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Accidental displacement of mandibular third molar into soft tissue: a case report

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Summary

A case of accidental displacement of a mandibular molar tooth into adjacent submandibular space during routine extraction by a general practitioner is reported. The localization and surgical retrieval of the displaced tooth is described, post-operative period was uneventful and salient lessons for the practitioners highlighted.

Keywords: *Mandibular molar tooth, submandibular space, displaced tooth.*

Résumé

Un cas accidentel de déplacement de la molaire mandibulaire dans l'espace adjacente submandibulaire pendant l'extraction des dents par un dentiste est rapporté. La localisation et le retrait chirurgical de la dent espacée sont décrits durant la période, post opérative était sans problème et des leçons pour les dentistes sont illuminées.

Introduction

Tooth extraction is the commonest oral surgical procedure undertaken by both specialist oral surgeons and general dental practitioners [1]. While this is done as a simple less invasive procedure, removal of an impacted molar is more invasive and requires greater surgical expertise. It is therefore not advisable for an inadequately trained individual to embark on it. This is particularly pertinent considering the various possible complications and morbidity associated with the procedure.

Among the possible complications, the displacement of tooth fragments or whole tooth during this procedure is not commonly reported, though widely mentioned in textbooks [2]. Whenever this complication occurs in general practice, it is advisable that the clinician does not embark on a blind surgical attempt to retrieve the displaced tooth as this may be

further complicated and hazardous to the patient. Rather, prophylactic broad spectrum, systemic antibiotics should be administered while the patient is urgently referred to an oral and maxillofacial surgeon for further management.

In this report, we encountered a case of impacted mandibular third molar displaced into the subjacent submandibular space during an improperly prosecuted attempt at extraction. The radiographic localization and surgical retrieval of the tooth are discussed and important lessons are highlighted for the clinicians.

Case report

A 24 year old male patient reported at our clinic with a two day history of left submandibular swelling following an aborted attempt to extract an impacted left mandibular third molar by a dental practitioner in a general dental centre. The patient had presented with severe toothache at a general practice and was diagnosed as having acute pericoronitis secondary to an impacted left mandibular third molar. Removal of the tooth was attempted with combination of dental elevators and forceps without initial surgical exposure and ostectomy. The tooth was consequently displaced linguallly and further attempt to blindly retrieve it pushed it further beyond the sight of the surgeon. The procedure was subsequently abandoned and patient was placed on caps Amoxycillin and tabs Metronidazole with analgesic. He was then referred to our centre. On examination there was a diffuse, slightly tender left submandibular swelling. The overlying skin was grossly clinically normal. (Figs. 1a and 1b). The submandibular lymph nodes were palpable, mobile and not tender bilaterally. There was no limitation to mouth opening and intra-oral examination revealed a clean tender extraction socket of the left mandibular third molar. Other intra-oral findings were essentially normal. A submentovertical radiograph (Fig. 2a) and a left lateral oblique view of the mandible (Fig. 2b) showed the displaced molar tooth just medial to the angle of the left mandible.



Figure 1a



Figure 1b

Fig. 1: 1a. Demonstrates the diffuse left submandibular swelling (arrow) as compared with the normal right submandibular space in 1b.



Figure 2a



Figure 2b

Fig. 2: 2a. Submentovertical radiograph shows the 3rd molar tooth just medial to the left body of the mandible (arrow). The same tooth can also be seen on the oblique lateral view, superimposed on the body of the left mandible (arrow) in 2b.

Patient was placed on a broad spectrum, prophylactic, systemic antibiotics (Tabs. Ciprofloxacin 500mg 12 hourly and Tabs. Metronidazole 200mg 8 hourly both for five days) and was informed of need for surgical retrieval of the displaced tooth under general anaesthesia. However, patient defaulted from appointments having obtained some initial relief. He represented 7 months later with a history of recurrent, painful left submandibular swelling. The swelling was firm, fibrotic, and slightly tender. Informed consent was obtained for surgical removal of the displaced tooth under general anaesthesia.

Intraoperatively, the tooth was not palpable intraorally and extraorally, a combined intraoral and extraoral approach was employed using a lingual mucoperiosteal flap and submandibular incisions respectively. By blunt dissection, the submandibular space was exposed, loculi of pus were found and drained and sample obtained for M/C/S. The submandibular salivary gland was retracted medially and by palpating with a gloved finger, the tooth was detected firmly attached to the medial side of the mandibular body. It was gently teased out, grasped with a No 4 artery forceps and retrieved from the submandibular space.

The surgical site was copiously irrigated with normal saline and the tissues were closed in layers after the placement of a rubber tube to drain the dead space. The drain was removed 48 hours later. Patient was placed on parenteral analgesics and antibiotics postoperatively. The recovery was uneventful and patient was discharged home three days after surgery. As at 3 months postoperative review patient's condition remains satisfactory.

Discussion

Displacement of tooth fragments or whole tooth during an extraction is not commonly reported [1,3]. Nevertheless, several anatomical sites into which a molar tooth could be accidentally displaced include the sublingual space, submandibular region, the pterygomandibular space, the maxillary sinus, and the lateral pharyngeal space [2,4,5,6]. Displacements can follow trauma [7,8], can be iatrogenic [9] or self-induced [2] and the sites of displacements depend on the anatomy of the tooth and the surrounding region.

When a tooth is accidentally displaced into any of these places, the first challenge poised to the clinician is the localization of the tooth. This is usually possible by means of a panoramic radiograph complemented with a posteroanterior or submentovertex views of the jaws. CT scan, especially with 3-D reconstruction, provides more precise diagnostic information but the increased exposure to radiation and higher cost of this investigation may not justify its use as a first line investigation in this condition. In the present case, localization was accomplished using both the oblique lateral view of the mandible and the submentovertex as facility for a panoramic radiograph was not available.

The surgical retrieval was a bit rigorous due to extensive fibrosis in the vicinity of the submandibular gland and the tooth. This made direct bimanual palpation of the tooth impossible. Fibrous tissue formation must have resulted from the chronic inflammation due to recurrent/persistent infection of the region. However, the relative advantage was that the fibrosis retained the tooth in position thus preventing further posterior and downward displacement into the cervical space which could have made retrieval more invasive and precarious.

Although there has been paucity of this type of case reports; particularly in the Nigerian environment, it cannot be assumed that such cases do not occur. The salient lesson to a general practitioner therefore

is to recognize the limit of his expertise and facilities. There are guidelines such as the Perderon's index and Yuasa's index [10] which provide criteria for assessing the difficulty of third molar extractions that could assist a clinician in decision making on patient referral. Whenever complication occurs, prompt referral is advisable if the clinician does not possess the competence to manage it. This was done by the referring surgeon in this case and it is commendable. Also, the need to adequately educate the patient especially following a complicated procedure is underscored. The seven months of default by this patient made him to experience a protracted period of morbidity and discomfort in forms of persistent/recurrent space infection. This could also have progressed to more fulminant cervicofacial infection which can sometimes be fatal. The clinician therefore owes it as a duty both to educate and to guide their patients to the best quality treatment available.

In conclusion, a case of accidental displacement of a mandibular molar tooth with subsequent surgical retrieval 7 months after the incident is reported and the need for immediate referral to an oral and maxillofacial surgeon should this complication arise in a general dental practitioner's clinic has been emphasized.

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