

Oral rehabilitation with removable partial denture in a patient undergoing partial maxillectomy: a case report

Reabilitação oral com prótese parcial removível em paciente submetido a maxilectomia parcial: relato de caso

Carlos Roberto Teixeira **Rodrigues**¹  0000-0001-6218-1706

Wesley Luis Rodrigues **Pereira**¹  0000-0002-0189-0944

Emanuelly Groetaers **Silva**¹  0000-0003-1086-0330

Julia Barboza da **Silva**¹  0000-0001-6439-9688

Ailton Sebastião **Odorizi Júnior**¹  0009-0005-2687-0084

Wander Rodrigues dos **Reis**¹  0000-0002-4538-8163

Gabriela de Souza **Ovídio**¹  0000-0003-4875-4197

Roberta Mansur **Caetano**¹  0000-0001-5651-9299

ABSTRACT

The Removable Partial Denture stands as an effective rehabilitation choice for patients who have undergone partial maxillectomy surgery due to maxillary tumors, involving the partial surgical removal of the maxillary bone. Removable

How to cite this article

Rodrigues CRT, Pereira WLR, Silva EG, Silva JB, Odorizi Júnior AS, Reis WR, et al. Oral rehabilitation with removable partial denture in a patient undergoing partial maxillectomy: a case report. RGO, Rev Gaúch Odontol. 2024;72:e20240012. <http://dx.doi.org/10.1590/1981-86372024001220230067>

¹ UniFOA, Curso de Odontologia. Campus Universitário Oezio Galotti, Av. Dauro Peixoto Aragão, 1325, 27240-560, Volta Redonda, RJ, Brasil. Correspondence to: C Rodrigues. E-mail: <rodriguescrt@gmail.com>.



Copyright: Este é um artigo de acesso aberto distribuído sob os termos da Licença de Atribuição Creative Commons, que permite uso irrestrito, distribuição e reprodução em qualquer meio, desde que o autor e a fonte originais sejam creditados

partial denture are meticulously designed to restore masticatory, phonetic, and aesthetic functions, thereby contributing significantly to enhancing self-esteem and aiding patients in resuming social activities. During the patient's history-taking phase, it is of paramount importance to assess the patient's overall health, psychological state, expectations, and limitations. Ensuring regular follow-ups is imperative to prevent complications and to guarantee the durability of the prosthesis. Prosthetic planning constitutes a critical phase and can pose challenges, especially in achieving proper retention, stability, and suitable supports. Factors such as the defect size, the number of remaining teeth, and the amount of remaining bone structures can influence the treatment prognosis. It is crucial to emphasize that lack of adequate planning can lead to rehabilitation failures, resulting in discomfort, compromised functionality, and even potential harm to the patient's health. In this context, this study aims to present a successful clinical case of a patient who underwent partial maxillectomy and was rehabilitated through a Removable Partial Denture fixed with clasps on the entire left upper hemi-arch. This case vividly illustrates the importance of a personalized approach to prosthetic rehabilitation in patients with partial maxillectomy, taking into account the specificities of each case and highlighting the necessity of interdisciplinary collaboration to achieve satisfactory outcomes.

Indexing terms: Jaw edentulous partially. Mouth rehabilitation. Removable partial denture.

RESUMO

A prótese parcial removível é uma opção eficaz de reabilitação para pacientes que passaram por cirurgia de maxilectomia parcial em decorrência de tumores maxilares, ou seja, remoção cirúrgica parcial do osso maxilar. A prótese parcial removível deve ser projetada para recuperar as funções mastigatória, fonética e estética, contribuindo assim na melhoria da autoestima e ajudando o paciente a retornar às atividades sociais. Durante a anamnese, é de grande importância verificar o estado geral e psicológico do paciente, suas expectativas e limitações, garantir o acompanhamento frequente para evitar complicações e garantir a durabilidade da prótese. O planejamento protético é uma etapa crítica e pode apresentar desafios, especialmente na obtenção de retenção, estabilidade e suportes adequados. Fatores como o tamanho do defeito, o número de dentes remanescentes e a quantidade de estruturas ósseas remanescentes podem interferir no prognóstico do tratamento. É importante ressaltar que a falta de planejamento pode levar a falhas na reabilitação, resultando em desconforto, má funcionalidade e até mesmo danos à saúde do paciente. Nesse contexto, o presente trabalho tem como objetivo apresentar um caso clínico de sucesso de uma paciente que foi submetida a uma maxilectomia parcial e reabilitada por meio de uma prótese parcial removível fixada por grampos em todo o hemiarco superior esquerdo. Este caso ilustra a importância de uma abordagem personalizada para a reabilitação protética em pacientes com maxilectomia parcial, considerando as particularidades de cada caso e a colaboração interdisciplinar para a obtenção de resultados satisfatórios.

