



Case Report

ISSN: 2581-3218

IJDR 2018; 3(1): 3-5

© 2018, All rights reserved

www.dentistryscience.com

Accidental ingestion of mouth mirror head- Unforeseen experience in dental practice

Urvashi A Shetty¹, Shonith Naik², Audrey MD'Cruz³, Sheetal Jayanth⁴, Sahana Maben⁴

¹ Senior Lecturer, Department of Oral Pathology & Microbiology, A.B. Shetty Memorial Institute of Dental Sciences, Nitte Deemed to be University, Mangalore, Karnataka, India

² Tutor, A.B. Shetty Memorial Institute of Dental Sciences, Nitte Deemed to be University, Mangalore, Karnataka, India

³ Reader, Department of Public Health Dentistry, A.B. Shetty Memorial Institute of Dental Sciences, Nitte Deemed to be University, Mangalore, Karnataka, India

⁴ Tutor, Department of Public Health Dentistry, A.B. Shetty Memorial Institute of Dental Sciences, Nitte Deemed to be University, Mangalore, Karnataka, India

Abstract

Iatrogenic accidents during routine clinical procedures are unpredictable and can occur at times regardless of all the possible precautions taken. Ingestion of foreign bodies has been worldwide health problem in all branches of dentistry since decade. Ingested objects during dental procedures could range from teeth, restorations, instruments, implant parts to gauze packs and impression materials. Most ingested objects pass through the gastrointestinal tract (GIT) spontaneously, but at times need to be removed endoscopically and surgically. We report an unusual case of iatrogenic ingestion of the head of a mouth mirror in a 20year old male patient, which gets dislodged during the intraoral examination of the patient. Radiographic surveillance was done to track the passage of the head of the mouth mirror through the GIT which was later expelled in stool within 24 hours.

Keywords: Ingestion, Dental, Mirror, Head, Examination, Iatrogenic, Accidents.

INTRODUCTION

Iatrogenic accidents during routine clinical procedures are unpredictable and can occur at times regardless of all the possible precautions taken. As it is rightly said, "it's easier to stop something happening in the first place than to repair the damage after it has happened". This statement seems to be more of saying and less of a belief when we see cases such accidental ingestion or aspiration of foreign objects. In dentistry, foreign objects can be of various sizes and shapes, ranging from small to large instruments; Sharp instruments like endodontic burs, files, reamers, orthodontics brackets; blunt instruments like the dental clamp, lip clamp, posts, teeth, implant parts, restorations, gauze packs, impression material and even tooth brush which can get wedged anywhere either in the gastrointestinal (GI) or the respiratory tract [1]. Ingestion of blunt, smooth and round foreign objects do not cause much concern as they pass through the gastrointestinal (GI) tract spontaneously without causing much symptoms, whereas large, sharp irregular objects like endodontic files may often get stuck at one of the three esophageal constrictions. On the other hand, aspiration of objects is more serious than ingestion, often resulting in hospitalization of the patient due to airway obstruction [2].

In case of any such incidence, the operating dentist should be trained to deal with these kinds of unforeseen events. Moreover, it's imperative to start immediate treatment in order to maintain airway patency and ensure that airway is not obstructed or compromised. Most important of all is that the dentist does not panic and handle the situation calmly seeking immediate medical care. Secondly, it is essential that the dental surgeon accompany the patient to the hospital so that necessary information regarding the ingested or aspirated object could be provided [3].

The present paper discusses an unusual case that involved a 20 year young male patient who swallowed the head of the mouth mirror during dental examination, which fortunately passed through the gastrointestinal tract within 24 hrs, without any surgical intervention. To our knowledge, this is the second documented case of swallowed head of the mouth mirror which was lodged in the middle third of the

***Corresponding author:**

Dr. AudreyMadonna D'Cruz

Department of Public Health Dentistry, A.B. Shetty Memorial Institute of Dental Sciences, Nitte Deemed to be University, Mangalore, Karnataka, India
Email:

audreycruz[at]yahoo.co.in,

audreycruz[at]nitte.edu.in

esophagus. In addition, this paper emphasizes on the precautions to be taken in order to prevent such unforeseen accidental ingestions from occurring, as well as ways to properly deal with it before the situation worsens.

