

## Bimaxillary orthognathic surgery for correction of dentoskeletal deformity: Case report



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### ABSTRACT

Class III dentoskeletal malocclusion is one of the most requested in terms of treatment. Request multidisciplinary therapy and a combination of orthodontics and surgery. Virtual pre-surgical planning helps minimize damage and achieve better results. The objective of this work is to describe the clinical picture of a patient with dentoskeletal deformity treated through bimaxillary orthognathic surgery, results obtained and postoperative follow-up. Orthognathic surgery has proven to be an effective treatment alternative to reestablish the function of the stomatognathic apparatus and balance facial aesthetics, combined with postoperative occlusal stability and patient satisfaction with the result.

**Keywords:** Orthognathic Surgery, Maxillofacial Surgery, Dentoskeletal Deformity.

## 1 INTRODUCTION

Class III malocclusion was first defined by Angle as the anteroposterior relationship between the maxilla and the mandible and is considered a dentofacial deformity (Angle, 1899). These deformities are usually characterized by a facial skeleton significantly different from normal in shape and/or size, which generates a malocclusion and impairs the aesthetics of the face (Fish, 1993), in addition to causing a series of functional difficulties, such as chewing and swallowing disorders, speech impairment and, in severe cases, breathing difficulties (Obwegeser, 2007).

Its origin can be congenital, developmental, hereditary, or traumatic (Obwegeser, 2007) and is related to mandibular skeletal protrusion, maxillary retrognathism, protrusive mandibular dentition, retrusive maxillary dentition and/or a combination of these factors (Magalhães, 2019). Its prevalence has no predilection for gender and varies according to ethnicity, being from 3 to 5% in white and black



ethnicities and 14% in yellow ethnicity, and ranging from 3.3% to 4.4% in the Brazilian population in population terms (Valdrighi, et al, 2010).

Class III malocclusions are considered the most challenging for orthodontic correction (Martins; Abdala, 2017), since patients with this type of malocclusion often present with dental crowding and crossbite, which significantly affects the aesthetics of the smile (Lamani et al., 2020) and the face by also presenting a sagittal discrepancy between maxilla and mandible, identified mainly in the lateral evaluation of the face, in addition to a straight or concave facial profile, due to maxillary deficiency, mandibular prognathism or the association of both (Capelozza Filho et al, 2002). They may also present with a short length of the anterior base of the skull, acute angle of the cranial base, obtuse gonial angle, vestibularized upper incisors and retroinclined lower incisors, in addition to an extremely low anterior facial height (Barakat et al., 2022).

Treatment options in patients presenting with dentofacial deformity may involve orthodontic treatment alone or in combination with orthognathic surgery, which aims to correct the relationship between arches (Singh et al., 2019).

Orthognathic surgery involves orthodontic and surgical treatment in a combined way, which makes it possible to achieve aesthetic and functional results in a satisfactory and harmonious way (Lamani et al., 2020). Careful facial analysis is necessary because it provides accurate surgical diagnosis and planning in order to define the amount of surgical movement required. Bimaxillary orthognathic surgery is indicated to avoid performing large isolated surgical movements (Teixeira; Scallop; Rodrigues, 2019), presenting greater stability and satisfactory facial aesthetic results (Lamani et al., 2020).

## **2 GOALS**

### **2.1 GENERAL OBJECTIVE**

To describe the clinical picture of a patient with dentoskeletal deformity treated by orthognathic surgery, results obtained and postoperative follow-up.

### **2.2 SPECIFIC OBJECTIVES**

- Report the surgical aspects of the approach performed;
- To report the postoperative follow-up and outcomes found.

## **3 LITERATURE REVIEW**

### **3.1 AESTHETICS OF THE FACE AND DENTOFACIAL DEFORMITY**

The inevitable connection between the face and the person is present from the moment of his birth and remains so until his death. The face conveys not only the spontaneous impression of a person,



but also his life identity. It can be said, then, that it becomes the mirror of the soul. Morphologically, each face presents distinct characteristics and proportions, which makes each individual a unique being (Radlanski; Wesker, 2016).

When the harmony and facial and dental proportions escape from normality, there is then the so-called dentofacial deformity. Such disproportions can be severe enough to affect the quality of life of the individual, since they cause serious damage to the aesthetics of the face (Proffit; Fields; Sarver, 2008), which commonly generates an emotional shock in these people, due to low self-esteem and diminished confidence levels caused both by unfavorable aesthetics and by the physiological problems associated with their condition (Soh; Narayanan, 2013).

Dentofacial deformity is a problem whose establishment of the exact etiological factor is difficult, or even impossible depending on the case. It is known, however, that this anomaly is related to development, with some of the probable causes, environmental and hereditary factors (Proffit; White; Sarver, 2005).

The similarity between parents and children who have some dentofacial problem is undeniable, which emphasizes the role of heredity and family tendency, but does not make them final determinants for such a condition (Obwegeser, 2007).

## 3.2 OCCLUSION AND MALOCCLUSIONS

Occlusion is essential in the analysis of positional variations of teeth and dental arches (Peck, 2009).

It can be defined as normal, the stable, healthy, and aesthetically satisfactory occlusion, where all the teeth are in complete harmony with the static and dynamic forces that act on them, in addition to being ordered correctly in the dental arch (Ferreira, 2021). Malocclusions can be defined as irregularities in the positions of the teeth. Also called dysplasias, these irregularities can be dental, skeletal, or dentoskeletal. And they can simultaneously affect the bone, muscle, tooth and nerve systems of the facial region (Ferreira, 2021).