Termos de indexação: Arcada parcialmente edêntula. Reabilitação bucal. Prótese parcial removível.

INTRODUCTION

Partial maxillectomy is used in the treatment of maxillary tumors and can be performed in three ways: preserving the orbital floor (which can be below or above the infraorbital foramen); removing the orbital floor and taking out all orbital and ethmoidal contents [1].

After surgery, patient rehabilitation becomes necessary. Removable partial dentures are one of the prosthetic solutions that can be used to cover the areas lost due to maxillectomy. In addition to restoring chewing function and aesthetics, they enhance self-esteem and help the patient reintegrate into social life [2].

Prosthetic planning must be done with great care, taking into account the patient's overall health as well as their psychological state, while also considering the patient's expectations and limitations. Additionally, frequent follow-up of the case is necessary [3].

The size of the defect, the number of remaining teeth, the quantity of remaining bone structures, and the patient's ability to adapt to the prosthesis are some factors that influence the treatment prognosis. The major challenge in rehabilitating a patient who has undergone hemimaxillectomy is to achieve proper retention, stability, and support [4].

The integrated dental clinic of the Dentistry course at the University Center of Volta Redonda (UniFOA) serves patients from Volta Redonda – RJ and the surrounding areas daily, offering services in various dental specialties to all patients seeking this service, including those with systemic diseases, autoimmune disorders, physical disabilities, among others. Therefore, the objective of this research is to present a case report of a patient who underwent partial maxillectomy and requires prosthetic rehabilitation.

The objective of this study was to conduct a literature review and report a case of oral rehabilitation performed on a patient who underwent hemimaxillectomy, using a removable partial denture.

The treatment of these patients involves surgery, radiotherapy, and chemotherapy, all highly effective methods for curing cancer. However, these methods result in various tissue changes. Therefore, it is of great importance that the entire multidisciplinary team involved in the treatment of oncology patients is dedicated to the care of these individuals, as well as improving their quality of life and rehabilitation [5].

It is well known that oncological surgery often leads to significant mutilations, including partial or total, unilateral or bilateral resections. These surgeries may involve the jaw, orbital floor, eyeball, sinuses, and can also compromise the skull base. Despite being considered an aggressive treatment, the primary goal, apart from removing malignant lesions, is always to preserve function and aesthetics. However, achieving this goal is not always possible [6].

The defects caused by tissue resection result in various levels of functional impairment within the oral cavity. Absence of the maxilla, alveolar ridge, and teeth alters speech, swallowing, and chewing abilities, besides affecting the patient's psychological well-being [7].

Patients who undergo maxillectomy and are not rehabilitated experience difficulties in chewing and swallowing, along with issues such as nasal speech or food leakage through the nasal cavity in cases of orosinus communication [8].

Being diagnosed with cancer is an incredibly challenging situation for most individuals. It marks the beginning of a long and uncertain journey. Cancer forces people to confront numerous difficulties, starting from the moment of diagnosis, determining the right treatment, dealing with fears and uncertainties about what this new phase of life will entail, and struggling to find qualified professionals to treat and support them during this new chapter. The process of rehabilitation often brings about negative thoughts and anxieties [9].

Understanding the impact that cancer has on a patient, empathizing with their feelings, and providing comprehensive support directly affect the patient's behavior and how they cope with their situation. It also helps them comprehend and deal with the effects of treatment, which affect functional, aesthetic, physiological, psychological, and social aspects [10].

Being diagnosed with cancer is an incredibly challenging situation for most people because the treatment leads patients to face difficulties of varying levels. Treatment can generate fears and uncertainties, negative thoughts, and affect functional and aesthetic aspects, making rehabilitation a crucial step [9].

Concerning potential sequelae in maxillectomized patients, their primary preoperative worry is often about their appearance. However, postoperatively, their major concern shifts to their chewing ability [8].

For patients undergoing maxillectomy where parts of the oral region are lost, planning is an essential step. The treatment results in considerable functional and aesthetic defects. Rehabilitation becomes crucial for these patients and is seen as an opportunity to overcome low self-esteem, the presence of pain, secretion, and odors, poor nutrition, fears, uncertainties, overcoming possible traumas, and improving overall quality of life [11].

It is well known that oncology patients will face many health needs imposed by the disease, requiring special attention due to potential complications such as physical, physiological, and psychosocial alterations [12]. Dentists can aid in the rehabilitation of these patients by crafting prosthetics that assist in overcoming challenges during chewing, swallowing, and speaking [11]. Each case is unique; however, the retention and stability of a prosthesis are crucial factors for the success of the rehabilitation treatment [2].

