Case Report

Corpus alienum (foreign body) embedded in the oral cavity of children: An agony of parents and diagnostic dilemma among clinicians

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Abstract

Aspiration or ingestion of foreign bodies by children is a common problem globally. Corpus alienum or foreign bodies, embedded in the palate or other areas of the oral cavity, are unusual findings that can occasionally be muddled with other oral lesions. Studies reveal that the majority of cases occur in children, wherein 50% of the children lack a proper history. Since infants or very young children fail to provide proper history and are extremely scared of repeated oral examination clinical diagnosis is all the more difficult. The risks of respiratory obstruction, mucosal tear, nasopharyngeal inflammation, and gastrointestinal bleeding make these non-invasive foreign bodies potentially fatal.

Keywords: Bottle cap plastic liner, corpus alienum, foreign body, palate

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INTRODUCTION

Aspiration and ingestion of foreign bodies (FBs) present a potentially lethal threat to infants and children globally. Among the United States population, the presence of FBs in the upper airway was reported to an extent of 37% and in the oesophagus to an extent of 46%.[1] Interestingly, most of these children were less than 3 years of age and were at a higher risk of inhaling or ingesting FBs owing to their tendency to place objects inadvertently in their mouth associated with poor swallowing coordination and immature dentition.[1] A literature search from 1950 to 2009 reported nearly 20,000 cases of FB aspiration in children.[2] Approximately, 2.5 million children across the United States are affected by FB aspirations each year, with up to 2000 deaths.[1]

An FB embedded in the soft tissues of the palate is unusual and can occasionally mimic exposed bone on the palate or a submucosal pathological lesion of the palate. Nutshells, buttons, plastic emblems, plastic stickers, and screw covers have already been described as palatal FBs in the literature, and the majority of these cases are seen in infants. The word 'Corpus Alienum' is a Latin word and is partly based on the body's immune response towards any such entity.[3] The present article reports two non-iatrogenic FB inclusions which were embedded in the hard palate for

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one-and-a-half years in a 2-year-old child and for 3 months in a 1.5-year-old child, respectively.

CASE HISTORY

Case 1

A 2-year-old girl child reported to the Outpatient Department with a clinical presentation of a whitish lesion in the mid-palatal area and difficulty in swallowing food substances for one-and-a-half years. Parents had accidentally found the defect when the child showed apathy towards food. The anxious parents visited different clinics seeking remedial measures, but unfortunately, they could not get any relief and finally reported to the Outpatient Department of Dr. R Ahmed Dental College and Hospital. Oral examination revealed a well-demarcated, round, hard pebbly white (opaque) plaque of about 1 cm in diameter over the mid-palatine region surrounded by an elevated margin associated with a burning sensation. A standard maxillary occlusal radiograph did not reveal any bony abnormality. On careful probing with a sterilized dental explorer tip a bottle cap plastic liner was successfully detached from the patient's palate. The underlying area was erythematous and mildly inflamed but no sign of ulceration or bleeding was found. After a thorough clinical observation, the area was cleaned with sterile cotton soaked with diluted povidone-iodine. After completion of the clinical procedure, follow-up was advised. Topical antifungal ointment was prescribed. A one-week follow-up revealed complete mucosal recovery [Figures 1 and 2].

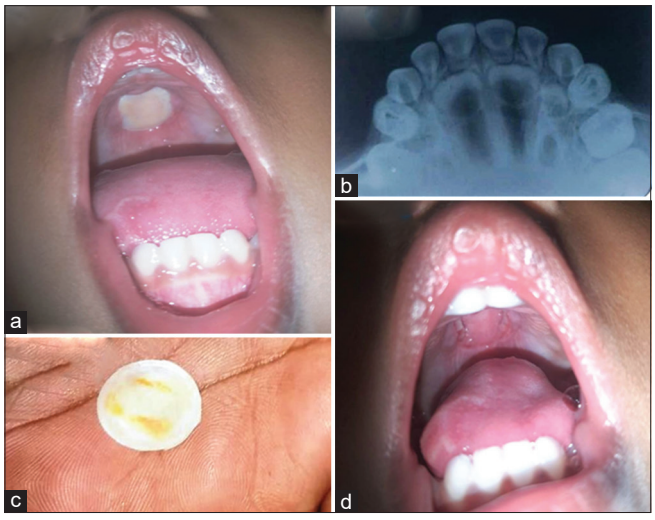

Figure 1: Case 1: Clinical photographs. (a) Bottle cap plastic liner embedded in the palate. (b) Standard maxillary occlusal radiograph did not show any palatal bony defect. (c) Erythematous underlying soft tissue with a well-demarcated margin gives an embedded appearance after detachment of the bottle cap plastic liner. (d) Detached bottle cap plastic liner

Case 2

A 1.5-year-old girl reported to the Outpatient Department with a history of discolouration in the palate for 3 months. The parents were anxious about the painless discolouration and consulted several specialists. As usual, the palatal discoloured area examined by a medical practitioner could not corroborate with the commonly seen lesion seen in children and was suggested surgical exploration. Thereafter, the patient reported to the Department of Oral Pathology for a probable diagnosis. Clinical examination revealed a greyish-white circular discolouration in the mid-palate surrounded by a rim of soft granulation tissue. On probing with a sterilized dental explorer, a small ellipsoid bottle cap plastic liner (10 mm in largest dimension) was successfully removed from the palate. The underlying mucosa was erythematous but there was no sign of bleeding. Instructions for oral hygiene care were given to the parents. A one-week follow-up was advised to the parents. [Figure 3]

