

Case report

Complication of mandibular third molars extraction: a case report

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Abstract – Objective: the objective of this paper is to show through a clinical case that an adequate clinical and radiographic examination should be performed before third molar removal to avoid complications especially the displaced tooth.

Methods: the authors present a case report of a submandibular displacement of a mandibular third molar during extraction.

Results: after standard radiological examination and a computed tomography (CT-scan) surgery for retrieving the displaced tooth was performed under general anesthesia without difficulty.

Conclusion: localization with CT-scan and proper surgical methods are the keys to retrieving the displaced tooth but we must to remind dentists on ways to prevent and manage this complication.

Mots clés :
refoulement /
troisième molaire
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diagnostic

Résumé – Complication de l'extraction des dents de sagesse : présentation d'un cas.

Objectif : l'objectif de cet article est de montrer à travers un cas clinique que des examens clinique et radiologique appropriés doivent être effectués avant l'extraction de la troisième molaire mandibulaire afin d'éviter les complications, en particulier le refoulement de la dent dans le plancher buccal.

Méthodes : les auteurs présentent une troisième molaire mandibulaire gauche qui a été refoulée dans région submandibulaire lors de son extraction.

Résultats : après un examen radiologique standard et un examen tomographique, l'élimination chirurgicale de la dent refoulée a été réalisée sous anesthésie générale.

Conclusion : la localisation avec le CT-scan et les moyens chirurgicaux appropriés sont les clés qui permettent l'élimination de la dent refoulée. Cependant nous devons rappeler aux médecins dentistes les moyens qui permettent de gérer et surtout prévenir cette complication.

Removal of third molars is one of the most frequently carried out procedures in oral surgery [1-3].

The surgical removal of third molars may result in a number of major and minor complications [4]. The most common complications include sensory nerve damage, dry socket,

infection, hemorrhage and pain. Less common complications are severe trismus, iatrogenic damage to the adjacent second molar, iatrogenic mandibular fracture [1,2] and accidental displacement of a lower third molar or one of its root fragments. The latter is a well-recognized complication that

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is frequently mentioned in textbooks. Only limited information about its incidence and management was found in the literature [5].

Besides the anatomic considerations, such as the distolingual angulation of the tooth or dehiscence in lingual cortical plate, an excessive or uncontrolled force, an improper manipulation and an inadequate clinical and radiographic examination are important factors that can lead to tooth displacement [6].

The aim of this paper is to present a clinical case which deals with a displaced impacted third molar which is an uncommon complication in the surgical extraction of impacted teeth.

Clinical case

A 38-year-old woman was referred from her general practitioner to the Department of oral Surgery, Faculty of Dentistry, Monastir (Tunisia). She was referred for the removal of a displaced left mandibular third molar.

The patient's history revealed that two months earlier she had undergone an unsuccessful surgical procedure under local anesthesia performed by her general practitioner for the removal of an impacted mandibular third molar. The tooth broke during extraction. The procedure was described by the patient as being difficult and complicated. Then, the patient presented repetitive episodes of cellulitis, which were treated by antibiotics (oral amoxicillin) before she was referred.

Extraoral examination revealed no facial swelling. The intraoral examination revealed the absence of the left mandibular third molar; the mandibular vestibule was not swollen. Palpation causes pain at the site of 38.

A panoramic radiography showed an empty tooth socket of the left mandibular molar with the presence of 38 in a low position on the mandibular basal edge (Fig. 1).

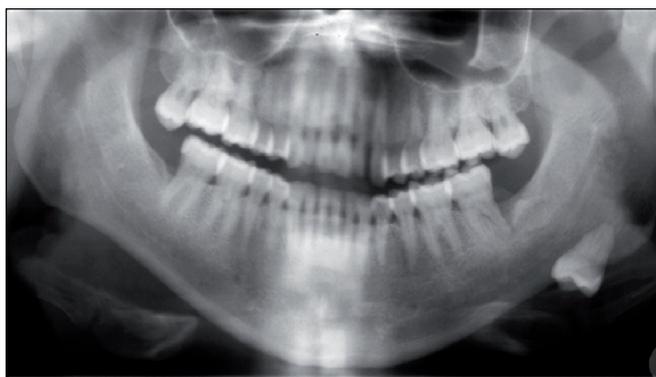


Fig. 1. Panoramic radiography taken before removal of the left third mandibular molar confirming the diagnosis of tooth displacement.

Fig. 1. Radiographie panoramique prise avant l'extraction de la troisième molaire mandibulaire gauche confirmant le refoulement de la dent.

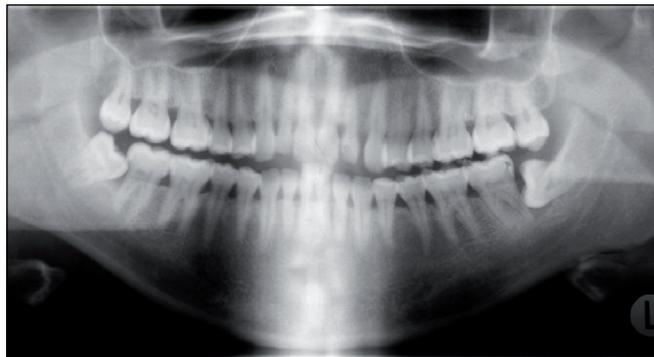


Fig. 2. Panoramic radiography taken for the extraction of the right third mandibular molar, six months earlier, suggesting the original position of the left third mandibular molar.