It is of utmost importance for professionals to be prepared to support these patients regarding the impact that this disease will have on their lives, providing social, psychological, and clinical support. This assistance helps the patient understand that they can get through this stage, keeping them steadfast in their treatment and preventing them from giving up. Viewing this new phase positively, with the assurance that the professional will always stand by their side, encourages the patient to continue the journey to overcome this stage [9,13]. The support of professionals and family members, standing by the patient's side, helps them confront their fears, feelings of inferiority, depression, fear of exclusion, the impact of functional and aesthetic aspects, pain, nausea, changes in appearance, weight loss affecting nutrition, fear of death, sleep difficulties, challenges in treatment, and going through the rehabilitation process in the best way possible [9].

Oral cavity defects can cause various problems for the patient, such as difficulties in chewing and transferring food and liquids from the oral cavity to the nose and sinuses (in the case of maxillary defects). During swallowing, the patient may struggle to form a food bolus, forcing them to consume only liquids or use a nasogastric tube, leading to digestive disorders. Furthermore, these defects can affect speech and aesthetics, which are often the primary concerns of patients [8].

A maxillectomy is a surgery used for the treatment of tumors involving the maxillary region, palate, and sinuses. Proper preoperative planning is necessary because this surgery results in sequelae affecting speech, chewing, phonation, and swallowing functions, as well as aesthetic and psychosocial consequences that cause deficiencies in various levels of oral cavity functionality. The rehabilitation process needs to be carefully planned to correct these potential sequelae [7].

The stage of the disease, the type of tumor, its location, and the patient's overall health conditions are directly related to the type of treatment to be used [14]. Utilizing prostheses is an excellent resource to aesthetically and functionally rehabilitate these patients, aiding in their psychological well-being and facilitating their return to social life [15].

Maxillectomy is a complex procedure that lacks standardized international classification, making its treatment and classification challenging. Various terminologies are used to define types of maxillectomy, including infrastructure (cut at the level of the nasal fossa, which may or may not include the maxillary sinus wall), mesostructure (cuts below the orbital cavity and above the floor of the nasal fossa and maxillary sinus), suprastructure (upper cuts involving the floor of the orbit, and lateral cuts may include its lateral and medial walls), medial (cuts enabling the resection of the ethmoid, upper portion of the lateral wall of the nasal fossa, medial wall of the orbit, and medial portion of the orbital cavity), and total (involves the

resection of the entire maxilla). Proper classification of maxillectomies is fundamental for effective surgical planning and subsequent prosthetic treatment [16].

Maxillectomy can be classified into three types based on the surgical technique and resection used. Infrastructural maxillectomy involves cutting at the level of the nasal fossa, extending laterally, and may or may not include the maxillary sinus wall. Mesostructural maxillectomy is characterized by cuts below the orbital cavity and above the floor of the nasal fossa and maxillary sinus. Finally, suprastructural maxillectomy involves upper cuts including the floor of the orbit, and lateral cuts that may include its lateral and medial walls. This classification guides the treatment planning and selection of the appropriate surgical technique for each specific case [16].

Several factors influence the prosthetic prognosis of these patients, including the size of the area affected by tumor removal, the number of remaining teeth, the amount of healthy tissue, and the quality of the remaining mucosa, as well as radiation therapy and monitoring of tissues during and after radiotherapy [17]. Additionally, the patient's willingness to accept prosthetic treatment and the psychological factor are also important to ensure prosthesis stability in the oral cavity. All these factors are essential for better prosthesis retention and to ensure the stability of support tissues [18].

Patients who have undergone unilateral maxillectomy tend to have a more positive outlook regarding prosthetic rehabilitation, especially if the supporting tissue and teeth are in good condition. However, for patients who are already edentulous, maxillectomy often leads to an unfavorable prosthetic prognosis due to the lack of adequate support area for the prosthesis, leading to instability in the palate and a lack of structures for retention. Prosthetic rehabilitation following total removal of the maxilla is extremely challenging and requires careful planning on the part of the dentist, along with complete integration of the team to achieve an acceptable outcome [7].

Maxillary or obturator prostheses can be classified into three types: pre-surgical, provisional, and reparative. Pre-surgical prostheses aim to maintain and protect the cavity before surgery. Provisional prostheses, on the other hand, are made a few weeks after surgery and are intended to allow the surgical wound to heal while preparing the patient to receive the reparative prosthesis. This reparative prosthesis is more aesthetic and possesses all the characteristics of a conventional prosthesis, providing proper restoration of masticatory function and facial aesthetics [19].

For patients who have lost some natural teeth, removable partial dentures (RPDs) are a viable alternative. In his book, Frank Kaiser highlights the advantages of conventional RPDs, which can help restore functions such as chewing, aesthetics, phonetics, and prevent the tilting or migration of remaining teeth. These prostheses can also stabilize weakened teeth and provide complete muscular and joint balance, following principles described by Roach in 1930, such as retention, stability, reciprocity, and support [20-22].

