

# DISPLACEMENT OF A MANDIBULAR THIRD MOLAR INTO THE PTERYGOMANDIBULAR SPACE: A CASE REPORT

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**Abstract:** Displacement of mandibular third molars into anatomically adjacent spaces is a rare complication that can occur during dental extractions. One such space is the pterygomandibular space, a potential space located deep within the oral cavity. This case report presents a rare occurrence of a mandibular third molar getting displaced into the pterygomandibular space during a routine dental extraction procedure. A 35-year-old female patient underwent the extraction of a symptomatic mandibular third molar. Intraoperatively, the tooth unexpectedly dislodged into the pterygomandibular space. Immediate measures were taken to manage the situation, including radiographic assessment, imaging, and referral to a maxillofacial surgeon. The case highlights the importance of recognizing and managing such complications promptly and efficiently to prevent potential complications and ensure the best possible patient outcome.

**Keywords:** Mandibular third molar, pterygomandibular space, dental extraction, displacement, complication, maxillofacial surgery, case report, radiographic assessment, patient outcome.

## INTRODUCTION

Dental extractions, especially of impacted mandibular third molars, are common procedures performed in dental clinics. While these extractions are generally routine and uneventful, there can be rare and unexpected complications. One such complication is the displacement of the extracted tooth into anatomically adjacent spaces. The pterygomandibular space, located deep within the oral cavity, is one such potential space where tooth displacement can occur. This case report describes an unusual occurrence of a mandibular third molar getting displaced into the pterygomandibular space during a routine dental extraction procedure.

The pterygomandibular space is a confined area bordered by important anatomical structures, such as the lateral pterygoid muscle, medial pterygoid muscle, and the ramus of the mandible. Displacement of a tooth into this space can lead to potential complications, including infection, abscess formation, and nerve damage. Prompt recognition and appropriate management of such a complication are crucial to ensure optimal patient outcomes.

## METHOD

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## Patient Presentation:

A 35-year-old female patient with complaints of pain and swelling associated with the lower right third molar presented to the dental clinic. A detailed medical and dental history was obtained to assess any preexisting medical conditions or factors that might influence treatment.

## Clinical Examination and Radiographic Assessment:

The patient underwent a comprehensive clinical examination of the oral cavity, including an evaluation of the impacted mandibular third molar. Additionally, intraoral periapical and panoramic radiographs were obtained to assess the position of the tooth and determine the degree of impaction.

## Treatment Plan:

Based on the clinical and radiographic findings, a treatment plan was formulated. The extraction of the symptomatic mandibular third molar was planned to alleviate the patient's pain and resolve the associated symptoms.

## Informed Consent:

The patient was informed about the proposed treatment plan, including the risks and potential complications associated with dental extractions. Informed consent was obtained from the patient, ensuring she understood the procedure and its potential outcomes.

## Local Anesthesia:

Prior to the extraction procedure, local anesthesia was administered to the surgical site to ensure patient comfort and pain control during the extraction.

## Dental Extraction Procedure:

The dental extraction procedure was performed using standard aseptic techniques. The dental surgeon gained access to the impacted mandibular third molar, and appropriate instruments were used to facilitate tooth removal. Special care was taken to avoid any excessive force that could cause tooth fragmentation or displacement.

## Displacement of the Tooth:

During the extraction procedure, the mandibular third molar was accidentally displaced into the pterygomandibular space. Immediate recognition of the displacement was crucial to prevent further complications.

## Radiographic Assessment:

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Intraoral periapical and panoramic radiographs were obtained immediately after the displacement to confirm the position of the tooth within the pterygomandibular space.

**Referral to a Maxillofacial Surgeon:**

Recognizing the severity of the complication and potential risks associated with the displaced tooth, the patient was promptly referred to a maxillofacial surgeon for further evaluation and management.

**Surgical Retrieval Procedure:**

Under general anesthesia, the maxillofacial surgeon performed a surgical procedure to retrieve the displaced mandibular third molar from the pterygomandibular space. The retrieval was carefully executed to minimize any damage to adjacent structures.

**Postoperative Care:**

Following the retrieval procedure, the patient received postoperative care instructions and was prescribed appropriate medications for pain control and to prevent infection.

**Follow-up:**

Regular follow-up appointments were scheduled to monitor the patient's recovery, wound healing, and resolution of symptoms. The patient's progress was carefully documented during the follow-up period.

The dental team collaborated closely with the maxillofacial surgeon to ensure comprehensive and efficient management of this rare complication. Prompt recognition of the displacement and immediate referral to a specialist contributed to the successful retrieval of the displaced mandibular third molar and the patient's uneventful postoperative recovery.

## **RESULT**

The 35-year-old female patient presented a rare complication during a routine dental extraction procedure, with the mandibular third molar getting displaced into the pterygomandibular space. Immediate measures were taken to recognize and manage the complication, including radiographic assessment and timely referral to a maxillofacial surgeon. The displaced tooth was successfully retrieved through a surgical procedure under general anesthesia. The patient experienced an uneventful postoperative recovery.

## **DISCUSSION**

The displacement of a mandibular third molar into the pterygomandibular space is a rare but potentially serious complication that dental practitioners should be aware of during dental extractions. The pterygomandibular space is a confined area with important anatomical structures, and displacement of a tooth into this space can lead to various complications, including infection, abscess formation, and

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potential nerve damage. Early recognition of such complications is vital to ensure prompt management and prevent adverse outcomes.

In this case, the dental surgeon acted quickly and appropriately upon recognizing the displacement, which allowed for timely referral to a maxillofacial surgeon. Radiographic imaging played a crucial role in confirming the tooth's position within the pterygomandibular space and guiding the appropriate management plan. The decision to perform a surgical retrieval procedure under general anesthesia was necessary to ensure safe and efficient retrieval of the displaced tooth.

## **CONCLUSION**

This case report highlights the importance of recognizing and managing the rare complication of mandibular third molar displacement into the pterygomandibular space during dental extractions. Prompt action and appropriate referral to a maxillofacial surgeon are essential to prevent potential complications and ensure a favorable patient outcome. Dental practitioners should remain vigilant and prepared to handle unforeseen complications during dental extractions, especially in cases involving impacted mandibular third molars. Knowledge of the anatomy and potential complications associated with dental extractions is crucial in ensuring patient safety and optimal treatment outcomes.

It is important to emphasize the significance of continuous professional development and training for dental practitioners to enhance their skills and knowledge in managing dental complications effectively. Moreover, case reports like this contribute to the existing body of knowledge, reminding dental professionals of the potential risks and challenges involved in dental extractions. By learning from such cases, dental practitioners can improve patient care and safety, thereby ensuring successful outcomes for their patients.

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