

## Case Report

# Modified Access Osteotomy for a Rare Pterygoid Plate Osteoma: A Technical Note

### Abstract

Osteomas are benign bone tumors which are rarely seen in the maxillofacial region. This is a technical note of modified access osteotomy for a rare pterygoid plate osteoma with good cosmetic and functional results.

**Keywords:** Modified access osteotomy, osteomas, pterygoid

### Introduction

Treatment of various pathologies which occurs in the facial skeleton and skull base poses a great surgical challenge owing to the anatomical complexity, difficulty in access, and proximity of vital structures. A multidisciplinary approach is often required in these situations to prevent damage to the vital anatomic structures and complete removal of the lesions. This article describes in detail about the modified access osteotomy for a rare pterygoid plate osteoma excision with good cosmetic and functional outcomes.

### Case Report

A 16-year-old female patient came with complaints of swelling inside the oral cavity for 1 month. On examination, the patient had a bony swelling behind the right side of the soft palate and posterior pillar. Computed tomography paranasal sinus (plain and contrast) showed a large osteoma in the right pterygoid bone (3.2 cm × 3.6 cm) [Figure 1].

### Technique

- Under general anesthesia with left nasotracheal intubation
- Incision: Weber–Fergusson incision with subciliary Diffenbach extension [Figure 2] was put.
- Upper cheek flap raised up to 1 cm from incision
- By preserving orbital rim, maxillary

osteotomy was done to pedicle the maxillary bone with the upper cheek flap

- Anterior wall of maxillary sinus osteotomized and the incision continued to the hard palate
- Hard palate was incised in the midline up to soft palate–hard palate junction. In the upper part of the incision, zygoma was exposed [Figure 3] and osteostomized
- Maxilla along with skin was retracted laterally. A 5 cm × 4 cm osteoma in the right pterygoid plate causing bulging of the soft palate was confirmed
- Pterygoid bone with attached tumor was visualized and removed *in toto*. Maxillary antral mucosa was scraped out
- Maxilla was repositioned and fixed with zygoma laterally and medially with contralateral maxilla with three-hole angle dental plates and six-hole straight plates
- Upper cheek flap was closed in layers after stabilizing the maxilla with upper (19 gauge SS wire) arch bar.

Videos for the entire procedure: Video 1.

Histopathology of the mass was consistent with osteoma. Postoperative period was uneventful. On follow-up, the patient had good occlusion and esthetic results [Figures 4 and 5].

### Discussion

The term “transfacial” has been employed to describe any procedure that mobilizes the

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Figure 1: Preoperative computed tomography showing the osteoma



Figure 2: A standard Weber-Fergusson maxillectomy incision is used, with a lateral (Diffenbach) extension



Figure 3: Osteoma exposed by modified access osteotomy with maxillary swing



Figure 4: Postoperative photograph

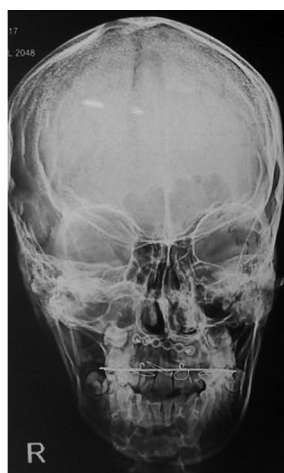


Figure 5: Postoperative X-ray

midface through a facial incision irrespective of the extent of midface disassembly used. The modified transfacial lateral rotation technique as described by Hernández Altemir<sup>[1]</sup> gives good access to the retromaxillary area. In

contrast to transmaxillary techniques which resect parts of the maxilla, no dental structures are sacrificed, there is no risk of necrosis of the maxilla and no second stage reconstruction is necessary. We used this technique with maxillary swing to gain wide exposure to remove the osteoma. The zygoma and maxilla are mobilized pedicle on the overlying soft tissues. The vascularization of the pedicle on which the maxilla is based is mainly secured by the facial and transverse facial arteries. Mobilization of these bones as free fragments is avoided if possible, in order to reduce the risk of infection and resorption. Osteomas are rare benign tumors of bone commonly seen in the maxillofacial skeleton. It is characterized by proliferation of either compact or cancellous bone in an endosteal or periosteal location.<sup>[2]</sup> The most common site is the frontal sinus, followed by the ethmoidal and maxillary sinuses. Peripheral osteoma has been described rarely in the temporal bone and pterygoid plates.<sup>[3]</sup> The modified access osteotomy technique (modified transfacial lateral rotation technique) with maxillary swing which gave wide exposure for removal of the osteoma without much morbidity.

## Conclusion

This technical note deals with use of modified access osteotomy for surgical removal of a rare pterygoid plate osteoma and the good functional and cosmetic outcome following surgery.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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## Conflicts of interest

There are no conflicts of interest.

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