The mechanical advantage of RPDs, along with their ability to improve dental aesthetics and be a more affordable option, is significant. However, Todescan, in his book, points out that RPDs can result in reduced support in extensive prosthetic and dentate spaces, excessive bone loss, and the need for immediate repositioning in cases of bucco-dentoalveolar and buccofacial surgeries [22,23].

It's crucial to consider the indications and contraindications of RPDs, such as in cases of patients with motor problems and mental debility. Additionally, maintaining good oral hygiene is necessary to avoid issues with the prosthesis [20-22].

One option to enhance the retention and stability of removable partial dentures (RPDs) is through the use of dental implants. With this approach, patients can choose to replace their RPDs with implant-supported prostheses or opt for installing a minimal number of implants (1 or 2) at the free ends of the RPDs [21-26]. These implants result in greater patient satisfaction and improved quality of life [27]. Treatment with RPDs associated with implants installed at the free ends has increased oral health-related quality of life [28]. Moreover, studies [25,29] have also reported better quality of life outcomes for implant-supported prostheses compared to RPDs.

The first surgical intervention for partial maxillectomy was performed by Acoluthus, and the first total maxillectomy was practiced in France in 1827 by Gensoul, a renowned surgeon of that time. However, there are indications that Rogers in New York might have performed an almost total resection of the maxillae three years before Gensoul's procedure, in a pioneering intervention for that era [30].

In 1889, Claude Martin, recognized as the precursor of Maxillofacial Prosthetics, became the first professional to create a prosthesis for maxillectomy [31]. In that year, he published the book "De la Próthèse Imédiate Appliquée à la Ressection des Maxillaires," while in 1903, during the Madrid Congress, he disclosed his famous principles regarding the construction of immediate maxillary and mandibular prostheses. These principles included the need for a prosthesis to have variable features, matching in volume and extension to the removed bone area, with easy removal and prevention of spontaneous mobility. The prosthesis should also be easily sterilizable, resistant to muscle traction and scar retraction, and its components should remain unchanged, being tissue-tolerant. The device should be versatile enough to allow modifications during the surgical procedure without significant time loss, and for provisional prostheses, it should create a receiving bed for another definitive prosthesis [32].

From that moment, a long journey in the field began, following the proposals and principles created by Martin, which continue to be used by various generations to this day. Especially concerning the study of palatal obturators, these proposals have been modified with the advancement of new technologies, providing even more possibilities for improvement and adaptation in the field of Maxillofacial Prosthetics [9].

CASE REPORT

A female patient, of melanoderma ethnicity, XX years old, presented at the integrated dental care clinic of the University Center of Volta Redonda. The patient underwent a maxillectomy in the year 1999 due to a tumor resection, an invasive surgery that removed the entire left upper maxillary hemiarch, preserving only the orbital floor (figure 1). The patient was already using a removable partial denture retained by clasps but was not satisfied with the adaptation.

After a thorough medical history, intraoral and extraoral clinical examinations, and radiographic assessments, the recommendation for a removable partial denture (RPD) was maintained due to the lack of bone structure for an alternative prosthetic rehabilitation and the patient's economic constraints. A study model was fabricated, carefully analyzed, and outlined. This process allowed the identification of optimal support points and the delineation of the prosthetic equator, defining all areas of retention and relief. This meticulous planning facilitated the correct design and execution of the RPD (figures 2 and 3).



Figure 1. Initial clinical appearance of the patient.



Figure 2. Outlined model with definition of the prosthetic equator on the vestibular surface.



Figure 3. Type IV plaster model with all prosthetic preparations.

For this case, a RPD was planned with the major connector covering the entire palate, retained by clasps on the upper right remaining teeth. There is a Y-shaped clasp with support on the cingulum of tooth 11, support on the cingulum of tooth 12, a double clasp with support on the cingulum of tooth 23 and the mesial of tooth 24, a double clasp with support on the distal of tooth 25 and mesial of tooth 26, and on tooth 17, a simple circumferential clasp with support on the mesial aspect (figure 4). After finalizing the RPD planning, the patient returned to the clinic for the preparation of rests and minor connectors. The patient was then molded, and the Type IV gypsum model was sent to the prosthetic laboratory for the casting of the metal framework (figure 3).



Figure 4. Palatal view showing occlusal rest and cingulum rest designs.

After the prosthetic laboratory's production period, the cast metal framework was brought to the clinic for the intraoral metal framework try-in, where a perfect fit was confirmed (figures 5 and 6).



Figure 5. Palatal view of the metal framework.



Figure 6. Vestibular view of the metal framework of the RPD.

