OPEN ACCESS

GAVIN PUBLISHERS

Annals of Case Reports

Qorri E, et al. Ann Case Report 14: 293.

DOI: 10.29011/2574-7754/100293

Case Report

Accidental Swallowing of Orthodontic Key Device (Case Report)

Erda Qorri[1*], Aurora Isufi[2], Renato Isufi[1], Ramazan Isufi[3]

[1]Department of Dentistry, Faculty of Medical Sciences, Albanian University, Tirana, Albania

[2]Isufi Royal Dental, Tirana, Albania

[3]Chef Department of Oral and Maxillofacial Surgery, Faculty of Dental Medicine, Tirana, Albania

[*]**Corresponding author:** Erda Qorri, Department of Dentistry, Faculty of Medical Sciences, Albanian University, Tirana, Albania. Email: e.qorri@albanianuniversity.edu.al

Citation: Qorri E, Isufi A, Isufi R, Isufi R (2020) Accidental Swallowing of Orthodontic Key Device (Case Report). Ann Case Report 14: 293. DOI: 10.29011/2574-7754/100293

Received Date: 19 December, 2019; **Accepted Date:** 17 January, 2020; **Published Date:** 21 January, 2020

Abstract

Ingestion of a foreign object, including dental materials, can lead to the hospital emergency and be dangerous and life threatening. In this article is described the accidental swallowing of an orthodontic device, a key that was used to activate a rapid maxillary extender. The patient swallowed the key device while trying to activate the expander at home. The object's position was followed on radiographs, due to its location no action was taken immediately. As a not every day encountered case and as possible clinical complications, we consider that is important to present this case and describe practices for prevention also.

Keywords: Complication; Ingestion; Orthodontic Key Device; Swelling

Introduction

The ingestion of a foreign object is a complication often seen in the hospital emergency rooms [1]. Dental objects that have been swallowed include dental prostheses and endodontic instruments are not an everyday encountered situation. Although, the ingested object can pass through the gastrointestinal tract uneventfully, it can some- times cause serious complications and could be life threatening. The emotionally stress of children and parents who panicked and show up in the emergency must be evaluated and occurred help must be provided immediately. Treatment depends on the type and size of the object and its location [2-4]. When various accidentally situation happened in dental clinics, first aid can be provided by the doctor, using a correct protocol to manage in real time the situation [5]. The purpose of this article is to describe a clinical case of accidental deglutition of the key used to activate a rapid maxillary extender in home conditions, when the parents was trying to activate it. Some clinical and legal implications are discussed, mainly emphasizing the care needed to prevent such an accident [6].

Case Report

A 11-year-old boy K.C, presented at the emergency service of the UHC Mother Theresa hospital accompanied with his parents, after he swallowed the key for his maxillary extender that day at home. The parents were emotionally stressed out, but the child was not in discomfort nor did have signs of dyspnea, asphyxia or other perturbance. The frontal x-ray of the abdomen was recommended in this case which confirmed the presence of the key in the stomach (Figure 1 and 2). Thus, a fiber and cereal diet were recommended to enhance facilitate elimination of the key device. After two days later, the key was eliminated though excrement (Figure 3).

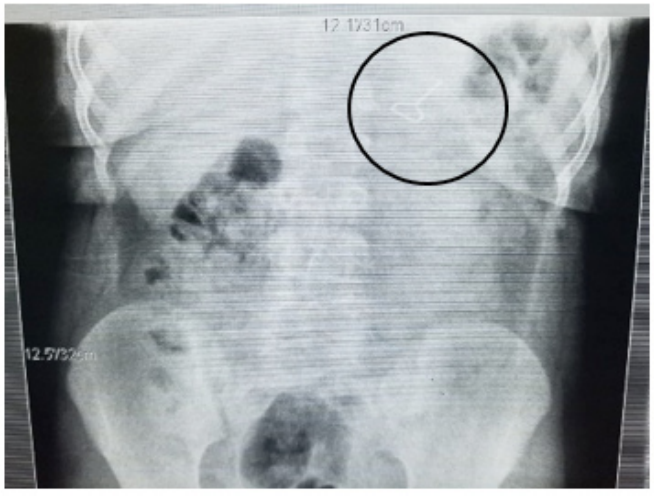


Figure 1: Frontal X-Ray, presence of the key device.

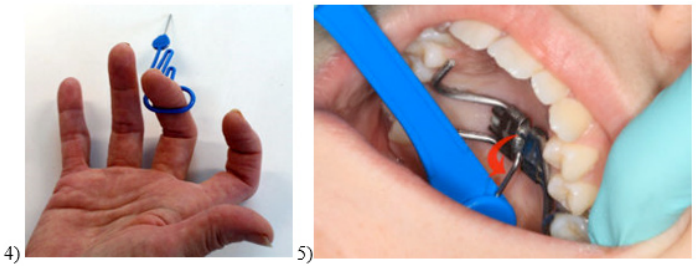
Figure 2: prescription of the device position.

