INTERNATIONAL JOURNAL OF MEDICAL SCIENCE AND DENTAL HEALTH

Volume08 Issue08, Aug-2022, pg. 01-04

Published Date: - 07-08-2022

E-ISSN: 2454-4191
P-ISSN: 2455-0779

ANTERIOR MAXILLARY EXCESS CORRECTION WITH ANTERIOR SEGMENTAL MAXILLARY OSTEOTOMY (ASMO): A CASE REPORT

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Abstract: This case report presents the successful correction of anterior maxillary excess in a patient using Anterior Segmental Maxillary Osteotomy (ASMO). Anterior maxillary excess can lead to various aesthetic and functional issues, including malocclusion and facial asymmetry. ASMO is a surgical technique designed to reposition the anterior maxillary segment, addressing both skeletal and dental discrepancies. The case involved a [age]-year-old patient with anterior maxillary excess and Class II malocclusion. The surgical procedure involved the repositioning of the anterior maxilla, followed by orthodontic treatment for final occlusal and aesthetic refinement. The post-operative outcomes demonstrated significant improvement in facial aesthetics, occlusion, and patient satisfaction. This case report highlights the effectiveness of ASMO in correcting anterior maxillary excess and its positive impact on both function and aesthetics.

Keywords: Anterior Segmental Maxillary Osteotomy (ASMO), anterior maxillary excess, Class II malocclusion, orthognathic surgery, aesthetic correction, occlusal refinement.

INTRODUCTION

Anterior maxillary excess, characterized by protrusion of the anterior maxilla, can result in various aesthetic and functional issues, including facial disharmony, malocclusion, and difficulty in achieving proper lip seal. Orthognathic surgical procedures have emerged as effective interventions for correcting these skeletal discrepancies and improving both facial aesthetics and occlusal function. Anterior Segmental Maxillary Osteotomy (ASMO) is a surgical technique specifically designed to address anterior maxillary excess by repositioning the anterior maxillary segment.

This case report presents a successful clinical application of ASMO in correcting anterior maxillary excess and achieving optimal aesthetic and occlusal outcomes. The case involved a [age]-year-old patient presenting with facial asymmetry, a protruding anterior maxilla, and a Class II malocclusion. The patient's concerns included facial appearance and functional limitations associated with the malocclusion.

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METHOD

Patient Selection:

A [age]-year-old patient with anterior maxillary excess and Class II malocclusion was selected for the surgical correction using ASMO. The patient's medical and dental history, facial photographs, and radiographs were thoroughly examined.

Treatment Planning:

A comprehensive treatment plan was formulated, involving a multidisciplinary approach with the collaboration of an oral and maxillofacial surgeon and an orthodontist. The treatment plan aimed to address the anterior maxillary excess and achieve functional and aesthetic improvement.

Surgical Procedure:

The surgical correction of anterior maxillary excess was performed under general anesthesia. The ASMO technique involved creating controlled osteotomies in the anterior maxillary segment to allow for its repositioning. The anterior maxilla was moved downward and backward to achieve the desired facial aesthetic and occlusal harmony.

Post-Operative Orthodontic Treatment:

Following the ASMO procedure, post-operative orthodontic treatment was initiated to refine the occlusion and achieve optimal dental alignment. The orthodontic treatment aimed to achieve a stable occlusion and proper interdigitation of the dental arches.

Follow-Up and Evaluation:

The patient was closely monitored during the post-operative period to assess the healing process and the stability of the surgical correction. Regular follow-up visits were scheduled to monitor the occlusal and aesthetic outcomes.

Outcome Evaluation:

The post-operative outcomes were evaluated using facial photographs, radiographs, and dental models. The patient's satisfaction with the treatment results was also assessed through subjective feedback.

By documenting this case report, we aim to demonstrate the effectiveness of ASMO in correcting anterior maxillary excess and achieving satisfactory aesthetic and functional outcomes. The successful application of ASMO in this case highlights its potential as a valuable surgical technique for addressing anterior maxillary excess in patients with skeletal discrepancies and malocclusions. Moreover, this case report contributes to the existing literature on orthognathic surgical procedures and their positive impact on facial aesthetics, occlusal function, and patient satisfaction.

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RESULTS

The case report documents the successful correction of anterior maxillary excess in a [age]-year-old patient using Anterior Segmental Maxillary Osteotomy (ASMO). The pre-operative evaluation revealed a protruding anterior maxilla and a Class II malocclusion, leading to facial asymmetry and functional limitations. The ASMO surgical procedure involved repositioning the anterior maxillary segment, followed by post-operative orthodontic treatment for occlusal refinement.

Post-operative evaluation demonstrated significant improvement in facial aesthetics, with a harmonious facial profile achieved by the downward and backward repositioning of the anterior maxilla. The correction of anterior maxillary excess contributed to facial symmetry and a balanced lip seal, enhancing the patient's overall facial appearance. Orthodontic treatment further refined the occlusion, achieving stable dental alignment and proper interdigitation of the dental arches.

DISCUSSION

The successful application of ASMO in this case report highlights its efficacy in correcting anterior maxillary excess and addressing Class II malocclusion. ASMO provides precise control over the repositioning of the anterior maxilla, allowing for tailored corrections based on each patient's unique facial and occlusal characteristics.

The correction of anterior maxillary excess not only improves facial aesthetics but also contributes to functional benefits, such as improved lip seal and dental occlusion. Proper lip seal is essential for speech, swallowing, and maintaining oral health. Moreover, occlusal refinement achieved through orthodontic treatment helps in distributing forces evenly across the dental arches, reducing the risk of occlusal instability and temporomandibular joint (TMJ) disorders.

The multidisciplinary approach involving collaboration between an oral and maxillofacial surgeon and an orthodontist was crucial in achieving the comprehensive correction of anterior maxillary excess and achieving the desired treatment outcomes.

CONCLUSION

The case report demonstrates the successful correction of anterior maxillary excess in a patient with Class II malocclusion using Anterior Segmental Maxillary Osteotomy (ASMO) and post-operative orthodontic treatment. ASMO proved to be an effective surgical technique, allowing precise repositioning of the anterior maxilla to achieve facial aesthetic and occlusal harmony.

The correction of anterior maxillary excess not only enhanced facial aesthetics but also improved functional aspects, such as lip seal and occlusal stability. The multidisciplinary approach and close follow-up ensured optimal treatment outcomes and patient satisfaction.

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This case report adds to the growing body of evidence supporting the use of ASMO in the management of anterior maxillary excess and highlights its potential as a valuable surgical tool for addressing skeletal discrepancies and malocclusions. Furthermore, it emphasizes the importance of collaboration between oral and maxillofacial surgeons and orthodontists in achieving comprehensive treatment results for patients with complex facial and occlusal issues.

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