

Case Report

Endodontic Files are Useful in Removing Broken Roots: Report of Two CasesFareedi Mukram Ali¹, Wedad Ahmed Mashali², Youssef Ahmed Maadi², Ali Atiyah Dahesh Derrbishi², Elnur I. Elbeshir³¹Asst Professor, Dept of Oral & Maxillofacial Surgery, College of Dentistry, Jazan University, Jazan. Saudi Arabia²Dental Intern, Dept of Oral & Maxillofacial Surgery, College of Dentistry, Jazan University, Jazan. Saudi Arabia³Professor, Dept. of oral & Maxillofacial surgery, College of Dentistry, Jazan University, Jazan. Saudi Arabia***Corresponding Author:**

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Abstract: It happens many times that the dental surgeon faces a tricky situation when fracture of the root tip occurs during tooth extraction. It is frequently a time consuming and a stressful situation for the patient as well as to the surgeon when attempting removal of these root apices. Though many techniques have been described in the literature, they have some disadvantages. The present article describes a case series of two reports in which we have done atraumatic removal of the broken root tips with the help of endodontic files.

Keywords: Broken root tips, Extraction of tooth, Root tip removal.

INTRODUCTION

The extraction of the decayed or diseased tooth appears to be simple but it is actually a technique sensitive procedure and also depends upon the art of surgeon's hand. In case of ideal tooth extraction, extraction of whole tooth or whole tooth root with minimal trauma should be considered [1].

At the time of removing the tooth, often a situation arises when the tip of root break and left in the alveolar socket. This is a delicate situation, as while removing such root tips, it can be pushed into the maxillary sinus or inferior alveolar nerve canal. This usually causes the need for additional surgical procedure or sometimes a referral to the specialist [2]. It appears in many situations that alveolar removal and more soft issue trauma by raising flaps could not be avoided. The present article describes a case series of two reports in which we have carried out atraumatic removal of the broken root tips with the help of endodontic files.

CASE REPORT**Case 1**

A 42 year old male patient came with a chief complaint of pain at the maxillary right posterior region of jaw since 3 to 4 months. On clinical and radiographical examination, a cariously fractured maxillary first molar was found (fig. 1) and advised extraction of tooth as it showing root caries and also presence of alveolar bone loss. While removing the tooth, the palatal root was fractured. For the atraumatic

removal of this root, the extraction was attempted with the help of endodontic H- file. The root tip was successfully secured and removed with the help of endodontic file (Fig. 2 and 3).



Fig-1: OPG showing the decayed maxillary first molar



Fig-2: Intraoral picture while removing the root fragment with the help of endodontic file



Fig-3: Extracted tooth along with the broken root tip

Case 2

A 37 year old female patient had pain in the maxillary left posterior region. On clinical finding a cariously fractured maxillary second molar was present. In OPG, a grossly carious tooth was present (Fig. 4) and thus for extraction of tooth was advised and attempted with routine methods using extraction forceps resulting palatal root fracture. The H endodontic file was chosen for the removal of the root tip (Fig. 5) which was successful (Fig. 6).



Fig-4: IOPA of second patient showing decayed maxillary second molar

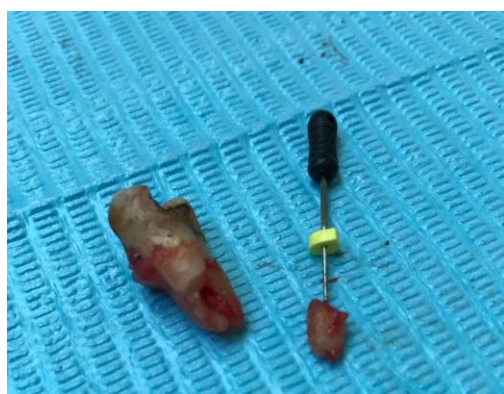


Fig-5: Extracted fragment of root tip along with other part of extracted tooth



Fig-6: The extracted tooth with the broken root tip

DISCUSSION

If the tooth was weakened by the caries or large restoration, it is difficult to avoid the fracture of the tooth or tooth root. During the removal of the maxillary molars palatal root was the most common to fracture as it is divergent and angulated from the crown and having a slender root [1, 3].

The removal of the root tip may require removal of large amount of alveolar bone and can lead to fragment displacement into the maxillary antrum or formation of oro-antral communication [1].

Extraction as well as retrieval of broken root tips should be minimally invasive aiming to preserve the alveolus as well as the buccal and palatal cortical plates [4]. Numerous methods have been described in the literature for the extraction of the broken root piece such as forming a bony window over the root apex, extraction with the help of apex locators, use of periosteal elevator, use of luxators, use of syringe needle or by removal of the bone around the root and then removal of fragment [4, 5].

H- files have been tried for the removal of the root tips. They will engage effectively in the dentin than those by the k files or reamers. H-files do not engage during insertion action and engage efficiently to dentin during the withdrawal motion [2, 3].

There are numerous advantages of this technique such as preservation of bone, decreased operating time, no need of additional assisting personnel, reduced apprehension to the patient, comparatively easier technique [1, 5].

This method is commonly suggested in case of root fracture, however, it is not recommended to invisible canals, bony interferences, root hypercementosis and serious curvatures or lacerations [6].

Using these files can secure the root fragment and allow creation of bone guttering around the the apex which facilitates its removal. The usefulness of such a procedure can best be appreciated when the tooth

was initially subluxated and then the root apex fractures there after , its removal can then take place with ease.

CONCLUSION

Using H-file technique is simple, easy and effective method for the removal of root tips with least trauma to the surrounding tissues which is recommended in provision of prosthetic replacement with or without implants. It also add a precaution to avoid root displacemt into neighbouring structures.

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