Figure 3: Key device dimensions.

Discussion

Dental devices can be accidentally inhaled or swallowed during dental procedures, but accidents can happen in dental practices due to careless movements of patient head, or at home due to a cough as in this case during the activation of the device. If parents are not informed or warned of possible accidents this kind of complication can happen. A serious situation is when they are inhaled, with the possibility of the patient loses feelings or suffocates [7]. In such cases, endoscopic inspection or surgical intervention is required. When this device is swelled it may be stuck in different parts of the entire gastrointestinal tract. Normally, when the object reaches the stomach, it has a 90% possibility of passing through the gastrointestinal tract without problems [6, 8, 9]. Less than 1% need surgical intervention. The risk of injury increases when the swallowed object is greater than 5 cm or has a pointed shape [10]. There are cases when the devices remain stagnate for days in the intestine or weeks in the stomach, surgery is required [11].

Usually this kind of accident are claimed in court by patients, suing the dentist and blame for the complication, cause during endoscopic inspection for examination of the stuck dental devices, or surgical intervention, collateral damage can occur up to the patient's death [12]. Even if the patient does not take legal action against the dentist, it has been observed a loss of trust for further collaboration. "Prevention is better than cure", so if possible, must avoid accidents using keys with security systems. When key devices for rapid maxillary extender is used some steps must be followed. The simple's thing that can be used in dental practice is floss tied around the key and then rolled up on the finger to allow ready recovery in case of deglutition or aspiration5 and of course this precaution must be explained to the parents for home instructions. Another possibility is to use a key that is connected to a plastic spatula or handle as in (Figure 4 and 5) which facilitate the activation of the expanders and decrease accidents.



4) 5)

Figure 4 and 5: Plastic handles for the key to prevent.

Conclusion

When working in oral cavity, an object slips out of the doctor's working instruments, or from his hands, the first and immediate step is the localization of the foreign body, maintaining calm and must be quickly evaluated the possibility of removal. If the foreign body is inhaled or swallowed first aid should be given to the patient until the emergency arrives. When certain therapeutic procedures can be applied in home conditions by patients or their children as in the case of orthodontic appliances, the physician should carefully explain the procedure or give the instruction in writing to the patient to avoid disagreements in the possible event of accidents or complications.

References

1. Ambe P, Weber SA, Schauer M, Knoefel WT (2012) Swallowed foreign bodies in adults. DtschArztebl Int 109: 869-875.
2. Cossellu G, Farronato G, Carrassi A, Angiero F (2015) Accidental aspiration of foreign bodies in dental practice: clinical management and prevention. Gerodontology 32: 229-233.
3. Cheng W, Tam PKH (1999) Foreign-body ingestion in children: experience with 1,265 cases. Pediatr Surg 34: 1472-1476.
4. Pavlidis TE, Marakis GN, Triantafyllou A, Psarras K, Kontoulis TM, et al. (2008) Management of ingested foreign bodies. How justifiable is a waiting policy? Surg Laparosc Endosc Percutan Tech 18: 286-287.
5. Obinata K, Satoh T, Towfik A, Nakamura M (2011) An investigation of accidental ingestion during dental procedures. J Oral Sci 53: 495-500.
6. Monini AC, Maia LG, Jacob HB, Gandini LG Jr (2011) Accidental swallowing of orthodontic expansion appliance key Am J Orthod Dentofacial Orthop 140: 266-268.
7. Joana Cotrim, Susana Corujeira, Joana Jardim, Hélder Cardoso, Eunice Trindade, et al. (2015) Accidental Ingestion of Dentistry Material - Report of Cases and Challenges from the Pediatrician Point of View. Port J Gastroenterol 22: 28-31.
8. Umesan U, Chua K, Balakrishnan P (2012) Prevention and management of accidental foreign body ingestion and aspiration in orthodontic practice. The Clin Risk Manag 8: 245-252.
9. Eisen GM, Baron TH, Dominitz JA, Faigel DO, Goldstein JL, et al. (2002) Guideline for the management of ingested foreign bodies. Gastrointestinal Endosc 55: 802-806.
10. Smith MT, Wong RKH (2007) Foreign bodies. Gastrointestinal Endoscopy Clin N Am 17: 361-382
11. D'Ovidio C, Carnevale A, Pantaleone G (2008) A case of accidental aspi- ration of a dental cutter into the bronchopulmonary tree: clinical implications and legal considerations. Minerva Stomatol 57: 535-547.
12. Asmarz HY, Benfati CAM, Bolan M (2019) Accidental ingestion of a dental irrigation needle: a case report. Eur Arch Paediatr Dent 20: 123-126.