Edward Hartley Angle, in addition to being the founder of orthodontics as a dental specialty, was also the first to conceptualize malocclusions, in 1899 (Peck, 2009). By analyzing the dentition of the dental arches from a sagittal point of view and having as reference the mesiovestibular cusps of the first upper molars, Angle divided the dental malocclusions into three distinct classes, in addition to the normal occlusion (ANGLE, 1899).

### 3.2.1 Angle Class I

Angle's Class I malocclusion is characterized by a normal anteroposterior relationship in the molars, evidenced by the "molar wrench" (Fig. 1) that may or may not be accompanied by skeletal



changes - in the vertical or transverse planes - or dental. Angle defined molar key as the correct occlusion between the upper and lower permanent molars, in which the mesiovestibular cusp of the 1st upper molar occludes the mesiovestibular sulcus of the 1st lower molar (Angle, 1899).

Although there is a correct sagittal relationship between the dental arches, the anterior teeth present in disharmony, caused by factors such as crowding or dental biprotrusion, due to the sharp inclination of the upper and lower incisors to the vestibular, added to the excessive horizontal trespass (Angle, 1899).

Figure 1 – Angle class I malocclusion, evidencing the Class I molar key

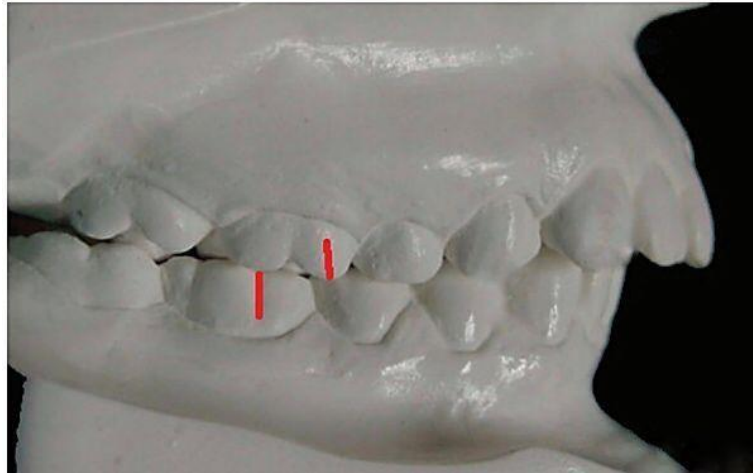


Source: (Foggiato et al., 2020)

### 3.2.2 Angle Class II

Class II malocclusion is defined when an abnormal mesio-distal relationship of the molars is present, with all lower teeth occluding to distal in relation to normal occlusion (Fig. 2), resulting in a disharmony in the incisive region and facial lines. It can still be subdivided into 2 parts according to the slope of the upper incisors, where the 1st division is characterized by the protrusive inclination of these teeth, added to an atypical function of the lips and some degree of nasal obstruction and mouth breathing. The 2nd division is characterized by excessive lingual inclination of the upper incisors, associated, mostly, with a normal oral and nasal function (Angle, 1899).

Figure 2 – Angle class II malocclusion, evidencing the Class II molar relationship

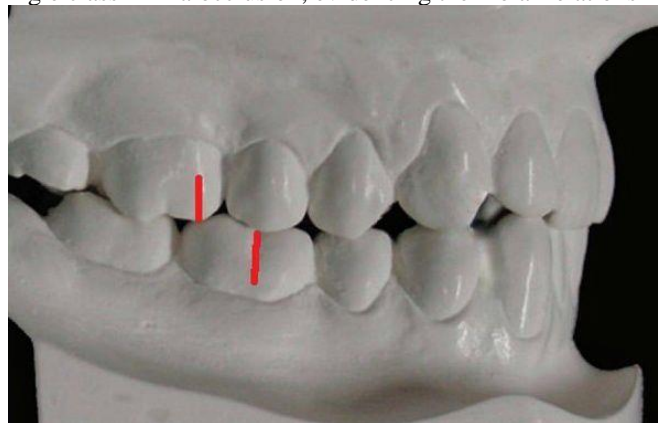


Source: (Foggiato et al., 2020)

### 3.2.3 Angle Class III

Class III malocclusion also occurs when there is an abnormal mesio-distal relationship of the molars. However, it differs from class II, because in the present situation, the lower teeth occlude to mesial in relation to the normal occlusion (fig.3), which often causes a top-to-top bite or a cross in the anterior region, in addition to an excessive inclination of the lower incisors to the lingual, due to the exaggerated pressure that the lower lip exerts during the mouth closing movement (Angle, 1899).

Figure 3 – Angle class III malocclusion, evidencing the molar relationship of Class III



Source: (Foggiato et al., 2020)

It is important to note that when only one side presents the relation of Class II or III, the subdivision for that side should be called (Angle, 1899).

## 3.3 CLASSIFICATION OF SKELETAL MALOCCLUSION

Although simple and objective, Angle's classification relies only on the occlusal relationship of the first molars, so it becomes limited to many malocclusions (Tseng; Chang; Roberts, 2016). This is since changes in the growth pattern or in the rate at which growth occurs may result in the abnormal



morphology of the skeleton of the face and the malocclusion that accompanies it (Proffit; White; Sarver, 2005). That is, malocclusion encompasses a broad spectrum of heterogeneous morphological patterns of changes in craniofacial growth that impact the occlusal relationship (Frutos-Valle et al., 2019).

