

Case Report

Foreign Body Impaction in Oral Cavity

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ABSTRACT

Foreign bodies are objects alien to the human body or to the location where they are found. Radiographs are generally able to reveal the presence of a foreign body. It may be either be an incidental discovery or the reason the radiograph was advised for. Recognizing and reporting such findings is vital because they may necessitate further diagnostic tests or surgical or pharmacological intervention. We report two cases of foreign body impaction in the oral cavity: a tooth fragment and a broken stitching needle.

Keywords: Foreign body, oral cavity, radiograph, incidental finding.

INTRODUCTION

Foreign bodies are objects that are not native to the human body. They may be inserted, ingested or deposited in the human body accidentally. ^[1] In the oral cavity, foreign objects may be iatrogenically or traumatically embedded. Iatrogenic causes commonly include inadvertent implantation of impression materials, needle breakage and excessive apical deposition of obturating material. ^[2] Dentists routinely advise radiographs for diagnosing a variety of conditions. Panoramic, Extra-oral and Cone Beam Computed tomography (CBCT) images cover greater maxillofacial areas and therefore give an opportunity to evaluate tissues other than the area of concern. Thus foreign bodies are detected easily on radiographs, either incidentally or while ascertaining the cause of symptoms generated by it. Herein we report two cases of unusual foreign body impaction detected on radiographs, one of an impacted tooth fragment and other of a stitching needle.

CASE REPORT 1

An 18 year old unmarried female patient reported to the Department of Oral Medicine and Radiology for obtaining a Lateral Cephalogram prescribed by a private dentist for orthodontic assessment. Lateral Cephalogram revealed a well-defined, trapezoidal radio-opaque structure measuring about 7x4 mm on the radiograph and possessing the same radio density as enamel (Figure 1).

Clinical extra-oral examination revealed a small scar over the upper lip on left side. Intra-oral examination revealed a pointed whitish, hard, submucosal elevation on the upper labial mucosa with respect to upper left central and lateral incisor teeth, close to the vermilion zone (Figure 2).

Mild tenderness on palpation was evident. An Ellis Class II fracture was noted in the upper left lateral incisor. On enquiring, patient gave a history of slipping and falling face front on the road about one and a half months ago. She had experienced

bleeding from the upper lip and fracture of the upper left lateral incisor tooth for which she consulted a private hospital. No records of the treatment rendered were available. Based on the history and clinical findings, a working diagnosis of foreign body

impaction in upper lip was made. A differential diagnosis of traumatic fibroma and long-standing mucocele were considered. We advised for an intra-oral periapical radiograph (IOPA) of the upper left anterior teeth and the upper lip.