CASE REPORT

A 20-year-old, systemically healthy, male patient consulted a private dental surgeon with the complaint of pain in the right maxillary 3rd molar tooth in the past 2 weeks. On intraoral examination using the mouth mirror, the 3rd molar was partially erupted and the pericoronal flap appeared to be inflamed. While the dentist was examining the pericoronal flap, the patient suddenly closed his mouth moving his head backward. To the clinician's surprise, he noted that the head of the dental mirror was broken from the handle and the anxious patient had already swallowed the mirror head. The patient was immediately made to sit in an upright position and asked to cough vigorously. As there were no signs and symptoms of airway obstruction or breathlessness, it appeared that the instrument had entered his digestive tract. The patient did not report of nausea or any pain and discomfort or difficulty in breathing, which provisionally assured that he had swallowed the mouth mirror head and not aspirated. Patient was informed about the accident, given assurance and was immediately shifted to the casualty of a nearby Medical Hospital. Initial examination was done by an ENT surgeon with laryngoscope which could not detect the foreign body in that location and was further referred to a General Surgeon who advised for a posterior antero- radiograph of the chest which revealed the presence of round object in the middle third of the esophagus (Figure 1A). It was advised by the surgeon that the patient be kept under observation for 48 hours along with radiographic surveillance to track the passage of the head of the mouth mirror through the gastro-intestinal tract. Patient was put on high roughage diet along with liquids and bananas to ease the passage of an object in his digestive tract. Next morning, the patient was asymptomatic and did not report any abdominal pain. An erect abdominal postero-anterior radiograph was taken, and a radio-opaque object was located at the level of his intestine (Figure 1B). Eventually, the patient passed stools at around 3p.m. that day from which the mouth mirror head was finally retrieved (Figure 2A,B). The patient was aware of the instrument passing through his stools and did not notice any blood in the stools. No discomfort was reported by the patient. Necessary medication was prescribed and the patient was discharged from the hospital 24 hrs later.

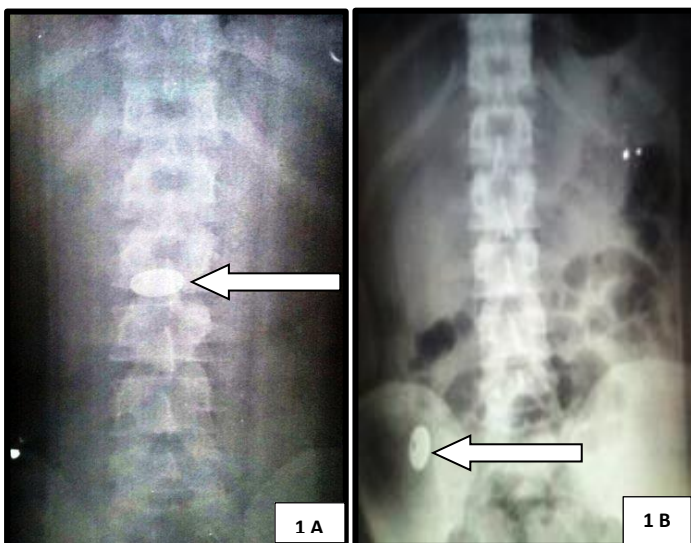


Figure 1: A: Day 1: Postero-anterior x-ray of the chest revealing the head of dental mirror lodged in the middle third of the esophagus. **B:** Day 2: Abdominal radiograph showing the head of dental mirror in the intestine.