Furthermore, its classification assumes that the relationship established between the first upper molar and the zygomatic crest would be constant. Thus, all dysgnathia would originate in the mandible, while the maxilla would be constant and stable, which would not consider the fact that the dentition/upper maxilla may have equal or exclusive contribution in the cause of the patient's deformity (Obwegeser, 2007).

Class III skeletal malocclusion can then be defined as an alteration in the facial skeleton of maxillary, mandibular or mixed etiology, which can be diagnosed by cephalometric measurements. It is important to say, however, that morphology cannot be precisely determined by such measurements alone (Frutos-Valle et al., 2019).

### 3.4 MULTIDISCIPLINARY TEAM IN THE TREATMENT OF MALOCCLUSIONS

The assistance of a multidisciplinary team is required in the treatment of patients with congenital or acquired deformities of the bones and soft tissues of the face, so that maximum rehabilitation is achieved and thus, the initial approach should be made by general practitioners, periodontists and, if necessary, endodontists and prosthetists (Hupp; Ellis; Tucker, 2009).

It is necessary that the patient's dentition has been fully restored and his periodontal condition is stable so that the orthodontist and the oral and maxillofacial surgeon can start planning the dentofacial correction, taking into account that orthodontic and surgical interventions can only be initiated after all the patient's oral adequacy has been performed (Fish et al., 1993).

### 3.5 TREATMENT OF DENTOFACIAL DEFORMITIES

Historically, the treatment of malocclusions, even those associated with dentofacial problems, was done with the aim of correcting dental anomalies. Not infrequently, dental corrections were performed by means of intermaxillary elastics to correct a skeletal class III occlusion. Such a feat sometimes managed to mask the skeletal disharmony between the upper and lower jaws, but for the most part, the cases treated were not successful (Graber, 1977). Due to the emphasis given to dental occlusion, little attention was paid to the analysis of skeletal deformity and the facial aesthetics to which they are associated (Hupp; Ellis; Tucker, 2009). And in some cases orthodontic intervention alone tends to worsen facial appearance (Fish et al., 1993).

Modern orthodontics represents a paradigm shift by emphasizing the dentofacial appearance, with a greater concern regarding oral and facial soft tissues (Proffit; Fields; Sarver, 2008).



Treatment options differ for a growing individual - pre-pubertal - and an individual who no longer grows - post-pubertal (Singh et al., 2019). Therefore, the earlier the diagnosis and the earlier the start of treatment, the greater the likelihood of a correct relationship of the bone bases (Magalhães, 2019), better orthopedic responses, as well as the improvement of the patient's self-esteem (Valdrighi et al., 2010). In addition, in the prepubertal phase, surgical therapy is not necessary, because at this stage, facial deformities can be corrected through interceptive treatment, with the use of face masks (Oltamari-Navarro et al., 2013). In individuals who have already gone through the growth phase, the treatment of choice is orthognathic surgery. It aims to correct facial and maxillomandibular irregularities, in addition to providing adequate dental positioning (Lima Júnior, N. et. al, 1999). For this, it involves orthodontic and surgical treatment in a combined way, which makes it possible to achieve aesthetic and functional results in a very satisfactory and harmonious way (Lamani et. al, 2020). Thus, it is necessary to perform a careful facial analysis, because from it can be made a precise diagnosis and surgical planning, in order to define the amount of surgical movement to be performed to obtain facial harmony. For this, it is commonly indicated the combined surgery of maxilla and mandible in order to avoid the performance of large movements isolated surgeries, since recurrences may occur otherwise (Teixeira; Scallop; Rodrigues, 2019). In addition, the bimaxillary technique presents stability and very satisfactory facial aesthetic results (Lamani et. al, 2020). Since in the treatment of Class III skeletal patients from rigid fixation, in addition to the combination of maxillary advancement and mandibular recoil, the maxilla remains in its post-surgical position in about 80% of the patients, and almost does not present significant recurrence (Ngan; Moon, 2015).

Patients with dentofacial anomalies, who will be submitted to the surgical process, undergo two orthodontic interventions. The first, pre-surgical, may last from a few months to 2 years (Fish et al., 1993). Called preoperative orthodontic decompensation, it should be performed to assess the actual discrepancy and allow for maximum repositioning of the jaw (Barakat et al., 2022), as well as achieve alignment, decompensation, and arch coordination, prior to surgery (Anwar et al, 2022). Thus, better surgical planning can be achieved, which consequently produces optimal therapeutic outcomes (Barakat et al., 2022); and the second, post-surgical, which aims at the refinement and final adjustments of the occlusion. This stage will be initiated 4 to 8 weeks after surgery, only after the patient's recovery is verified, in which a stable correction of the dentofacial deformity and a normal maxillomandibular function are achieved. The conduct to be taken in each of the two stages varies according to the degree of the patient's deformity and the dental changes it generates, the level of dental crowding and the orthodontist's approach to making modifications that allow the surgery to be performed satisfactorily (Fish et al., 1993).