DISCUSSION

This article describes the impact of FBs on the hard palate of two young children. In the group of children under 6 years of age, injuries to the mouth and oropharynx are usually caused by objects, such as pens, pencils, and toys. However, the most frequently reported FB has been in a nutshell, wooden pieces, toy parts, coins or artificial fingernails embedded as FBs in the palate.[4,5,6] The mechanism of attachment is likely related to the anatomy of the paediatric palate as well as the behavioural tendencies of small children who frequently place objects in their mouths.[7,8] Infants and children are curious and have a habit of inadvertently exploring unknown objects through oral contact.[6] Interestingly, bright-coloured, shiny, flat or

Figure 2: Case 1: One-week follow-up showing satisfactory healing of the palatal mucosa

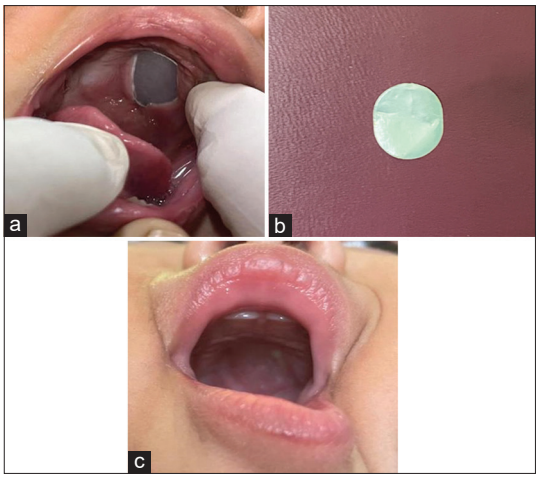

Figure 3: Case 2: Clinical photographs. (a) Bottle cap plastic liner embedded in the palate with an elevated white border. (b) Bottle cap plastic liner after removal. (c) Underlying soft tissue

round objects such as bottle stickers of 1.5–2 cm in size have been reported to adhere to the palate of children in a few pieces of literature. The small shape and flexible nature help in securing the sticker to the palatal vault and the sucking force (breastfeeding or bottle sucking) of the tongue enhances this seal.[1]

Proper protocol should be maintained during the removal of FBs in the outpatient department preferably in a fully equipped setting to provide airway control support, if required. FBs should be removed in a posteroanterior direction with the patient placed in a position that minimizes the risks of object entrance in the airways or digestive tract. It is better to place the child in the lateral slightly head-down position and in the case of neonates the child should be held in this position in the parent's lap to facilitate the procedure.[9]

Palatal Corpus alienum is a potentially fatal condition with the risk of dislodgement and subsequent aspiration. The possible outcomes of aspiration include acute respiratory distress, chronic and irreversible lung injury and even death.[10] The stress and problems of the affected child and family are exacerbated by the delay in diagnosis. Most cases are misdiagnosed by clinicians. In both cases, a delay in diagnosis was observed mainly due to its innocuous and indiscernible presence in the palate.

Moreover, the long duration of such inclusions also invites fungal colonization which further complicates the clinical appearance and takes a longer time for the area to get newly epithelialized. Oral hygiene care and the application of antifungal topical solutions could expedite the healing process.

CONCLUSION

FB aspiration or ingestion among children is quite frequent. Accidentally certain objects which have either adhesive properties or are very thin and pliable may get easily stuck to the oral mucosa and remain embedded without causing much difficulty during phonation and deglutition. In both the cases that we are reporting, the FBs are of similar nature, that is, bottle cap plastic liners were accidentally discovered during feeding by their mothers. In both cases, the FBs were embedded in the mid-palatal mucosa which was virtually not visible under normal circumstances. Once they were removed the mucosa appeared erythematous because of fungal colonization and after a week it appeared normal. Exploration of such mysterious areas which cannot be diagnosed as any other pathological lesion could reveal the presence of foreign objects if they are present.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Shah RK, Patel A, Lander L, Choi SS. Management of foreign bodies obstructing the airway in children. Arch Otolaryngol Head Neck Surg 2010;136:373-9.
2. Fidkowski CW, Zheng H, Firth PG. The anesthetic considerations of tracheobronchial foreign bodies in children: A literature review of 12,979 cases. Anesth Analg 2010;111:1016-25.
3. Tewari N, Singh N, Singh S, Agarwal N, Gupta NK. Corpus alienum on hard palate-An unusual "misdiagnosis" of foreign body: A case report. Int J Pediatr Otorhinolaryngol 2015;79:2463-5.
4. Khalaf M, Smaily H, Rassi S. Pediatric hard palate foreign bodies: Case report and systematic review of the literature. Int J Pediatr Otorhinolaryngol 2019;127:109654.
5. Rocha AC, Bernabé DG, Amato Filho G, Guimarães Júnior J, Machado GG. Foreign body in the hard palate of children and risk of misdiagnosis: Report of 3 cases. J Oral Maxillofac Surg 2009;67:899-902.
6. Tseng E, Woolley AL. Foreign body simulating a hard palate lesion in a child. Int J Pediatr Otorhinolaryngol 1996;38:169-74.
7. Ondik MP, Daw JL. Unusual foreign body of the hard palate in an infant. J Pediatr 2004;144:550.
8. Somani S. Palatal foreign body mimicking a neoplasm. Indian J Otolaryngol Head Neck Surg 2010;62:179-80.
9. Hussain K, Brown AJ, Chavda D. Case report: Foreign body in the palate of an infant. Br Dent J 2008;205:23-5.
10. Ozgür F, Ozdemir H. Long-term impaction of a foreign body in the hard palate. J Craniofac Surg 2008;19:826-8.