

An Impacted Denture in the Hypopharynx-A quick intervention reduces morbidity

ABSTRACT

A 32yrs old male police officer was brought to A & E on account of ingestion of an denture, while trying to to drink his medications, about 4 hours prior to presentation in our facilities. He had immediate painful distress, choking sensation cough and with mild difficulty in breathing. Plain radiograph showed opacification with increased prevertebral soft tissue shadow in the region of C4-C5 of the hypopharynx. He had emergency examination under general anaesthesia and the foreign body was extracted from the throat. Immediate post operative condition was satisfactory. We present this case to show the importance of the use of a well anchored artificial denture as well as to exercise caution when taking medications by people with artificial denture. Also earlier presentation and quick intervention as done in this case prevent serious morbidity that can be associated with such condition.

Keywords: Denture, Hypopharynx, Foreign body impaction

Introduction

Foreign body ingestion and aspiration is among the most common causes of emergency department visit associated with high morbidity and mortality¹. Coins, meat bone, marbles, safety pins, button, batteries and screws are among the most common ingested and aspirated foreign bodies in pediatric age group². In adults, coins and denture has been reported to be the most common aspirated foreign bodies. Sharp foreign body aspirations and injections is frequently associated with serious complications. If they are not removed at the earliest, they can cause esophageal erosion, perforation, abscess or medias tinitis³. Early removal of this

25 foreign body must be considered to reduce the risk of complication of dislodgement and
26 subsequent ingestion or aspiration of dental appliances is not a common condition. An
27 accidental ingestion of an appliance can create a medical or a surgical emergency that can
28 lead to serious complications, including death from aspiration of the foreign body⁴. Because
29 of their sizes, rigidity and pointed edges; dentures get frequently impacted in the oesophagus
30 and are difficult to retrieve endoscopically⁵.

31 The tooth contributes to the esthetic appearance of the face. Biographers and playwrights,
32 among others, in portraying the facial appearance of their characters, have employed this
33 feature. While in the past early European visitors to Nigeria admired her natives "perfect row
34 of whiteteeth," the converse is true now as a result of tooth loss due to caries and periodontal
35 disease. This situation has led to an increase in the number of people wearing dentures in our
36 environment and, thus, a proportionate increase in the incidence of esophageal impacted
37 dentures⁶.

38 Case Report

39 A 32yrs old male who was brought to our A & E on account of ingestion of a denture about
40 4hours prior to presentation. He was apparently well until four hours prior to presentation when he
41 accidentally swallowed the denture in his upper teeth while taking his medications. He had
42 immediate painful distress, choking sensation, cough and mild difficulty in breathing. No
43 nasal or otological symptoms. No previous history of similar ingestion. He claimed to be
44 conversant with routine daily removal and cleaning of the denture without any issue. No
45 history of hypertension, diabetes, Peptic ulcer, asthma, and surgery in the past. Examination
46 revealed a young man fully conscious and well oriented but in painful distress. He not pale,
47 anicteric, afebrile (36.8), and not dehydrated. PR :74bpm, BP 150/90mmHg, SPO2:97% on
48 room air and RR: 28cpm. Ear & Nose examination revealed no abnormality, Oral cavity &

49 oropharynx revealed good oral hygiene with absence of 2 upper incisors and left canine, no
50 hyperemia or swelling. No neck swelling and his chest was clinically clear.

51 Plain radiograph of soft tissue neck done revealed opacification with increased prevertebral
52 soft tissue shadow in the region of C4-C5 of the hyphopharynx (Fig 1).He had emergency
53 examination under general anaesthesia and endoscopy. The denture (Fig 2) was found
54 impacted in hypopharynx covered by caked blood. It was extracted with a grasping forceps
55 with little resistance.

56 The immediate post operative condition was satisfactory. Patient tolerated graded oral
57 feeding after 24 hours post operative time and was subsequently discharged 48 hours post
58 operative time.