Panoramic and cephalometric lateral radiographs are tools that aid the diagnosis in the clinical evaluation of the facial structure and occlusion of the patient. Cephalometric radiography can be

evaluated by several techniques that help determine the nature of the facial skeleton anomaly. Along with it, other imaging tests may also be requested that will be useful in the elaboration of the final diagnosis, such as anterior poster facial shots, TMJ images - if indicated -, and conventional or cone-beam computed tomography. In addition, today, computerized digital technology contributes to the integration of cephalometric data into the digital image of the face, which improves the analysis of the relationships between the underlying facial skeleton and the soft tissue that overlays it (Hupp; Ellis; Tucker, 2009). Digital surgical simulation also enables planning through virtual osteotomy in 3D models of patients, which causes more and more surgeries to be planned through this technique, since virtual models detect and correct hidden problems prior to the surgical procedure (Ho et al., 2017). What's more, these approaches provide more intuitive and accurate spatial representations of craniofacial morphology than landmark-based measurements of lines and angles (Ngan; Moon, 2015). This consequently contributes to obtaining more satisfactory results, since 3D planning outperforms 2D planning in correcting midline deviation, branch asymmetry, occlusal plane inclination, and chin position (Ho et al., 2017).

#### 4 CASE REPORT

Patient JLC, male, 24 years old, leucoderma, presented as main complaints the functional difficulty in feeding, chewing and speaking properly, associated with the complaint about the unfavorable facial aesthetics "my chin is too big" (sic), which, according to the patient's report, compromised him to interact socially, smile and talk with other people.

Through the facial analysis performed, the type III facial pattern was observed, demonstrating mandibular protrusion and maxillary hypoplasia, resulting in a concave, elongated facial profile and inverted lower lip with absence of sealing (Fig. 4).

Figure 4 – Photographs of the face in the preoperative period: A) Profile photograph showing the type III facial pattern; B) Frontal photograph, the elongated face is observed; C) Oblique photograph of the face, showing absence of lip sealing and mandibular prognathism.



Source: Authors' Collection, 2023.



Cephalometric radiographic examination (Fig. 5) showed mandibular prognathism and anteroposterior maxillary growth deficiency, generating a marked horizontal dental trespass.

Figure 5 – Preoperative cephalometric radiography.



Source: Authors' Collection, 2023.

The intra-oral physical examination revealed the presence of mandibular protrusion, with negative overjet of 11mm (Fig. 6) which, according to reports, made it impossible to correctly seize the food.

Figure 6 - Preoperative intraoral photos A) Profile view, emphasizing the negative overjet; B) Front view.



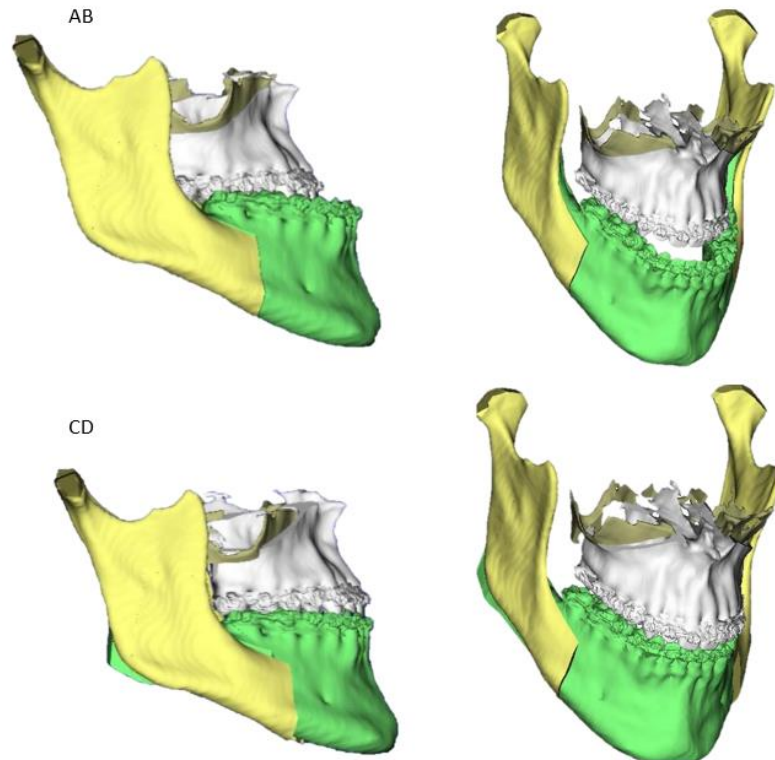
Source: Authors' Collection, 2023.

After clinical evaluation, imaging exams (radiographs and tomography) and dynamic analysis of the plaster models, the final diagnosis was class III skeletal malocclusion, due to the bone and dental association that culminated in the patient's dentofacial deformity.

The treatment of choice was orthosurgical, and initially the preoperative orthodontic preparation was performed, lasting 24 months, which allowed a maxillomandibular discrepancy and adequate occlusal stability to perform the surgical procedure. The bimaxillary orthognathic surgery, under general anesthesia, was initiated through the maxilla, through circumvestibular access and Le

Fort I osteotomy, which allowed the advancement of 7mm of the maxilla. The final position of the maxilla was defined through an intermediate guide generated through virtual planning performed in the Dolphin software and printed by means of 3d biomedical prototyping (fig.7).