Subsequently, a wax rim was placed on the framework to record the occlusion, along with the selection of the artificial teeth color that will be used in the RPD. The case was then sent back to the prosthetic laboratory for further processing (figures 7 and 8).



Figure 7. Try-in of the metal framework with wax occlusal registration.

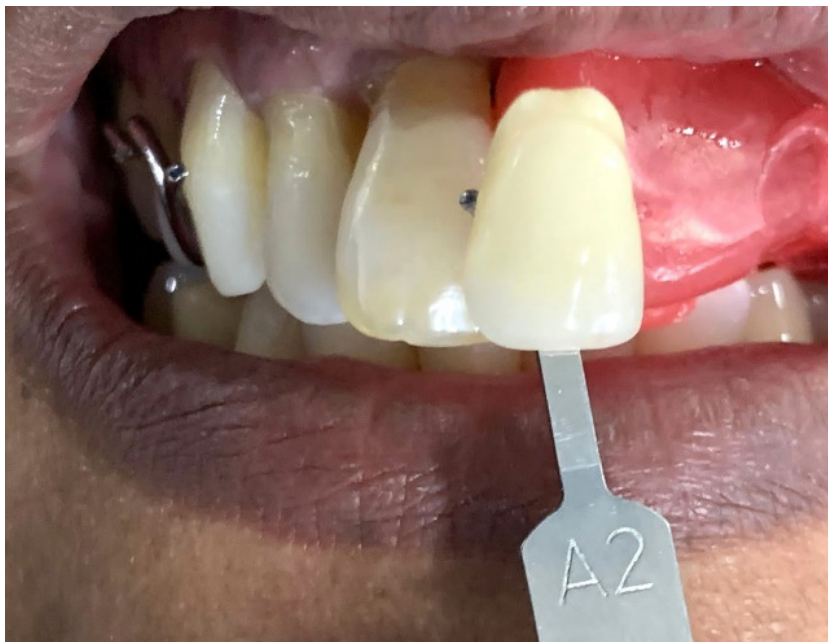


Figure 8. Selection of artificial teeth color.

During the third clinical phase, another trial of the RPD was performed to assess adaptation and occlusion. This time, the RPD had all artificial teeth in place. Minor occlusal adjustments were identified and promptly addressed. The RPD was then finalized and sent for acrylic processing. The case was concluded with the patient highly satisfied with the outcome (figure 9).



Figure 9. Capture of the patient's final smile with the new RPD.

DISCUSSION

The treatment of cancer patients involves surgery, radiotherapy, and chemotherapy, which can cause changes in tissues and impact the patient's quality of life and rehabilitation. This highlights the importance of a multidisciplinary team in caring for the patient [5]. However, oncological surgery can result in significant mutilations and resections that compromise function and aesthetics, making rehabilitation essential to minimize the sequelae [6]. The absence of the maxilla, alveolar ridge, and teeth affects the patient's speech, chewing, and swallowing, as well as their psychological well-being, among other sequelae [7,8]. The diagnosis of cancer brings various emotional difficulties and challenges in finding qualified professionals for the patient's treatment and rehabilitation [9].

After hemimaxillectomy, the patient in the study presented significant aesthetic defects in the oral region that affected her self-esteem and quality of life. Dissatisfied, she sought help for oral rehabilitation to overcome the challenges posed by the partial loss of the oral region and regain her quality of life [33].

Maxillectomy is a complex surgical procedure used to treat tumors affecting the maxilla, palate, and facial sinuses. Its careful planning is fundamental, considering the functional, aesthetic, and psychosocial

sequelae that may arise after surgery [7]. The type of treatment used in maxillectomy is directly related to the disease stage, tumor type, its location, and the patient's health conditions. It is crucial to carefully evaluate these factors before deciding on the most suitable treatment for each case to maximize effectiveness and minimize potential complications [14].

The classification of maxillectomies is essential for proper surgical planning and subsequent prosthetic treatment. There are various terminologies used to define maxillectomy types. Sebilau's classification divides them into three types: infrastructure, mesostructure, and superstructure. This division is defined by two horizontal planes, one below the floor of the nasal fossa and another above and parallel to the superior angle of the piriform aperture, at the border of the orbital floor. From a surgical technique perspective, maxillectomy can be classified as infrastructure maxillectomy, mesostructure maxillectomy, superstructure maxillectomy, medial maxillectomy, and inframesotstructural (total) maxillectomy. This division is defined by two horizontal planes, one below the floor of the nasal fossa and another above and parallel to the superior angle of the piriform aperture, at the border of the orbital floor [16]. In this study, the patient underwent an infrastructure maxillectomy in which the hard palate and the lower portion of the maxilla with the teeth are removed, without removal of the orbital floor, also known as partial maxillectomy or hemimaxillectomy on the left side, without buccal sinus communication.

