Endoscopic Retrieval of Ingested Dental Bur in a geriatric patient: A Case Report

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Case report

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Abstract

**Background:** Accidental ingestion of a dental bur during the dental procedure is not a routine incident, but can result in serious complication and consequences.

**Case scenario:** In this case report, a 76-year-old male patient, accidentally ingested a dental bur during the procedure. The presence and location of the dental bur was confirmed using chest and abdominal x-rays and it was subsequently retrieved by endoscopy procedure under general anaesthesia. The analysis of this case reaffirms the importance of the use of physical barriers such as rubber dams and gauze screens as precautionary measures to prevent such incidents from occurring.

**Conclusion:** Taking the patient into confidence and informing him regarding the possible complications of the accident and keeping him/her under observation until the object has been removed, would fulfil the professional responsibilities of a dentist, and will result in avoiding possible legal and ethical issues. Presented case represented the usage of physical barriers in dentistry and their usefulness in the treatment protocol.

Background

Accidental ingestion of dental instruments by the patients during the procedure, though not common has been documented in literature numerous times over the years[1–10]. All types and sizes of dental instruments such as orthodontic appliances, BiTine rings, endodontic files, dental burs, barbed broaches, implant instruments, rubber dam clamp etc. have been shown to be ingested in reports. Suitable precautions to avoid foreign body ingestion should be practiced as a matter of process. However, even under the most ideal circumstances, the possibility of accidental dropping of an instrument into the oral cavity is always a scenario which the clinician may have to face during his or her career. In this case report we aim to describe an ingestion of dental bur by an elderly patient during post endodontic restoration treatment procedure.

Case Presentation

A 76-year-old male patient came to the dental clinic with a chief complaint of sensitivity in his upper right back tooth for last one year due to severe attrition. Intentional root canal therapy was planned for the maxillary right first molar tooth followed by a crown. Isolation with rubber dam was not possible as the tooth was tilted with considerable amount of tooth loss and due to the absence of the adjacent tooth. During the post endodontic restoration, following the Root canal treatment, the patient suddenly felt the presence of a foreign body in his throat and coughed momentarily attempting to spit it out. On examination the bur was found missing on the Aiotor and was not detected in the oral cavity. The treatment was immediately stopped, patient was informed about the suspected bur drop. Following a chest and abdominal X-ray accidental ingestion of dental polishing bur [NMD high speed composite polishing and finishing kit (yellow band, diamond)] was confirmed. The abdominal X-ray showed the
Discussion And Conclusions

Accidental aspiration or ingestion of foreign bodies is a potential event encountered across all age groups. It can possibly affect Geriatric and paediatric patients, mentally challenged or physically disabled people whose coordination or control of deglutition is impaired [11–13]. Rui et al. in their review evaluated the different variables associated with the reported incidents of instrument aspiration and ingestion. According to them the age groups of 60–79 years and 10–19 years, showed high incidence of aspirations and ingestions[13]. In older patients, the risk is higher due to the reduced gag reflex and other age-related general diseases, such as dementia or Parkinson's disease[14]. One other possibility in this case is that the local anaesthesia used for the dental procedure might also have compromised the protective gag reflex [3] which may also have contributed to the ingestion of the instrument. It has been reported in majority of the cases that foreign objects of less than 2 mm thickness or 6inches in length can easily pass out through the alimentary canal [15]. If the foreign instrument gets lodged into deeper tissues, it can result in complications like intestinal perforations, stricture formation, abdominal pain, etc for which surgical intervention for removal may be required [16]. Some of the operative procedures have a greater risk of foreign body aspiration, it is important to inform the patient, and their relatives, about the possible risks pertaining to the procedure. Informed consent should be taken from the patient in both verbal and written format [17].

This case report further highlights the importance of additional caution and usage of some form of protective physical barrier such as a curtain of gauze, especially in geriatric patients, when a rubber dam placement may not be easily possible to use. It also signifies importance of endoscopy as an interceding diagnostic instrument and interventional modality for the diagnosis and the retrieval of ingested objects.

Declarations

Ethical clearance: The protocol of this case report was approved by the Institutional Ethics Committee Manipal College of Dental Sciences, Mangalore, INDIA (20002). The treatment protocol was considered to be standard care without any experimental treatment approach or medications.
Consent for publication: Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor of this journal.

Availability of data and material: Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

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Statement by the authors: The manuscript has been read and approved by all the authors; the requirements for authorship in this document have been met, and each author believes that the manuscript represents honest work.

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