Fig. 2. Radiographie panoramique réalisée avant l'extraction de la troisième molaire mandibulaire droite, six mois auparavant, montrant la position initiale de la troisième molaire mandibulaire droite.

On the first panoramic radiography which was performed at the first consultation with her general practitioner for the extraction of 48 six months earlier, the third left mandibular molar is in horizontal position (Fig. 2). For a detailed radiographic examination, computed tomography scans were taken; axial sections were obtained. Images were reconstructed to form sagittal sections and then they were examined. The computed tomography examination demonstrated:

- a rupture of the lingual cortical distal to the left second mandibular molar (37);
- the presence of the left mandibular third molar (38) at the posterior left lateral oral floor, it is oblique with an axis directed downward, forward and outward;
- the CT-scan sections in the medial pterygoid, at the submandibular lodge above and in front of the left submandibular gland and below the mylohyoid muscle allowed to locate the displaced tooth (Figs. 3-6).

Under general anesthesia, an incision starting from the lingual sulcus towards the distolingual angle of the second molar at the gingival margin was extended to the coronoid process directly in line with the lateral surface of ramus. The dislodged tooth was found by means of blunt dissection and grasped with a pair of artery forceps and then it was removed. The patient was given oral antibiotics and analgic for one week. The patient has not consulted later.

Discussion

During a poorly-controlled maneuver or fracture at the time of extraction, a part of the tooth or a whole tooth can be lifted out of its socket and escape the control of the operator.

We speculate that in the current case, the lingual plate of the alveolar bone was fractured during extraction and the third molar pushed through the submandibular space by the

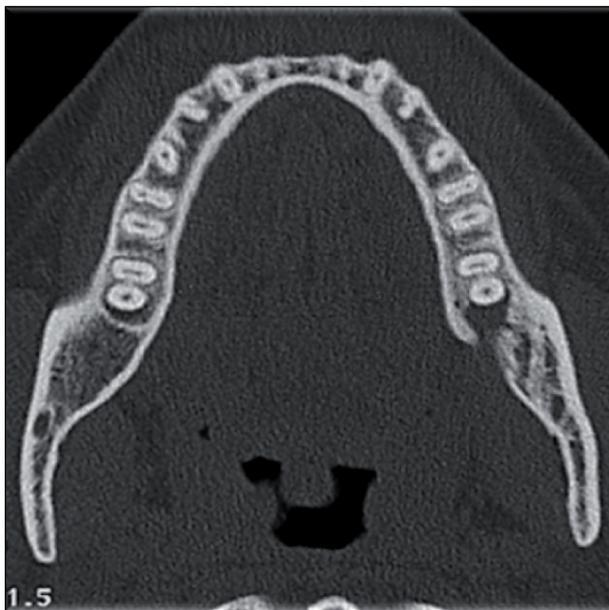


Fig. 3. Axial CT-scan showing the damage of the lingual mandibular cortical.

Fig. 3. CT-scan (coupe axiale) montrant la fracture de la corticale linguale mandibulaire.



Fig. 4. Axial CT-scan passing by the basal edge showing the displaced tooth.

Fig. 4. CT-scan (coupe axiale) passant près du bord basilaire de la mandibule montrant la dent refoulée.

elevator. It is unclear why the general practitioner waited two months to refer the patient to our department. This interval is sought by some authors to allow fibrosis to occur and stabilize the tooth in a firm position. However, a delayed



Fig. 5. Axial CT-scan in passing by the oral floor.

Fig. 5. CT-scan (coupe axiale) passant par le plancher buccal.



Fig. 6. Oblique section perpendicular to the curvature of the arch.

Fig. 6. CT-scan: coupe frontale passant à hauteur de la dent refoulée.

intervention may increase the risk of infection and result in a foreign body reaction or migration of the tooth [7].

Indeed, in the present case the patient developed repetitive infectious episodes.

On standard radiographs, if the molar appears close, an immediate extraction attempt can be considered although Yueh et al. recommended that the dentist should refrain

from an attempt at retrieval unless the fragment is very clearly and easily visible and can be grasped. In fact, some previous reports presented the potential for making the situation worse [8].

If the displaced tooth is too deep, a cross-sectional imaging is essential to locate the displaced tooth in 3 planes of space and to specify its relations with the neighborhood anatomical elements (bone tables, edge basilar, floor muscles and salivary glands).

Following this analysis, the surgical removal of mandibular third molar under the right conditions will be considered.

We followed the conventional surgical method for accessing the tooth: an extended lingual mucoperiosteal flap although it has been criticized as it provides a narrow operative field and a prominent mylohyoid ridge may obscure the view [8].

This method allowed us to extract the displaced tooth without removing the lingual plate or cutting the mylohyoid muscle.

In our case, the following postoperative was simple while several complications can generally occur including infectious complications.

The carrying out of dental extractions requires compliance with a number of rules inherent to any surgical practice. The preoperative radiological assessment, knowledge of the equipment and the instruments and their rational use are elements that define a good operative practice.

During extraction, the undesired operations must also be avoided for a proper conduct of the surgical procedure involving no fracture or discharge of dental elements in the oral floor.

Competing interests: none

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