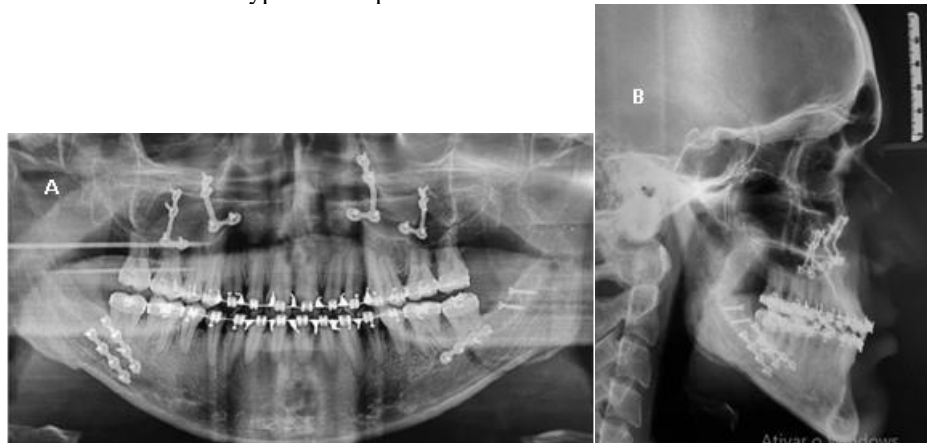
Figure 7 – Images of the virtual planning demonstrate in A and B the initial state in the lateral and oblique lateral views, respectively. In C and D, the final positioning of the advanced maxillary and recessed mandibular segments is demonstrated, in the lateral and lateral oblique views, respectively.



Source: Authors' Collection, 2023.

The rigid internal fixation of the maxilla in the planned position was performed by means of 4 mini-plates in L and screws of the 2.0mm system (fig.9A). The access to the mandible was the vestibular, followed by the 6mm recoil through the use of the sagittal osteotomy of the mandibular branches (OSRM) and followed the new position of the maxilla, being fixed by means of 2 straight mini-plates and screws of the 2.0mm system on the right side and 1 straight mini-plate and 2 bicortical screws on the left side (fig.9B). The closure of the accesses was done by first intention and Vicryl 5.0 resorbable wire was used.

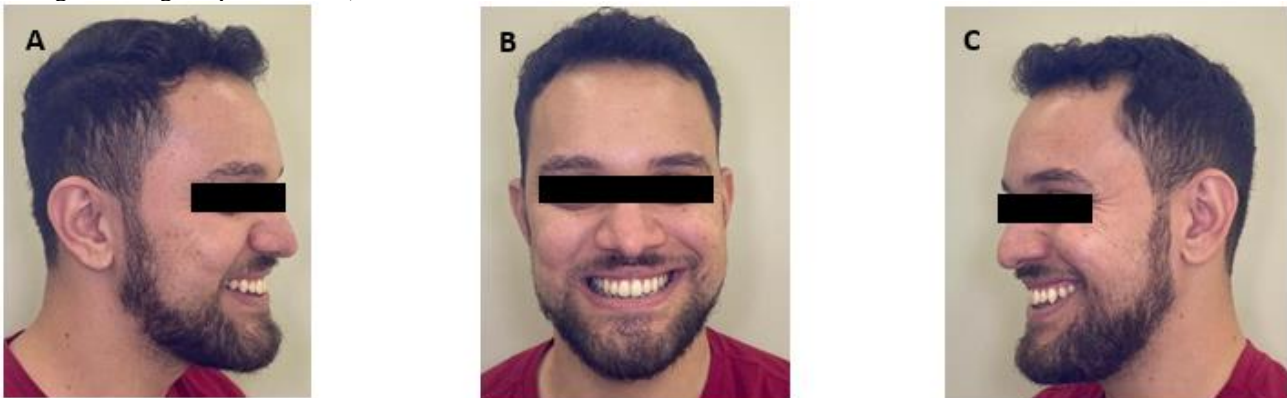
Figure 9 – Follow-up radiographs of 1 postoperative week A) Control panoramic radiography, showing the 4 maxillary plates and 3 mandibular plates installed for bone fixation B) The cephalometric changes observed through the lateral cephalogram of the face demonstrate a type I facial pattern.



Source: Authors' Collection, 2023.

