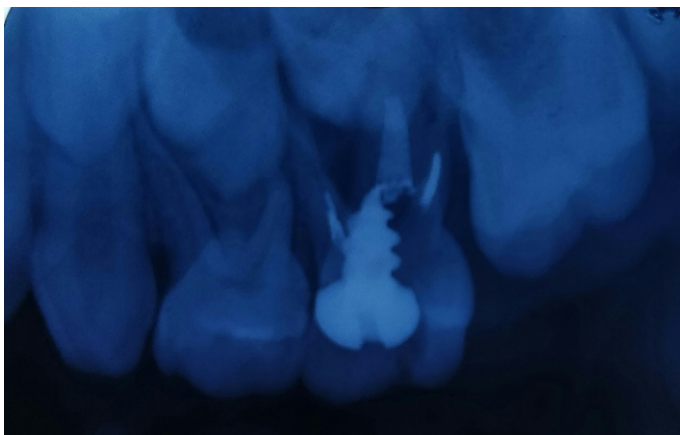


Fig.3: Radiograph taken after screw removal



Fig.4: Intraoral pre-operative photograph showing screw embedded in tooth (75)



Fig.5: Pre-operative radiograph showing embedded screw



Fig.6: Extracted tooth along with screw