It is understood that immediate rehabilitation of the patient is necessary after surgery. Through dental prostheses, the regions lost due to maxillectomy are covered. In addition to restoring masticatory function and aesthetics, this improves self-esteem and helps the patient reintegrate into social life [2].

Prosthetic rehabilitation is a field of dentistry aimed at restoring the function, aesthetics, and quality of life of patients who have lost teeth or oral structures [35]. Maxillectomized patients are examples of individuals who require appropriate prosthetic rehabilitation due to the loss of the maxillary bone. Although each case is unique, the retention and stability of the prosthesis are crucial factors for the success of rehabilitative treatment [2].

In 1979, Handerson stated that maxillary prostheses are classified into pre-surgical, provisional, and reparative prostheses. Pre-surgical prostheses aim to maintain and protect the cavity before surgery, while provisional prostheses are made after surgery and aim to await the healing of the surgical wound. Reparative prostheses are more aesthetic and provide adequate restoration of masticatory function and facial aesthetics. However, it is essential to emphasize that the choice of removable partial dentures (RPDs) as the best treatment option should be based on careful clinical and radiographic evaluation of the patient, considering factors such as the number and position of the remaining teeth, available bone volume, and the patient's overall health condition [21].

RPDs offer mechanical, aesthetic, and financial benefits. The removable partial denture is one of the treatment options for prosthetic rehabilitation in maxillectomized patients. It is a type of prosthesis that can be removed by the patient and is supported by the remaining teeth, aiming to replace lost teeth and restore masticatory function and aesthetics [20].

RPDs are indicated for maxillectomized patients, and their placement must be done with precision and care to ensure a proper and comfortable fit. Additionally, it is essential to educate the patient about the necessary care for maintaining the RPD and preventing complications such as infections and fractures [22]. The patient in question was already using an RPD but was dissatisfied with its adaptation. She had significant defects in the oral region affecting her self-esteem and quality of life. She sought help for oral rehabilitation through a removable partial denture, which improved her masticatory, swallowing, and speech functions. It also restored her self-confidence and psychological well-being.

In summary, RPDs are a viable option for prosthetic rehabilitation in maxillectomized patients and were used in this case. It is crucial to emphasize that the choice should be made based on a meticulous evaluation of the patient, and the placement should be performed with precision and care [35,36]. Since the patient underwent a unilateral maxillectomy, she has a more positive outlook on prosthetic recovery, especially if the tissue and teeth serving as support are in good condition.

Understanding the patient's feelings and the impact of the disease is essential to deal with the effects of treatment and improve the patient's overall well-being [10]. The cancer diagnosis is challenging for many people, as treatment can bring fear, uncertainties, and affect functional and aesthetic aspects, making rehabilitation a crucial step [9]. Cancer patients require special attention due to the various health needs imposed by the disease, including physical, physiological, and psychosocial complications [12].

Appearance is the primary concern of maxillectomized patients before surgery, but chewing ability becomes the major concern postoperatively due to potential sequelae [8]. Rehabilitation is fundamental to overcoming the functional and aesthetic impacts of treatment, improving the quality of life, and overcoming potential traumas such as low self-esteem, pain, secretions, odors, fears, and uncertainties [11]. Defects in the oral cavity can cause difficulties in chewing, swallowing, and speech, affecting aesthetics and worrying patients. Some may even have to consume only liquids or use a nasogastric tube, leading to digestive disorders [8,37].

Social, psychological, and clinical support is essential to help patients cope with the disease's impact on their lives and continue treatment with hope and positivity. This attention requires preparation and constant support from healthcare professionals to make patients feel welcomed and confident during their treatment journey [9,13].

CONCLUSION

It can be concluded, through the literature review and the presented case study, that removable partial dentures serve as an effective solution for rehabilitating maxillectomized patients. In the case presented, the removable partial denture proved to be an efficient method for patient rehabilitation, significantly enhancing their quality of life, self-esteem, and confidence.

Prosthetic rehabilitation is paramount for restoring the masticatory, phonetic, and aesthetic functions of patients who have undergone maxillectomy. Adequate oral rehabilitation can be viewed as an opportunity to assist the patient in overcoming the challenges posed by the loss of parts of the oral cavity, providing them with increased comfort, self-esteem, and overall quality of life.

Collaborators

CRT Rodrigues, project management. WLR Pereira, supervision. EG Silva, first draft. JB Silva, review and editing. AS Odorizi Junior, methodology. WR Reis and GS Ovidio, resources- conducting the clinical case. RM Caetano, formal analysis

REFERENCES

1. Carvalho ACGS, Filho FMC, Sousa FB, Magro-Filho O, Romio KB, Nogueira RLM. Cir. Traumatol. Buco-Max-Fac, Camaragibe. 2009;9(2):33-38.
2. Santos DM, Nagay BE, Bitencourt SB, Silva EVF, Goiato MC. Reabilitação com prótese obturadora após maxilectomia parcial: relato de caso. Rev Odont Araç. 2016;5(2):52-66.