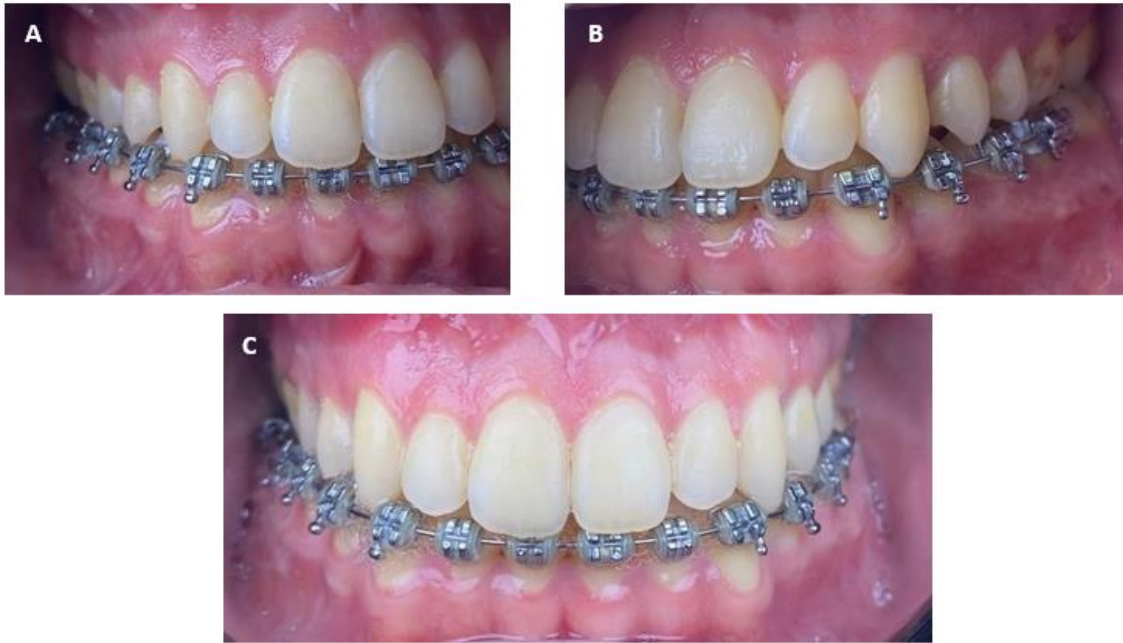
There were no interferences in the intraoperative and immediate postoperative periods, and the patient was discharged from the hospital the day after surgery. At 21 days postoperatively, the patient was released for continuity of orthodontic treatment aimed at refining the new occlusion. The patient is under follow-up for 1 year postoperatively (Fig. 10), presenting stable occlusion, with no signs of recurrence, using upper mobile orthodontic restraint and in the final phase of orthodontics of the lower arch. The patient reports resolution of aesthetic and functional complaints, indicating satisfaction with the result obtained.

Figure 10 – Follow-up postoperative facial photos after 1 year A) Right profile facial view, showing expressive improvement in the patient's profile view B) Frontal facial view, emphasizing more harmonious face and smile, achieved through the surgical procedure C) Left lateral facial view



Source: Authors' Collection, 2023.

Figure 11 - Follow-up postoperative intraoral photos after 1 year A) Right profile view B) Left lateral view C) Frontal view, evidencing the correction of the horizontal trespass



Source: Authors' Collection, 2023.

## 5 DISCUSSION

The present case brings the bimaxillary surgical approach for correction of a class III dentoskeletal deformity. The surgical intervention was performed due to the severe degree of mandibular protrusion, hypoplastic maxilla, as well as the aesthetic and functional limitations presented by the patient.

Mandibular prognathism associated with maxillary retrognathism is a rather challenging maxillofacial deformity (Barakat et al., 2022). Treatment of this type of malocclusion requires a combination of skeletal and dental changes (Magalhães, 2019). Therefore, the earlier the diagnosis and the initiation of treatment, the faster and more stable its results will be (Ngan; Moon, 2015).

Currently, for the treatment of mandibular prognathism there are therapeutic alternatives that include early growth modification, orthodontic treatment, or a combination of surgical and orthodontic treatments (Barakat et al., 2022). To choose the best type of procedure for patients with Class III skeletal malocclusion, it is important to take into account facial aesthetics, since in these patients, orthodontics alone would have little or no effect on the aesthetics of the face in general (Lamani et al., 2022).

Facial growth modification may be an effective method for resolving class III skeletal mandibular discrepancies (Barakat et al., 2022). However, as the age of the patient in the present case report was 24 years, modifying his craniofacial growth was not an option. In addition, orthodontic treatment alone would not be able to camouflage the existing discrepancies, due to their magnitude, since the patient had a severe discrepancy with negative overjet of 11 mm, which resulted in a wide



anterior crossbite. Therefore, a combination of surgery and orthodontics was considered appropriate for this case.

Generally, a class III malocclusion leads to compensation of dental discrepancy, where the retroinclination of the lower incisors and vestibularization of the upper incisors in relation to the alveolar process is caused due to the great pressure exerted by the muscles surrounding the mouth (Barakat et al., 2022). The preoperative orthodontic treatment helps in the leveling and alignment of the dental arches and seeks to eliminate expressive interferences in the occlusion (Huang; Hsu; Chen, 2014).

Mandibular prognathism can be treated through jaw recoil, maxillary advancement, or a combination of both (Barakat et al., 2022). Due to the large negative overhang and retrognathic maxilla of the patient in the present case, the surgical technique chosen was the combination of maxillary advancement surgeries - Le Fort I- and mandible recoil - ORSM-, also known as bimaxillary surgery. This technique has better stability and less chance of relapse, which was confirmed one year after surgery.

Basically, the treatment of most maxillofacial deformities can be done through four basic osteotomies: the maxilla with Le Fort I type osteotomy, the mandible with the sagittal osteotomy of the branch, the vertical osteotomy of the branch and the horizontal osteotomy of the chin (Krishnamurthy et al., 2022).