Figure 2: A,B : Head of the mirror retrieved from the patient's stool

DISCUSSION

Generally, in dentistry patients are treated in supine position to improve accessibility and visibility of the oral cavity and the teeth in particular as well as to improve the ergonomic comfort for operators. Although the supine position seems more susceptible to accidental aspiration/ingestion of foreign bodies, such mishaps may occur in any position, at any time, not only during dental treatment but also after treatment, as the patients carry the appliances or prostheses or restorations in their mouths [4]. Basically anything that the dentist uses in the patient's mouth could be swallowed, though the chances of this are higher for young children or in adults having compromised motor functions, mental retardation, psychosis, Alzheimer's or Parkinson's disease, excessive gag reflex/restless nature and in those who have undergone surgery of the oral cavity/oropharynx, including people with alcoholism, prisoners, and senile persons [2,5,6].

There is a wide variation in the reported incidence of such iatrogenic accidents of dental origin in the literature. Basically, foreign bodies are ingested, by swallowing or aspiration. Aspiration of food materials are most common among children followed by ingestion of dental objects in adults [5].

Susini *et al* in an 11-year study observed, that aspiration was less frequent than ingestion by a ratio of 10.5:1. The authors also found that morbidity in ingestion was seen in cases where dentures are impacted in the cervical esophagus for which surgical intervention may be required for removal. The prevalence of aspirated and ingested endodontic instruments is 2.2% and 8.8% respectively [7].

A comprehensive literature research done by Houet *et al* on aspiration/ingestion of dental objects during treatment reported documentation of various types of aspirated/ingested objects during dental treatments. However, not a single case was reported on ingestion of mouth mirror [8].

Oncel *et al* reported a similar case where 26-year-old anxious male who because of excessive pain, accidentally swallowed head of dental mirror during examination. The mouth mirror which was located in the middle third of the esophagus was later removed by rigid esophagoscopy [2].

First and foremost in management of accidental ingestion, it is essential that the dentist and the auxiliary staff do not panic and reassure the patient. Secondly the patient should be subjected to clinical as well as radiological evaluation. Keeping in mind about the foreign body type, nature, and duration of symptoms and the lodgement site, which might be a useful indicators for immediate intervention. After thorough evaluation, it should be decided upon whether surgical intervention is necessary for removal of the object or allow it to pass through the GIT naturally [2].

On clinical examination of the oral cavity if the object is located in oral cavity or oropharyngeal

Region, and is visible to the clinician it may be retrieved through forceps, high-volume suction or by sweeping the dentist finger. The patient should be instructed to turn his head to one side so that the object on removal will fall into the cheek region. Most often the objects will be entrapped in the supra-tonsillar recess followed by epiglottic vallecular and piriform recess. If no object is found, it should be presumed that it has either been ingested or aspirated [4].

Impacted objects in the airway may be removed by non-invasive procedures such as back blows in infants, Heimlich maneuver in adults and obese patients. For prevention of such incidents, various barrier techniques are in place such as placement of rubber dam, ligation of small instruments with dental floss prior to procedure or placing gauze screen across the oropharyngeal region. However, it should be noted that in spite of such precautions, The accidental ingestion may take place as in the present case.

Most important of all is to check the quality of instruments along with regular monitoring of the instruments by the dentist itself for any damage occurring because of frequent use and/or sterilization procedures. This applies particularly to instruments having a few pieces which are soldered in coupling areas. Soldered areas are usually the weak site of any instrument. Because of continuous sterilization, there is high chance of instruments breakage at this site due to slight force, such as dental mirrors, where handle and the head of the mirror are soldered. Therefore, appropriate monitoring of dental instruments has to be done mandatorily and cannot be overlooked in order to prevent such unforeseen incidents like aspiration or ingestion. Lastly, every general dental practitioner must undergo a training course on first-aid skills and basic life support. Assisting staff must also be trained to recognize such emergencies. It is also recommended to update these skills at least once in every 2 years [4].