3. Moss OB, Pinheiro BCL, Mendes TCC, Braga FP, Nichthaus B, Leal CMB. Reabilitação oral com prótese bucomaxilofacial em paciente pediátrica submetida à excisão de lesão neoplásica benigna em maxila. *Arch Health Invest.* 2019;8(11):706-710. <http://doi.org/10.21270/archi.v8i11.4753>
4. Singh M, Limbu IK, Parajuli PK, Singh RK. Definitive obturator fabrication for partial maxillectomy patient. *Case Rep Dent.* 2020;(2020):1-4. <http://doi.org/10.1155/2020/6513210>
5. Pasinato F, Volpato S. Atenção odontológica ao paciente oncológico: Revisão de literatura. *Ação Odonto.* 2013;1(1)55.
6. Rodrigues RGS, Rodrigues DS, Oliveira DC. Reabilitação com prótese bucomaxilofacial: revisão de literatura. *Rev Saúde Multid.* 2019;5(1):20-27.
7. Goiato MC, Piovezan AP, Santos DM, Gennari Filho H, Assunção WG. Fatores que levam à utilização de uma prótese obturadora. *Rev Odont Araç.* 2006;27(2):101-106.
8. Moreno JFJ, Terán JFT, Cardín VG. Rehabilitación protésica híbrida com defecto orofacial. Presentación de com caso. *Rev Odont Mex.* 2017;21(2):121-126. <http://doi.org/doi.org/10.1016/j.rodmed.2017.05.008>
9. Oliveira JM, Reis JB, Silva RA. Busca por cuidado oncológico: percepção de pacientes e familiares. *Rev Enferm.* 2018;12(4):938-946. <http://doi.org/doi.org/10.5205/1981-8963-v12i4a231359p938-946-2018>
10. Rigoni L, Bruhn RF, Cicco R, Kanda JL, Matos LL. Comprometimento na qualidade de vida de pacientes com câncer de cabeça e pescoço e de seus cuidadores: estudo comparativo. *Braz J Otorhinolaryngol.* 2016;82(6):680-686. <http://doi.org/10.1016/j.bjorl.2015.12.012>
11. Velasquez-Cayón RT, Flores-Ruiz R, Torres-Lagares D, González-Guerrero S, González-Padilla D, Gutiérrez-Perez JL. Uso de obturadores em cirurgia oral y maxilofacial. Presentación de cinco casos clínicos. *Rev Esp Cirug Oral y Maxilofac.* 2011;33(1):22-26.
12. Reis JB, Oliveira JM, Nascimento VF, Cabral JF, Lucietto GC, Silva RA. Câncer de cabeça e pescoço: a comunicação e os seus significados. *Rev Enferm.* 2018;12(12):3263-70. <http://doi.org/10.5205/1981-8963-v12i12a237730p3263-3270-2018>
13. Carvalho BA, Piassi JEV, Haddad MF. Tratamento reabilitador de deformidade ocular: relato de caso. *Rev Odont Araç.* 2020;41(1):19-23.
14. Nemotto RP, Victorino AA, Pessoa GB, Cunha LLG, Silva JAR, Kanda JL, Matos LL. Oral cancer preventive campaigns: are we reaching the real target? *Braz J Otorhinolaryngol.* 2015;81(1):44-9. <http://doi.org/10.1016/j.bjorl.2014.03.002>
15. Bueno FL, Pires BM, Nunes BA, Totti VMG, Munhoz MEV. Tratamento reabilitador em paciente submetido a maxilectomia. *Rev. odontol. UNESP, São Paulo.* 2013;42(Especial)0.
16. Bilbao MA, Neira CF, Rodriguez AL, Veliz IC. La maxilectomía en las neoplasias del macizo facial. Sistema de clasificación del Instituto Nacional de Oncología y Radiobiología (INOR). *Rev Cub de Estomat.* 2010;47(2):189-98.
17. Zitzmann NU, Rohner U, Weiger R, Krastl G. When to choose which retention element to use for removable dental prostheses. *Int J Prosthodont.* 2009;22(2):161-167.
18. Wang RR. Sectional prosthesis for total maxillectomy patients: a clinical report. *The Journal of Prosthetic Dentistry, St. Louis.* 1997;78(3):241-244. [http://doi.org/10.1016/s0022-3913\(97\)70020-9](http://doi.org/10.1016/s0022-3913(97)70020-9)
19. Rezende JRV, Oliveira JAP, Dias RB. Prótese buco-maxilofacial: conceitos básicos e práticas de laboratório. São Paulo: Sarvier; 1986.
20. Kapur KK, Deupree R, Dent RJ, Hasse AL. A randomized clinical trial of two basic removable partial denture designs. Part I: Comparisons of five-year success rates and periodontal health. *J Prosthet Dent.* 1994;72(3):268-282. [http://doi.org/10.1016/0022-3913\(94\)90340-9](http://doi.org/10.1016/0022-3913(94)90340-9)
21. Bergman B, Hugoson A, Olson CO. A 25-year longitudinal study of patients treated with removable partial denture. *J Oral Rehabil.* 1995;22(8):595-599. <http://doi.org/10.1111/j.1365-2842.1995.tb01055.x>
22. Jorge JH, Giampaolo ET, Vergani CE, Machado AL, Pavarina AC, Cardoso de Oliveira MR. Clinical evaluation of Abutment of removable partial denture by means of the periotest method. *J Oral Rehabil.* 2007;34(3):222-227. <http://doi.org/10.1111/j.1365-2842.2006.01644.x>
23. Todescan R, Silva EEB, Silva OJ. Atlas de prótese parcial removível. São Paulo: Santos; 1998.
24. Persic S, Celebic A. Influence of different prosthodontic rehabilitation options on oral health-related quality of life, orofacial esthetics and chewing function based on patient-reported outcomes. *Qual Life Res.* 2015;24(4):919-26. <http://doi.org/10.1007/s11136-014-0817-2>
25. Nogawa T, Takayama Y, Ishida K, Yokoyama A. Comparison of Treatment Outcomes in Partially Edentulous Patients with Implant-Supported Fixed Prostheses and Removable Partial Dentures. *Int J Oral Maxillofac Implants.* 2016;31(6):1376-83. <http://doi.org/doi.org/10.11607/jomi.4605>
26. Fueki K, Baba K. Shortened dental arch and prosthetic effect on oral health-related quality of life: a systematic review and meta-analysis. *J Oral Rehabil.* 2017;44(7):563-72. <http://doi.org/doi.org/10.1111/joor.12511>
27. Chronopoulos V, Sarafianou A, Kourtis S. The use of dental implants in combination with removable partial dentures: a case report. *J Esthet Restor Dent.* 2008;20(6):355-64. <http://doi.org/doi.org/10.1111/j.1708-8240.2008.00209.x>
28. Campos CH, Goncalves TM, Garcia RC. Implant Supported Removable Partial Denture Improves the Quality of Life of Patients with Extreme Tooth Loss. *Braz Dent J.*