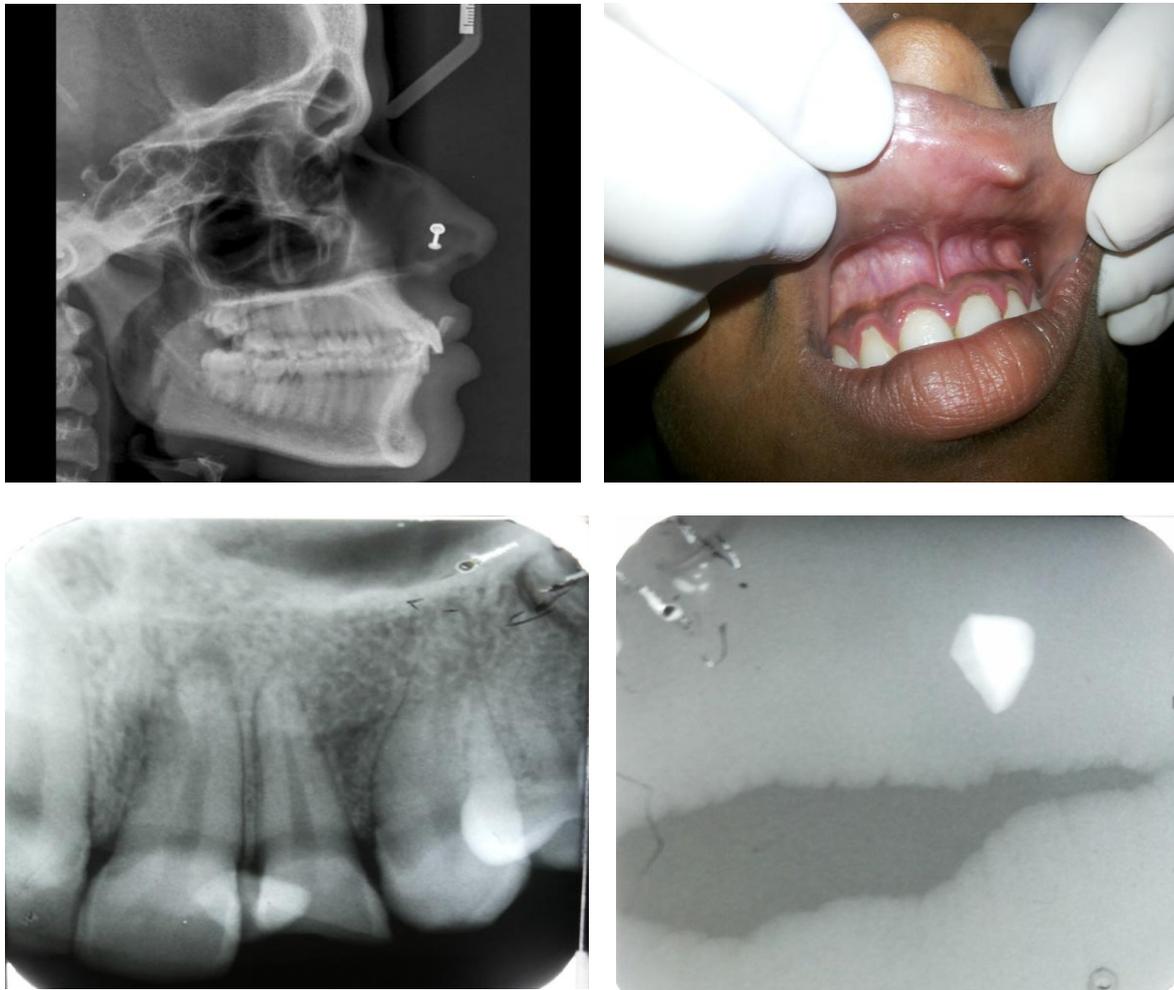


Figure 1 to 4: image of the upper lip radiograph showing trapezoidal radio-opaque structure embedded in the soft tissue shadow

IOPA radiograph of upper left anterior region revealed a well-defined rhomboidal radio-opacity superimposing on the interproximal area of central and lateral incisor (Figure 3).

Diffuse periapical radiolucency was noted with respect to upper left central incisor suggestive of periapical abscess. Upper lip radiograph taken on an IOPA film showed a well-defined, trapezoidal radio-opaque structure within the soft tissue shadow of the upper lip (Figure 4).

Surgical removal of the foreign body was planned under local anaesthesia.

Routine blood investigations were carried out which were within normal limits. A small incision made along the elevated region and surgical exploration revealed a fractured tooth fragment impacted within the labial mucosa. The 6mm long fragment (Figure 5) was removed and a pressure pack was given.

The procedure was uneventful and post-operative healing at the 7th day follow up was satisfactory (Figure 6).

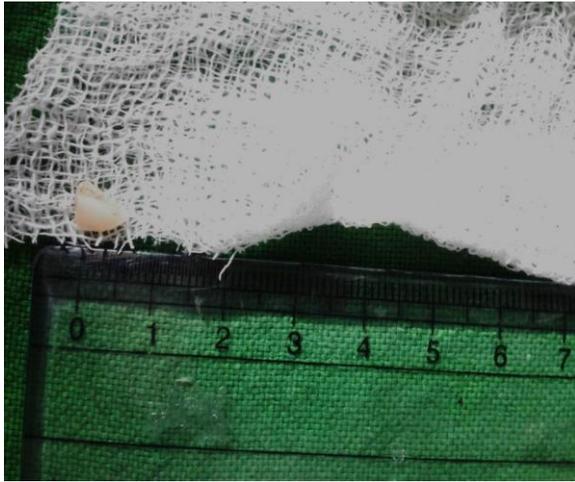


Fig 5: image of the impacted tooth fragment extracted with surgical exploration



Fig. 7: intra-oral clinical picture showing gingival inflammation and recession in the upper right premolar-molar region



Fig 6: post-operative intra-oral clinical picture of the upper labial mucosa

CASE REPORT 2

A 20 year old unmarried male patient reported to the Department of Oral Medicine and Radiology with the complaint of food lodgement in upper right back teeth region since 1 month. He gave a history of mild pain in the same region which increased in intensity since the past one week. Patient gave history of using wooden tooth pick or vigorous rinsing with water for removal of lodged food particles. Personal and family history was non-significant. Patient had a history of tobacco chewing since 1 month. Intra-oral clinical examination revealed inflammation of the marginal and papillary gingiva and recession with upper right second premolar and molars (Figure. 7).