Ingestion/aspiration are potentially dangerous and carry the risk of causing life-threatening or serious complications such as choking, esophageal tissue perforation, intestinal ulceration/puncture, bronchial stenosis, abscess formation, hemorrhage or fistula. The pylorus, appendix, sigmoid colon and anal canal are few other sites of the GIT where there is an increased risk for impaction. Complication with ingested objects may include hemorrhage, abscess and fistula formation, obstruction intestinal mucosal ulceration and perforation of GIT [10,11].

Any delay in the timely intervention of such accidents may cause severe complications which can be fatal and also cause emotional distress to the patients and the family. Moreover, such accidents can also dampen the reputation as well as the morale of a dentist [1]. The dentist should be well aware of the legal aspect that such incidence can be seen as negligence and he could be sued by the patient. Hence, it is always necessary that preventive measures are carefully followed [12].

CONCLUSION

Accidental ingestion of objects is common during various dental procedures and the associated risks and morbidity are too high to be overlooked, especially from the viewpoint of resources, special care, and the associated financial cost required for their management. This case emphasizes on the diligence that dentists must take to prevent such type of iatrogenic accidents in the dental clinics and the consequences of time delays when decisions on management are needed. Furthermore, practitioners are also liable for litigation since these incidences are avoidable. Lastly, as rightly said in a proverb "An ounce of prevention is worth more than a pound of cure" is more apt when it comes to preventing such insidious incidents in private clinics.

Acknowledgement

None.

Conflict of Interest

None.

REFERENCES

1. Yadav RK, Yadav HK, Chandra A, Yadav S, Verma P, Shakya VK. Accidental aspiration/ingestion of foreign bodies in dentistry: A clinical and legal perspective. *National Journal of Maxillofacial Surgery* 2015;6(2):144-151.
2. Oncel M, Apiliogullari B, Cobankara FK, Apiliogullari S. Accidental swallowing of the head of a dental mirror: Report of a rare case. *Journal of Dental Sciences* 2012; 7(2):199-202.
3. Fields RT, Jr, Schow SR. Aspiration and ingestion of foreign bodies in Oral and Maxillofacial Surgery: A review of the literature and report of five cases. *J Oral Maxillofac Surg.* 1998;56:1091-8.
4. Umesan UK, Chua KL, Balakrishnan P. Prevention and management of accidental foreign body ingestion and aspiration in orthodontic practice. *Therapeutics and Clinical Risk Management.* 2012;8:245-252.
5. Prakash UBS, Cortese DA. Tracheobronchial foreign bodies. In: Prakash UBS, ed. *Bronchoscopy.* 2nd ed. New York: Raven; 1994. p. 253-77.
6. Worthington P. Ingested foreign body associated with oral implant treatment: report of a case. *Int J Oral Maxillofac Implants.* 1996;11:679-681.
7. Susini G, Pommel L, Camps J. Accidental ingestion and aspiration of root canal instruments and other dental foreign bodies in a French population. *IntEndod J.* 2007;40:585-9.
8. Hou R, Zhou H, Hu K. Thorough documentation of the accidental aspiration and ingestion of foreign objects during dental procedure is necessary: review and analysis of 617 cases. *Head & Face Medicine.* 2016;12:23.
9. Zitzmann NU, Elsasser S, Fried R, Marinello CP. Foreign body ingestion and aspiration. *Oral Surg Oral Med Oral Pathol Oral RadiolEndod.* 1999;88(6):657-60.
10. Venkataraghavan K, Anantharaj A, Praveen P, Rani SP, Krishnan BM. Accidental ingestion of foreign object: Systematic review, recommendations and report of a case. *Saudi Dent J.* 2011;23(4):177-81.
11. Puryer J, McNamara C, Sandy J, Ireland A. 'An Ingested Orthodontic Wire Fragment: A Case Report'. *Dentistry Journal* 2016;4,24. doi:10.3390/dj4030024.
12. Bains R, Loomba K, Sinha S, Bains VK. Accidental swallowing of endodontic instrument: Could be a medical emergency. *Eur J Gen Dent* 2014;3:202-4.