BROKEN AND FORGOTTEN BEIN ELEVATOR REMNANT IN THREE CASES

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ABSTRACT

Forgetting instruments in the operation area following tooth extraction is not frequently seen. The effect of metallic biomaterials on the body varies in individuals and severe systemic reactions may develop. The aim of these case reports is to present three cases of forgotten bein elevator remnants after extraction.

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INTRODUCTION
Accidentally left foreign materials are common complications of dental procedures including apical deposition of endodontic materials, submucosal amalgam pieces and graphite tattoos and traumatically introduced dental materials and instruments. In this report, three cases of broken elevator pieces due to traumatic tooth extraction which were left within jaws are presented.

CASE REPORTS
Case 1: A sixty-year-old male was referred to our clinic with a complaint of pain at his right retro-molar region. Clinically, the overlying mucosa at the right retro-molar region was quite healthy. Panoramic radiograph showed a radiopaque foreign body at the right retro-molar region without any surrounding radiolucency (Figure 1). The patient had a history of traumatic right lower third molar extraction about 30 years ago. Patient was informed about the foreign body and operation. Under local anesthesia the foreign metallic body was removed (Figure 2). Postoperative healing was uneventful and the patient was free of pain.

Case 2: A seventy-year-old male was referred to our clinic with a complaint of pus taste and pain at his left maxillary molar area for the past 6 months which worsened after the left maxillary second molar tooth had been extracted. Intra-oral examination revealed hyperemic overlying mucosa within the left maxillary molar region with the absence of the upper right second molar tooth. Panoramic radiography revealed a radiopaque body in the left maxillary sinus with an increased opacity (Figure 3). Before operation patient was informed about operation. Under local anesthesia a window was composed in the lateral wall of the maxillary sinus. The foreign metal body and the root of the second molar tooth were removed (Figure 4). After a month of follow-up the patient was free of symptoms.

Case 3: A forty-three-year-old male was referred to our clinic with complaint of pain at his right mandible, under his fixed partial dentures. A small radio opaque body just under the fixed partial denture was observed in the panoramic radiography (Figure 5). Patient was informed about operation and foreign body. Foreign body was removed under local anesthesia. The foreign body was a piece of broken bein elevator which was oxidized (Figure 6). After a three month follow-up the patient had no pain.
vehicle accidents, assaults and bullet wounds are reported to be the common causes of traumatic foreign bodies.3 Once a foreign material is left behind within a soft and/or hard tissue, it may promote local inflammation and infection that may cause pain and/or destruction within the surrounding tissues. However in our first and third patients there was no sign of infection and fibrosis around the elevator piece. A part of an elevator was seen when mucoperiostal flap was reflected lingually. Possible reason of the pain might be chronic soft tissue irritation due to the remnant of the elevator piece. Tunali et al.4 reported a case of forgotten bein elevator remnant after a third molar extraction in the left mandible. They didn’t report any sign of infection or granulation tissue around the elevator piece. Nevertheless they observed that the elevator piece was oxidized similar to our first case and they mentioned that the oxidization could be one of the main reasons of the pain.

In the second case report, the elevator piece caused chronic sinusitis in the left maxillary sinus. The elevator remnant was oxidized which might be the possible reason of pain and infection. The foreign body inserted within the maxillary sinus cavity can provoke local inflammation and infection of the sinus mucosa.5 It has also been reported that sinusitis is a common complication of foreign bodies within antrum.6 In our second case the severity of the symptoms might be strongly related to the oxidized elevator piece as well as the root remnant.

Another issue with regard to foreign materials is the cumulative effects of small quantities of corrosion products. These effects may be local or systemic depending on the sensitization to metallic ions released from metallic instruments.6,7 Seiji et al.8 used stainless steel miniplates for mandibular fracture reduction. After the healing period he observed granulation tissue around the stainless steel miniplates and recommended routine removal of stainless steel miniplates to exclude the unfavorable effects as described. Scales et al.6 also recommend the removal of all stainless steel appliances as soon as possible because it is currently impossible to distinguish between the amount of corrosion that is harmful and which is not. In addition to these findings carcinogenic activity of nickel and iron has also been noted.

One of the possible causes of elevator breakage during tooth extraction can be considered as metal fatigue of instruments due to excessive and/or incorrect sterilization as well as traumatic applications. It has been reported that

DISCUSSION

Foreign bodies may be ingested after being inserted into a body cavity, or deposited in the body by traumatic or iatrogenic injury.2 Most foreign bodies can cause abscess formation, septicemia or lead to severe hemorrhage.2 Motor
stainless steel instruments are resistant to the dry heat range between 65.6 to 137.8 °C (150–280 °F). However, multiple sterilizations within the autoclave is known to have no negative effect on the integrity of the cutting edges of stainless steel instruments. Nevertheless, common and incorrect use of dry heat (180 °C) for sterilization can be the cause of the breakage of elevators in the present report.

CONCLUSION

Careful inspection of instruments following surgical procedures and thorough sterilization within autoclave are mandatory. Clinicians must pay attention to their instruments and materials during dental procedures to avoid foreign body reactions due to broken and forgotten surgical instruments. According to literature and our experience we are suggesting the removal of the metallic bodies in maxillofacial region due to their side effects even if there appear no clinical symptoms related with the foreign metallic bodies.

REFERENCES