59 Discussion

60 Impaction of dentures in the esophagus is not rare in Nigeria. Most patients are aware of the
61 diagnosis before seeking treatment. Exceptions to this are children, the mentally handicapped,
62 and those under the influence of alcohol. In addition, acrylic dentures are associated with
63 reduced sensitivity of the oral cavity because of the insulating nature of the resins
64 used in their fabrication⁶.Though coins are the commonest foreign bodies which are seen in
65 the oesophagus in children, dentures are common in aged people due to the decreased
66 sensation of the oral cavity in denture wearers and the poor motor control of the
67 laryngopharynx⁷.

68 Swallowing and aspiration of dental foreign objects is often reported in the
69 literature. Swallowing

70 is more common than aspiration and usually seen in the elderly. As predicted by Okeowo and
71 Okafor and noted by Nwafo et al, artificial denture use has increased among Nigerians. In
72 previous studies from Lagos and Enugu, impacted dentures among Nigerians
73 constituted 4.9% and 2.2%, respectively, of foreign bodies in the pharynx and esophagus⁷.
74 A radiological imaging can determine the exact site of the radio-opaque impacted foreign
75 body. Dentures, however, are frequently made of acrylic resin, which is a radiolucent
76 material and thus, they are difficult to assess on plain X-Rays, though the radio-opaque wire
77 hooks of the dentures can sometimes be seen, if they are present⁴. It is difficult to localize
78 the site of impacted denture by imaging technique if there is no wire in it unless there is
79 complications such as emphysema, mediastinitis, increased prevertebral shadow and loss of
80 cervical lordosis. Their radiolucency makes radiological localization almost impossible, and
81 because of their rigidity, large size, irregular and unyielding edges, impacted dentures are apt
82 to produce lacerations during endoscopic removal from gullets rendered friable by impaction
83 ⁸. Most of the swallowed foreign bodies are impacted at the cervical and the upper oesophagus
84 . In our index case it was embedded in the hypopharynx thereby causing mild respiratory
85 difficulty. Moreso, there is a high risk of aspiration of the blood emanating from injury to the
86 hypopharyngeal structures by the sharp edges of the denture. This made urgent intervention
87 necessary.

88 Few reports have described the usefulness of an endoscopic removal, even for sharp or
89 penetrating foreign bodies⁹. However, the sharp hooks of the dentures are likely to damage
90 the oesophageal or the pharyngeal wall. Consequently, it is difficult to remove the dentures
91 endoscopically. Many articles have supported this primarily surgical approach over an
92 endoscopic removal for sharp dentures..

93 Endoscopic extraction of dentures carries a high risk of perforation¹⁰. Factors responsible for
94 this

95 include the size, rigidity, sharp edges of the dentures, and attempting extraction in less-than-
 96 ideal
 97 situations. In addition to these, the degree of periesophagitis at the site of impaction may
 98 increase the risk of perforation. Endoscopy was done in this case as the radiograph had
 99 already given a guide as to where the denture was impacted and such location may not carry
 100 much morbidity with quick intervention.

101 Conclusion

102 Impacted denture extraction via rigid endoscopy carries a high risk of perforation, though it
 103 can be undertaken under direct vision and in an ideal situation with judicious use of the
 104 Shears forceps. There is no room for expectant or conservative management in cases of
 105 impacted dentures, as the risk of complications increases the longer it takes before appropriate
 106 surgical intervention.^{4,10,2} It then becomes imperative for the denture to be removed under
 107 direct vision as soon as a diagnosis is made.

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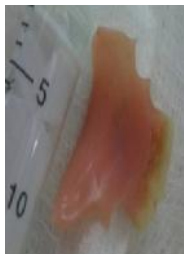
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Figure legends

Fig 1: Lateral view of plain radiograph of soft tissue neck showing opacification with increased prevertebral soft tissue shadow in the region of C4-C5 of the hypharynx



139 Fig 2:The Acrylic Denture



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