4-5 mm pockets were discernible from the palatal aspect between the upper right molar teeth. A working diagnosis of localised periodontitis was made and IOPA radiograph was advised. Two well defined radio-opaque linear structures were noted interdentally at the cervical level measuring about 5 mm between the first and second molar and about 2mm between the second and third molar (Figure 8).



Fig. 8: image of iopa radiograph showing two well defined radio-opaque linear structures interdentally at the cervical level between the first and second molar and between the second and third molar of the right maxilla

Mild horizontal alveolar bone loss was noted between the molars. A detailed history revealed that the patient attempted to remove the food lodged between his teeth using a stitching needle 1 week ago. He also gave history of needle getting repeatedly stuck interdentally. Deeper probing and

retraction of the papillary gingiva in the region revealed a portion of the broken needle. With the help of a tweezer, the fragments were retrieved carefully (Figure 9).



Fig. 9: image of the retrieved needle fragments

The area was then copiously flushed with betadine solution. A repeat IOPA radiograph of the same region was taken to rule out any residual fragment (Figure 10).



Fig. 10: image of iopa radiograph of the right maxillary premolar molar region showing no residual needle fragments.

Patient was then referred to Department of Periodontia for treatment of localised periodontitis. Patient reported a drastic reduction in symptoms on the 7th day follow up.

DISCUSSION

Foreign body impaction within the oral cavity may either be iatrogenic or following trauma. Iatrogenic causes may

include traumatic implantation of dental materials and instruments, excessive apical deposition of endodontic material and mucosal amalgam tattoos. [2] Road traffic accidents and bullet injuries are common traumatic causes. Glass pieces are the most frequently reported traumatic foreign bodies. [1] The detection of a foreign body on radiographs depends on the type of material and its inherent radio density, its ability to attenuate the X-ray beam, the radio density of the tissue in which it is embedded and the superimposition of adjacent structures. Plain radiographs and CBCT radiographs both can clearly demonstrate the presence of metals, stones, glass and displaced teeth fragment. In our case, since the tooth fragment was embedded in the soft tissue of the lip and the broken needle was metal, they were clearly discernible.

Foreign bodies are capable of inducing inflammation, abscess formation and in prolonged course of time, granuloma and fistula formation. [3] The reaction invoked within tissue depends. Inert objects such as steel and glass may not cause significant inflammation while organic foreign bodies usually cause secondary infection with abscess and fistula formation. [2] The autologous nature of the foreign body, as noted in Case 1 may explain the absence of an acute or chronic inflammatory reaction. Most cases present with symptoms of pain, as noted in Case 2 and often purulent discharge. Very few cases are asymptomatic. [3] Regardless, a prompt removal of foreign objects is warranted due to potential risk of infection. Factors such as accessibility of the area of impaction and proximity to the vital structures dictate the procedure to be undertaken for retrieval.

Sumanth et al in 2008 reported a case where glass pieces had been lodged in the lower labial mucosa for 20 years, with consequent peripheral reactive bone formation. [2] In 2012, Yallamraju et al described a case with a 12 year history of a metal piece embedded in the upper labial mucosa which evoked peripheral granuloma

in a patient. [4] Vinayagam et al in 2015 reported a case of asymptomatic traumatic foreign body (stone) impaction of 3 years duration in the lower anterior muco-gingival region, discovered during routine oral examination as a soft tissue swelling. [3]

Such cases emphasize upon the significance of a thorough intraoral clinical inspection. Asymptomatic cases and cases with an obscured etiology can come to light only if the dentist is alert. A detailed history taking, clinical and radiographic evaluation and appropriate investigations lead to accurate diagnosis and treatment planning.

CONCLUSION

Meticulous radiographic examination led to the discovery of a tooth fragment impacted in the upper lip since one and a half months and fragments of a stitching needle since one week. Foreign body impaction in the oral cavity may or may not

produce symptoms. Vigilance during clinical examination and radiographic assessment can help in their detection and necessary intervention to prevent subsequent complications.

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