- 2015;26(5):463-7. <http://doi.org/doi.org/10.1590/0103-6440201300097>
29. Fueki K, Igarashi Y, Maeda Y, Baba K, Koyano K, Sasaki K, et al. Effect of prosthetic restoration on oral health-related quality of life in patients with shortened dental arches: a multicentre study. *J Oral Rehabil.* 2015;42(9):701-8. <http://doi.org/doi.org/10.1111/joor.12297>
30. Graziani M. Prótese maxilo facial. São Paulo: Científica; 1956.
31. Miracca RAA, Andrade Sobrinho J, Gonçalves AJ. Reconstrução com prótese imediata pós maxilectomia. *Rev Col Bras Cir.* 2007;34(5):297-302. <http://doi.org/10.1590/S0100-69912007000500004>
32. Moroni P. Reabilitação Buco Facial. São Paulo: Pamed; 1932.
33. Oliveira JMB, Pinto LO, Lima NGM, Almeida GCM. Percepção dos acadêmicos sobre o câncer de boca. *Rev Brase Cancerol.* 2013;59(2):211-8.
34. Fukuda M, Takahashi T, Nagai H, Iino M. Implanted-supported edentulous maxillary obturators with milled bar attachments after maxillectomy. *J Oral Maxillofac Surg.* 2004;62(7):799-805. <http://doi.org/10.1016/j.joms.2004.01.013>
35. Beloni WB, Vale HF, Takahashi JMF. Avaliação do grau de satisfação e qualidade de vida dos portadores de prótese dental. *RFO.* 2013;18(2):160-164. <http://doi.org/10.5335/rfo.v18i2.3255>
36. Futran ND. Primary reconstruction of the maxilla following maxillectomy with or without sacrifice of the orbit. *J Oral Maxillofac Surg.* 2005;63(12):1765-9. <http://doi.org/10.1016/j.joms.2005.08.014>
37. Goiato MC, Guiotti AM, Gennari FH; Fajardo RS, Assunção WG. Prótese parcial removível obturadora: uma reabilitação oral que devolve o bem-estar físico e mental. *Rev Reg Araçatuba Assoc Paul Cir Dent.* 2001;22(1):1-4.

Received on: 16/8/2023

Approved on: 23/10/2023

Assistant editor: Luciana Butini Oliveira