ELASTOMERIC IMPRESSION MATERIAL FOREIGN BODY IN THE MAXILLA WITH BONE PERFORATION: A CASE REPORT

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ABSTRACT

Elastomeric impression materials are rarely, found in the maxilla as a foreign body followed by dental procedure. This paper reports the management of an iatrogenic compaction due to the accidental placement of an elastomeric impression material in an unhealed socket during impression taking procedure.

Key words: Foreign body; Impression material; Maxilla; Perforation.

Introduction

Foreign bodies in the oral cavity are not common after dental treatments. However, gauze, dental amalgam, intra alveolar dressing (Zinc Oxide Eugenol paste) have been described as a foreign body in dental manuscripts. Elastomeric impression materials are commonly used in dentistry for the fabrication of cast restorations. Injection and retention of these materials into the underlying soft tissue or bone may lead to foreign body reaction. This paper reports the management of an iatrogenic compaction due to the accidental placement of an elastomeric impression material in an unhealed socket during impression taking procedure.

Case report

A 49-year old male patient was referred to the Department of Oral Medicine, Shahid Beheshti Dental School, Tehran, Iran for the management of an asymptomatic bone defect. Local inspection revealed a small perforation in the buccal surface of anterior right maxillary bone. A foreign body with rubbery texture and blue in color was seen through the bone cavity (Figure 1). History reveals occasional episodes of pus taste in the oral cavity for the last 6 months. His medical and familial histories were not contributive. Patient was under self medication with antibiotics (capsule amoxicillin 500mg, three times a day). Dental history shows the placement of a FPD on his anterior right maxilla two years ago. He remembered that impression procedures were done two days after dental extractions when dental socket were not completely healed. Two years later, at present, the retained elastomeric impression material was found clinically.

Radiographic assessment (panoramic radiography) showed a cyst like periapical radiolucency in maxillary bone extending from distal right central incisor to mesial right first premolar. In our case, evaluation of maxillary sinus did not show any problem (Figure 2). Finally, the treatment consisted of a total surgical excision under local anesthesia with 2% lidocaine hydrochloride with 1:1,00,000 epinephrine. Surgical incision was made and a full thickness mucoperiosteal flap was reflected using periosteal elevator to expose the bone perforation. The foreign body was removed completely (Figure 3). Then, cavity was irrigated thoroughly with saline solution and examined carefully for remained materials. The flap replaced, sutured and a periodontal pack placed over the denuded area. Anti-biotic and non steroidal anti inflammatory drugs were prescribed. The patient has been followed up for five months without any postoperative sequela.

Discussion

There are numerous foreign bodies which may be found in oral tissues. Across these conditions accidental implantation of dental amalgam finds more often. Price and Whitehead first reported on five subjects who developed bone loss, pain and swelling after dental impression procedures. One of their patient showed bone destruction apparently caused by retention of the rubber–base impression material. Owens et al, showed that amalgam tattoo accounted for about 1 of 19000 pathology cases assessed. Nevertheless, this case is important due to wide use of rubber base dental impression for prosthodontic rehabilitation after tooth extraction. The tentative diagnosis can be made following taking a complete history and radiographic analysis. Radiological evaluations have an important role in diagnosis of foreign bodies. However, the diagnosis might have been more difficult, if the foreign body had not been radiopaque enough to be detected on a radiograph.

For example in the present case panoramic radiography did not show a clear radiopacity in the affected area. In this patient rubber base material was accidently forced into the socket of a recently extracted tooth during the impression taking procedure. The rubber base material over a time period acted as a foreign body. In addition, remaining of a residual cyst in the maxillary bone after dental extraction facilitates the retention of impression material. But, authors did not have any pre extraction radiographic evidence to support this observation. Similar findings were reported by other researchers in the early literature. It is important to point out that in almost all

Figure 1. Clinical presentation of foreign body through the bone perforation. Figure 2. Panoramic radiography showing the location of foreign body in the maxilla. Figure 3. View of the foreign body removed, which measured 20×10×10 mm.
reported cases impression materials act as a foreign body in the maxillary antrum. But in our case, foreign body was found in the maxillary bone with buccal perforation and without antrum involvement. According to available data for us, we did not find the similar case (bone perforation as a result of inflammatory process after retention of dental impression material) in previous published reports.

Conclusion
In conclusion it is suggested that the impression should be taken after completion of healing process in dental socket with controlled force and non-traumatic trays. All tissues should be thoroughly irrigated following the impression taking procedure.

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