Commonly, Le Fort I osteotomy in bimaxillary orthognathic surgery is used for the repositioning of the maxilla in three dimensions (3D) (Govaerts et al, 2018). The Le Fort I technique is used to resolve almost the entire range of anteroposterior, transverse, vertical, and rotational skeletal maxillary deformities. In addition, with this procedure the position of the upper lip, the nasal tip, and the lip angle can be changed without affecting the orbitozygomatic region (Patel; Novia, 2007)

Currently, the main procedure used to correct most cases of retrognathism and mandibular prognathism is the sagittal osteotomy of the branch - ORSM (Krishnamurthy et al., 2022) due to its versatility, as it can be used both in cases of mandibular advancement and retreat and in mandibular asymmetries (Tsuji et al., 2005; Santos et al., 2022). Among the advantages of this type of osteotomy is the excellent flexibility in the repositioning of the distal segment, adequate bone contact after the repositioning of the segments and minimal changes in the position of the temporomandibular muscles and joints (Kim, Y.; Kim, S.; Kim, J., 2011; Santos et al., 2022). When it comes to virtual planning, the advent of 3D imaging is relatively recent. Before that, craniofacial analysis had to be done only in 2 dimensions, by means of 2D cephalometry (Gateno et al, 2011) that does not provide complete information about 3D structures, especially in cases of patients with large deformities or facial asymmetries (Alkhayer et al, 2020).



3D analysis is used to examine the symmetry of facial structures (Gateno et al, 2011). In addition, the 3D virtual planning of the case was done to simulate the results that would be achieved, being possible to visualize the mandibular recoil and maxillary advancement to be performed, in addition to detecting and correcting possible hidden problems prior to the surgical procedure. And with that, make an intermediate surgical guide printed in 3D technology (biomedical prototyping).

Virtual planning in orthognathic surgery enables a more accurate result, with less risk of distortions when compared to conventional model surgery.

## **6 CONCLUSION**

Orthognathic surgery proved to be an effective treatment alternative in the restoration of the function of the stomatognathic apparatus and balance of facial aesthetics, combined with postoperative occlusal stability and patient satisfaction with the result.



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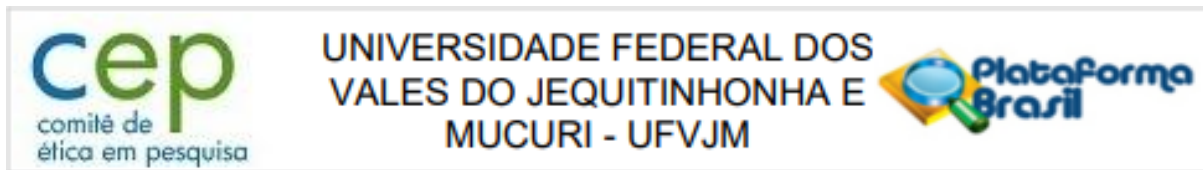
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**PARECER CONSUBSTANCIADO DO CEP**

**DADOS DO PROJETO DE PESQUISA**

**Título da Pesquisa:** CIRURGIA ORTOGNÁTICA BIMAXILAR PARA TRATAMENTO DE MALOCCLUSÃO DENTÁRIA EM PACIENTE COM PADRÃO FACIAL TIPO III: RELATO DE CASO.

**Pesquisador:** OLGA BEATRIZ LOPES MARTINS

**Área Temática:**

**Versão:** 2

**CAAE:** 68896023.2.0000.5108

**Instituição Proponente:**

**Patrocinador Principal:** Financiamento Próprio

**DADOS DO PARECER**

**Número do Parecer:** 6.175.870

**Apresentação do Projeto:**

As informações aqui elencadas foram retiradas do arquivo Informações Básicas da Pesquisa (PB\_Informações\_Básicas\_do\_projeto\_68896023.2.0000.5108, de 25/05/2023):

A má oclusão classe III é considerada uma deformidade dentofacial e é caracterizada por um esqueleto facial significativamente diferente do normal em forma e/ou tamanho, o que gera uma má oclusão e prejudica a estética da face. Em alguns casos é necessário uma intervenção cirúrgica, por meio da cirurgia ortognática. Tal procedimento se refere ao "alinhamento da mandíbula e da maxila" e tem por objetivo a correção de irregularidades faciais e maxilomandibulares, além de um adequado posicionamento dentário. Desta forma, o objetivo do trabalho será descrever o quadro clínico de um paciente com deformidade dento-esquelética tratado por meio de cirurgia ortognática, resultados obtidos e acompanhamento pós-operatório.

**Critério de Inclusão:** Paciente que foi submetido à cirurgia ortognática devido a deformidade dento-esquelética, com padrão facial tipo III.

**Objetivo da Pesquisa:**

As informações aqui elencadas foram retiradas do arquivo Informações Básicas da Pesquisa (PB\_Informações\_Básicas\_do\_projeto\_68896023.2.0000.5108, de 25/05/2023):

**Endereço:** Rodovia MGT 367 - Km 583, nº 5000, Campus JK, prédio da reitoria, sala 21  
**Bairro:** Alto da Jacuba **CEP:** 39.100-000  
**UF:** MG **Município:** DIAMANTINA  
**Telefone:** (38)3532-1240 **Fax:** (38)3532-1200 **E-mail:** cep.secretaria@ufvjm.edu.br



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VALES DO JEQUITINHONHA E  
MUCURI - UFVJM



Continuação do Parecer: 6.175.870

**Objetivo Primário:** Descrever o quadro clínico de um paciente com deformidade dentoalveolar tratado por meio de cirurgia ortognática, resultados obtidos e acompanhamento pós-operatório.

