



Unrecognized, Unusual Palatal Foreign Body in an Infant: A Case Report of Diagnostic and Management Challenges

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Abstract

Oral foreign bodies in infants and children are uncommon and may present with nonspecific clinical findings, making early diagnosis challenging. Literature shows lodgment/impaction of different kinds of foreign bodies inside the oral cavity including, buccal mucosa, soft palate, uvula, hard palate, gingiva, inside the open root canal or in the crown portion with open carious lesion. Among these, palatal impaction of foreign objects is a rare entity. Palatal foreign bodies may mimic localized swelling or infective lesions and can remain undetected when the history of insertion or injury is unavailable. This case report describes the diagnosis as well as management of a foreign body lodgment in the palate of a 13 month old male infant.

Keywords: Case report; Diagnosis; Foreign body impaction; Infant; Palatal foreign body.

INTRODUCTION

Foreign body ingestion and aspiration are important clinical concerns in young children. They commonly explore their environment by putting objects into their mouths, making foreign body ingestion and aspiration an important concern during infancy and early childhood [1-3]. Although many such events pass without serious consequences, some foreign bodies can become lodged in the digestive tract and lead to complications depending on their size, shape, composition, and location. In some children, the absence of a witnessed choking or ingestion episode can make recognition difficult, particularly when the initial symptoms are mild or nonspecific. Delayed identification of a retained foreign body may increase the risk of local tissue injury as well as respiratory or gastrointestinal complications [4-6].

Foreign body retention within the palatal tissues is uncommon and can be particularly difficult to recognize when it presents as an isolated palatal swelling [7,8]. Pistachio shells are an unusual example of an organic foreign body that may become embedded in the oral tissues. Sobol et al. reported two children with pistachio nutshells retained in the oral cavity, both of whom presented with palatal lesions that initially resembled other pathological masses [2]. These cases illustrate how the absence of a clear history and an unusual clinical appearance can obscure the diagnosis. The present case describes an infant in whom a pistachio shell remained embedded in the hard palate and was not initially recognized as a foreign body, emphasizing the importance of careful intraoral examination and consideration of an occult foreign body when an infant presents with an unexplained palatal lesion or feeding difficulty.

CASE REPORT

A 13-month-old infant was brought by parents to the Department of Pediatric and Preventive Dentistry, College of Dental Sciences, Davangere, Karnataka, with a chief complaint of a swelling in the palatal region for 4 days. The parents were apparently unaware of the exact onset of the lesion. The child had initially been taken to a pediatrician with a history of improper feeding for approximately 1 week, following which the child was referred to the dental outpatient department for further evaluation.

On intraoral examination, a well-defined, mustard-colored area was observed in the middle third of the hard palate, extending approximately 1 cm bilaterally from the midline [Figure 1]. The area appeared firm on palpation; however, no distinct fluctuant or nodular swelling could be delineated clinically. The overlying palatal mucosa showed no obvious signs of ulceration or bleeding. Based on the clinical findings, a provisional diagnosis of a palatal lesion was considered. A radiographic examination was performed to evaluate the underlying hard tissues and to rule out any associated bony abnormality [Figure 2]. No significant radiographic alteration was detected in the palatal region. In view of the inconclusive clinical and radiographic findings, the patient was referred to a pediatric surgeon for further evaluation.

On subsequent examination, a creamy exudate was noticed over the palatal region, raising the possibility of an underlying localized infection or abscess. Considering the clinical findings and the patient's age, emergency drainage of the suspected abscess was planned under general anesthesia. During the procedure, exploration of the palatal region unexpectedly revealed the outer shell of a pistachio nut embedded within the palatal tissues. The foreign body was carefully removed, followed by thorough debridement [Figure 3 and 4]. The postoperative course was uneventful, and the patient was discharged after appropriate postoperative care and instructions. Patient was recalled after 15 days for recall check-up which elicited complete healing of the hard palate [Figure 5].



