# **A Case Report**

# Removal of Broken Curette Tip From The Mandibular Third Molar: Seeing The Unseen

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#### Abstract

A healthy 28-year old female reported with the chief complain of pain and swelling in the lower left back region. On the basis of clinical history, examination and radiograph the case was diagnosed to be alveolalgia / post operative osteitis with broken instrument tip in the socket. Since the patient was in severe pain, the treatment was planned accordingly. This article reports a case of a retained fractured dental curette tip in alveolar socket of mandibular third molar. This is a rare incident, its build-up the importance of checking instruments before and after the surgery by both the dental surgeon and assistant. Retained fractured fragments should be carefully studied before attempt of any removal procedure.

**Keywords:** Curette, alveolalgia, postoperative osteitis, alveolar socket.

## **INTRODUCTION**

lveolalgia is the most common and painful complication in the healing of extraction wound, commonly known as dry socket. It's a focal osteo-myelitis in which the blood got removed by default. Fracture of instrument tip during the extraction is very rare. Accidents can take place during surgery due to a number of factors including operator's technique, rusted instrument, and poor quality or aged instruments.2 Fractured instrument has to be managed with a successful search for the broken tip/fragment and removal to avoid potential issues like infection, foreign body reaction or other complications including swallowing of the fragment.3,4

The aim of the present article is to report the unusual and rare fracture of a dental curette tip during the extraction of impacted left mandibular third molar.

## **CASE REPORT**

A healthy 28-year-old female visited to the Dua Multi Speciality Dental Clinic with the chief complain of pain and swelling in the lower left back jaw region and also complain of reduced mouth opening since the past 3 days. Patient gave history of extraction which was performed from somewhere else. The pain was severe, continuous, throbbing type. The pain was aggravated by itself and relieved after medication. The socket was filled by zinc oxide eugenol paste (figure-1). On the basis of clinical history and examination the

provisional diagnosis of alveolalgia was made. Patient was advised for IOPA (Intra-Oral Peri-Apical) radiograph using RVG (Radio-Visio-Graphy). On the basis of RVG there was a radiopaque, triangular foreign body was looking metallic, the broken instrument tip was diagnosed (Figure-2). For the confirmation we have contacted the previous dentist to ask for the instrument used in the previous procedure and after seen the remaining part of the broken instrument we concluded that it was the tip of curette. The metal liccurette tip was positioned in vertical fashion with the tip directed occlusally. The tip of the broken instrument had a good clearance with the IAN(Inferior Alveolar Nerve) only with the help of RVG. Metallic curette tip was lying distally to distal root apex of the extracted third molar. The tip was located using multiple RVG with the help of radioopaque pack made by mixing of tiny cotton pallet dipped in zinc oxide eugenol (ZOE) paste (Figure-3a & 3b). Surgery was planned for removal of broken tip under guidance of radiograph and antibiotic coverage using the magnifying loupes with light source, straight hand piece, carbide bur, hand curette and cumene (figure-4). Attempt was made to localise the metallic

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curette tip of the broken instrument but due to limited accessibility retrieval was not possible. After making a standard ward's incision, the mucoperiosteal flap was reflected. The bone covering the tip of the broken instrument was removed using a round carbide bur (bur no. 4 and 6), and the area was irrigated with a steady stream of saline and metronidazole solution, until the broken tip was entirely exposed. Extraction socket was explored and metallic tip was retrieved (Figure-5&6). The tip was retrieved using curette and cumene and the area thoroughly curetted. After retrieval a radiograph was taken for the confirmation of any other broken part of the instrument (Figure-7).



Figure-1: After extraction socket filled with ZOE



Figure-2: IOPA showing broken tip (Blue arrow) & ZOE Filled socket (Red arrow).





Figure-3 a & b: tiny cotton pallet dipped in zinc oxide eugenol paste.



Figure-4: Carbide bur (no. 4 & 6), straight hand piece, cumene, hand curette and magnifying loupes with light source.



Figure-5: arrow showing the broken tip.



Figure-6: Retrieved broken tip & instrument



Figure-7: IOPA after curette tip removal.



Figure-8: Measurement from the alveolar crest & IAN

# **DISCUSSION**

It is a rare condition in which endodontic files, dental burs. and occasionally other dental instruments tend to break during endodontic treatment, extraction and surgical procedures. It may be because of the several reasons including defective manufacturing, stress, improper handling and technique, fatigue, rust or poor handling. It is in the interest of the patients that the broken instrument tip / part must be retrieved.

In the literature, only four papers were found in respect of broken instruments during extraction.<sup>2-5</sup>In the present case, in contrast to earlier ones, curette tip was beneath the bone and the direction of tip was towards occlusal surface distal to the distal root of mandibular third molar. The curette tip was broken may be because of unnecessary pressure or may be because of rusted instrument. The curette tip was subsequently surrounded by a layer of granulation tissue. In most of the situations, elevator's tip fractured during permanent teeth extraction and was identified immediately.

In the literature, no paper was found in which they used any radiopaque and radiolucent material or pack for locating the foreign body during the surgical procedure. The zinc oxide eugenol pack has sedative effects to the soft and hard tissues. The use of radiopaque material for locating the foreign body prevents the excessive trauma to the tissue. CBCT is an excellent tool to identify and locate the foreign body, broken instrument tip and other objects.<sup>6</sup>

In the present case, probably the curette tip was left back in the socket because of negligence or may be because of invisibility. In RVG, the tip was localized 11.4mm below the alveolar crest and 1.00mm above the IAN (figure-8). Under the coverage of antibiotics and analgesics healing starts and may be the tip was surrounded by granulation tissue.

#### **CONCLUSION**

If the broken instrument tip or any foreign body remains in the socket or not diagnosed that may cause serious illness. Because of the presence of foreign body, antigen-antibody reactions can occur at the site which may cause severe pain, swelling, abscess formation and necrosis of the tissue. It is always advisable to use good quality and reliable brands of endodontic files, burs, elevators, periodontal and other surgical instruments. It may be advised to the dentist and the assistant to check the instrument before and after every endodontic and surgical procedure. If any broken instrument is suspected, an immediate radiograph should be taken to find out the position of broken instrument which will be helpful to prevent other potential surgical complications.

#### REFERENCES

- Shafer, Hine, Levy. Shafer's textbook of oral pathology. 6<sup>th</sup> ed. India: Elsevier; 2009:601
- Balaji, S. M. (2013). Burried broken extraction instrument fragment. Annals of maxillofacial surgery, 3(1), 93-94
- da Silva Pierro, V. S., de Morais, A. P., Granado, L., & Maia, L. C. (2010). An unusual accident during a primary molar extraction. Journal of Clinical Pediatric Dentistry, 34(3), 193-195.
- Whitehouse, D. J. (1995). Broken dental forceps. British Dental Journal, 178: 363.
- Ruprecht, A., & Ross, A. (1981). Location of broken instrument fragments. Journal Can Dental Association, 47:245.
- Moore UJ, Fanibunda K, Gross MJ. The use of a metal detector for localization of a metallic foreign body in the floor of the mouth. Br J Oral Maxillofac Surg. 1993;31:191–2.