**Avaliação dos Riscos e Benefícios:**

As informações aqui elencadas foram retiradas do arquivo Informações Básicas da Pesquisa (PB\_Informações\_Básicas\_do\_projeto\_68896023.2.0000.5108, de 25/05/2023):

**Riscos:** O risco relacionado ao paciente com sua participação no trabalho pode ser a sua possível identificação nos relatórios. Para minimizar esse risco, os seus dados pessoais serão confidenciais e protegidos. Além disso, as imagens ou outros registros publicados e divulgados não permitirão sua identificação. Trata-se de um estudo observacional, não prevê intervenção ao paciente, portanto o sujeito da pesquisa não será afetado. Sua identidade e privacidade serão preservados. Ao paciente será garantido o direito de privacidade e confidencialidade dos seus dados. A avaliação do prontuário será realizada em um local reservado e em momento algum será possibilitada a identificação do sujeito como participante do caso clínico. O relato do caso não permitirá a identificação do paciente, sem a indicação do nome e/ou fotos que permitam a sua identificação.

**Benefícios:** Não se aplica

**Comentários e Considerações sobre a Pesquisa:**

As informações aqui elencadas foram retiradas do arquivo Informações Básicas da Pesquisa (PB\_Informações\_Básicas\_do\_projeto\_68896023.2.0000.5108, de 25/05/2023):

Trata-se de um estudo observacional transversal que será realizado com o prontuário de um paciente submetido ao procedimento de cirurgia ortognática. Será realizada a consulta do prontuário odontológico do paciente a fim de extrair os seguintes dados: 1- Coleta de dados dos pacientes: Idade, sinais, sintomas e aspectos clínicos; 2- Avaliação das descrições clínicas e exames de imagem; 3- Descrição das abordagens utilizadas; 4- Descrição da preservação do caso. Será realizada a avaliação do prontuário do paciente na clínica de Cirurgia e Traumatologia Bucocomaxilofacial da UFVJM e a coleta de dados será realizada pela aluna de graduação, bem como a escrita do relato do caso clínico. O orientador e coorientadores serão responsáveis pela revisão e auxílio no desenvolvimento do trabalho.

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Página 02 de 04



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Continuação do Parecer: 6.175.870

**Considerações sobre os Termos de apresentação obrigatória:**

Vide campo: "Conclusões e Pendências e Lista de Inadequações"

**Recomendações:**

Vide campo: "Conclusões e Pendências e Lista de Inadequações"

**Conclusões ou Pendências e Lista de Inadequações:**

Trata-se de análise de resposta de parecer pendente nº 6.035.631, emitido pelo CEP em 02/05/2023:

Anexar a Carta de Anuência do local onde será realizado o projeto

ANALISE: ATENDIDA

**Considerações Finais a critério do CEP:**

- Segundo a Carta Circular nº. 003/2011/CONEP/CNS, de 21/03/11, no momento da obtenção do TCLE, há obrigatoriedade de rubrica em todas as páginas do mesmo, pelo sujeito de pesquisa ou seu responsável e pelo pesquisador. O pesquisador responsável deverá apor sua assinatura na última página do referido termo.

- O Relatório final deverá ser apresentado ao CEP ao término do estudo em 30/09/2023. Considera-se como antiética a pesquisa descontinuada sem justificativa aceita pelo CEP que a aprovou.

- Caso haja quaisquer intercorrências durante a execução do projeto de pesquisa é de responsabilidade do pesquisador responsável comunicá-la através de uma emenda ao CEP via Plataforma Brasil. Considera-se como antiética a pesquisa com modificações em seu protocolo inicial previamente aprovado sem justificativa aceita pelo CEP que a aprovou.

O projeto atende aos preceitos éticos para pesquisas envolvendo seres humanos preconizados na Resolução 466/12 CNS.

**Este parecer foi elaborado baseado nos documentos abaixo relacionados:**

**Endereço:** Rodovia MGT 367 - Km 583, nº 5000, Campus JK, prédio da reitoria, sala 21  
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Página 03 de 04



Continuação do Parecer: 6.175.870

Tipo Documento	Arquivo	Postagem	Autor	Situação
Informações Básicas do Projeto	PB_INFORMAÇÕES_BÁSICAS_DO_PROJETO_2088310.pdf	25/05/2023 17:16:49		Aceito
Outros	CARTA_DE_ANUENCIA.pdf	25/05/2023 17:16:04	OLGA BEATRIZ LOPES MARTINS	Aceito
Projeto Detalhado / Brochura Investigador	Projeto.docx	17/04/2023 16:14:41	OLGA BEATRIZ LOPES MARTINS	Aceito
Folha de Rosto	Folha_de_Rosto.pdf	17/04/2023 16:14:02	OLGA BEATRIZ LOPES MARTINS	Aceito
Cronograma	CRONOGRAMA_DAS_ATIVIDADES.docx	17/04/2023 16:07:24	OLGA BEATRIZ LOPES MARTINS	Aceito
TCLE / Termos de Assentimento / Justificativa de Ausência	TCLE.pdf	17/04/2023 16:06:05	OLGA BEATRIZ LOPES MARTINS	Aceito

**Situação do Parecer:**

Aprovado

**Necessita Apreciação da CONEP:**

Não

DIAMANTINA, 11 de Julho de 2023

Assinado por:

**THAMAR KALIL DE CAMPOS ROLLA MIRANDA**  
(Coordenador(a))

**Endereço:** Rodovia MGT 367 - Km 583, nº 5000, Campus JK, prédio da reitoria, sala 21  
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