Figure 1: Pre-Operative Photograph of palate showing yellow coloured swelling in the hard palate (Black arrow)

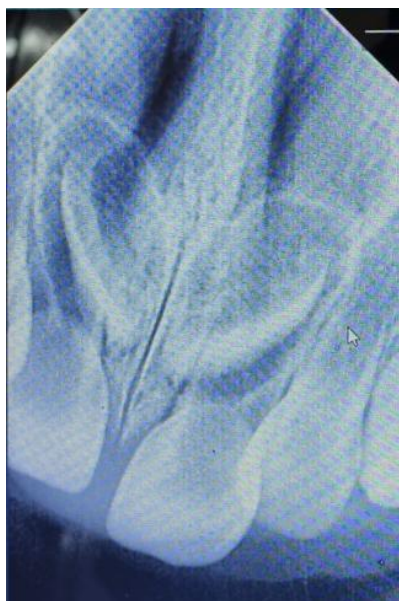


Figure 2: Radiovisuographic examination



Figure 3: Removed shell of pistachio nut (outer and inner surface)



Figure 4: Immediate post operative photograph of palatal vault. Inflamed soft tissue is seen (Black circle)



Figure 5: Post-operative photograph showing complete healing of the palate after 15 days follow-up

DISCUSSION

Lodgment of foreign bodies in the oral cavity of infants and children is a commonly observable clinical entity. There are numerous reports on this unusual condition due to habit of keeping or chewing different types of foreign objects in children. Authors/researchers have shown impaction/lodgment of stapler pins, beads, sticks and paper pins either in the tooth or intraoral soft tissues [9-16]. However, impaction of a foreign body within the palatal mucosa is uncommon and can present a considerable diagnostic challenge [1]. When there are no clear history of foreign body insertion and the clinical findings are nonspecific, such lesions may easily be mistaken for developmental, inflammatory, cystic, or neoplastic conditions. Diagnosis in this case was particularly challenging because the parents had not witnessed the

insertion of the foreign body and were unable to identify when the palatal swelling had developed. The main concern at presentation was feeding difficulty rather than choking, gagging, or a witnessed traumatic event. Feeding difficulties in infants can arise from several local and systemic causes and therefore may not immediately raise suspicion of an intraoral foreign body. Previous reports of aerodigestive foreign bodies in young children have described symptoms such as poor feeding, drooling, gagging, and other nonspecific clinical manifestations. Importantly, the absence of respiratory symptoms should not be considered sufficient to rule out a retained foreign body [1-3].

On clinical examination, the lesion appeared as a firm, mustard/yellow-colored area involving the middle third of the hard palate. Its appearance and the absence of a well-defined mass on palpation made the diagnosis less apparent. The unusual coloration and firmness could have been attributed to a localized palatal lesion, while the creamy exudate observed subsequently raised the possibility of an inflammatory or infectious process. Similar diagnostic difficulties have been reported in children with palatal foreign bodies, where retained objects were initially suspected to represent other pathological lesions. Literature exhibiting pistachio nutshell foreign body lodgment in the oral cavity are extremely rare. Sobol et al [2] described two children with pistachio nutshell foreign bodies in the oral cavity. One presented with a hard-palate mass, while the other had a firm, fixed lesion in the midline of the palate. In both cases, the clinical appearance initially suggested a palatal lesion before the pistachio shell was identified.

The finding of a pistachio shell was of particular interest in this case. Pistachio nutshells have been reported as foreign bodies in young children, more frequently involving the respiratory tract [1]. Their presence within the oral cavity, particularly when embedded in the hard palate, appears to be considerably less common. The irregular and relatively sharp margins of a nutshell may facilitate its penetration and retention within the palatal mucosa. The clinical presentation in this case, characterized by feeding difficulty, a nonspecific mustard-colored palatal lesion, and subsequent creamy exudation, further illustrates how such a foreign body may mimic other palatal conditions.

Radiographic examination did not reveal any abnormality in the palatal region. This finding illustrates an important limitation of conventional imaging in the diagnosis of oral foreign bodies. The ability to detect a foreign body radiographically depends on its composition, size, location, and orientation. Organic and other radiolucent materials may not be readily visible on conventional radiographs; therefore, a negative radiographic finding does not necessarily exclude the presence of a retained foreign body. Clinical examination and the overall presentation should consequently remain central to the diagnostic process, with imaging findings interpreted in the appropriate clinical context.

The approach to management depends on several factors, including the depth and location of the foreign body, its composition, the extent of surrounding tissue reaction, and the age and cooperation of the child. Superficially located objects may sometimes be removed with simple mechanical manipulation or under local anesthesia. However, deeper impaction, limited cooperation in infants, or associated tissue inflammation may necessitate removal under general anesthesia. General anesthesia may provide better visualization, controlled retrieval, and appropriate airway protection during the procedure. In the systematic review by Khalaf et al [3] approximately two-thirds of reported pediatric hard-palate foreign-body cases required general anesthesia. In the current case, surgical exploration under general anesthesia allowed the unsuspected pistachio shell to be identified and removed safely, followed by appropriate management of the affected tissue.

Another important consideration is the potential for secondary aspiration or ingestion of an intraoral foreign body, particularly during attempted manipulation or spontaneous dislodgement. Infants are especially vulnerable because of their developing oral motor coordination and tendency to explore objects orally. In addition to the risk of aspiration, a retained foreign body can cause mucosal trauma, localized inflammation, secondary infection, and persistent feeding difficulties. A sharp or irregular object may also migrate toward the oropharynx and potentially compromise the airway. These considerations emphasize the importance of recognizing and removing an intraoral foreign body in a controlled setting.

In this case, the initial clinical and radiographic assessment did not establish a definitive diagnosis, and further evaluation by the pediatric surgical team was therefore undertaken. Surgical exploration ultimately revealed the retained foreign body and provided definitive treatment. From a pediatric dental perspective, the case emphasizes the importance of performing a careful and systematic intraoral examination in infants presenting with unexplained feeding difficulties or palatal lesions. Close inspection of the lesion, assessment of its color, surface, margins, and consistency, and consideration of the possibility of an embedded or adherent foreign material may aid early recognition. Maintaining a broad differential diagnosis may also help avoid unnecessary investigations and delays in definitive treatment. Previous reports similarly support the inclusion of foreign body impaction among the differential diagnoses of unexplained palatal lesions in children. Children and infants exhibit unusual habit of keeping/playing/chewing with foreign objects like pencils, spoons, sticks and ground nuts. While doing such activities, there are chances of either irritation, laceration or penetration of such foreign bodies into the oral soft tissues. There is a report showing penetrating soft tissue injury in the labial vestibule of the 4 year old male patient due to pencil while the child was playing with pencil [14]. When such

incidents occur, it is difficult to manage such young children because of un-cooperative behavior, young age of the patient, parental anxiety and many other factors. Therefore, it is essential to provide and create an awareness regarding embedding of foreign bodies inside the soft tissues in young children with such behavior and parents or guardians must be very cautious and keep watching when children are playing.

Overall, this case illustrates that a retained palatal foreign body can present with subtle and nonspecific findings and may remain undetected when there is no witnessed ingestion or aspiration event. The unexpected discovery of a pistachio shell during surgical exploration emphasizes the importance of maintaining a high index of suspicion when evaluating unusual palatal lesions in infants. Careful clinical examination, appropriate investigation, timely removal, and multidisciplinary management are essential to minimize local complications and, more importantly, prevent potentially serious airway-related consequences.

CONCLUSION

This case highlights the diagnostic challenge posed by retained palatal foreign bodies in infants, particularly when the history is unclear and clinical findings are nonspecific. A high index of suspicion, careful clinical examination, appropriate investigation, and timely interdisciplinary management are essential for accurate diagnosis and prevention of complications such as infection, tissue injury, and airway-related emergencies.

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