


## Chapter 157

# Lipofilling technique with Bichat ball material: a case report

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### **Tatiana Carneiro de Resende**

Ph.D. in Health Sciences - UNIFESP  
Professor at the Federal University of Uberlândia – UFU  
Rua Pará s/n. Campus Umuarama. Uberlândia – MG  
E-mail: tatianacarneiro@ufu.br

### **Maria Tereza Scardua**

Master in Temporomandibular Disorders by the Federal University of São Paulo – UNIFESP  
Professor and Coordinator of the Tereza Scardua Orofacial Harmonization Institute  
R. Enxovia, 472. Chácara Santo Antônio. São Paulo – SP  
E-mail: maria@terezascardua.com.br

### **Ricardo Vieira Camargo**

Bucomaxillo and Specialist in Orofacial Harmonization.  
Professor at Tereza Scardua Orofacial Harmonization Institute  
R. Enxovia, 472. Chácara Santo Antônio. São Paulo – SP  
E-mail: rvcamargo@gmail.com

### **Joao Carlos Tolentino Barbosa**

Orthodontics and Specialist in Orofacial Harmonization.  
Professor at Tereza Scardua Orofacial Harmonization Institute  
R. Enxovia, 472. Chácara Santo Antônio. São Paulo – SP  
E-mail: joaocarlostolentino@hotmail.com

### **Denize Peruzzo Rovaris**

Orthodontist and Specialist in Orofacial Harmonization  
Professor at Tereza Scardua Orofacial Harmonization Institute  
R. Enxovia, 472. Chácara Santo Antônio. São Paulo – SP  
E-mail: deperuzzo@gmail.com

### **Karina Cuzzuol Alvez**

Specialist in Orofacial Harmonization  
Professor at Tereza Scardua Orofacial Harmonization Institute  
R. Enxovia, 472. Chácara Santo Antônio. São Paulo – SP  
E-mail: drakarinacuzzuol@gmail.com

### **Lucas Pereira Alves**

Dental surgeon

Rua Ministro Ferreira Alves, 586. São Paulo – SP  
E-mail: lucaspeal@gmail.com

### **Letícia de Souza Castro Filice**

PhD in Immunology and Parasitology – UFU  
Rua Pará s/n. Campus Umuarama. Uberlândia – MG  
E-mail: leticiadilice@gmail.com

### **Fábio de Azevedo**

Specialist in Orofacial Harmonization  
Professor at Tereza Scardua Orofacial Harmonization Institute  
R. Enxovia, 472. Chácara Santo Antônio. São Paulo – SP  
E-mail: drfabioazevedo@gmail.com

### **ABSTRACT**

Bichectomy constitutes the resection of the "Bola de Bichat", which, in addition to minimizing chronic trauma to the jugal mucosa resulting from chewing, considerably improves facial harmony, making the middle third of the face more contoured and symmetrical. The objective of the present study is to report the case of a patient with a verified and confirmed need to remove a Bichat ball for better occlusal functionality and conformity of facial harmonization with fat grafting of material from the bichectomy in the malar regions and angle of the mandible. The most interesting description in this unprecedented case report is the form of grafting and the type of material used, which has not yet been described in the literature. The volume of the fat graft stabilized around the 1st postoperative month. The authors valued the uniformity of the aesthetic unit. The present study demonstrates the effectiveness of bichectomy when there is a good indication and confirms the high aesthetic efficiency of autologous fat grafting with the Bichat ball in the mandibular and malar angle region, both in terms of distribution and volume maintenance, with no complication rate, in this reported case.

**Keywords:** Autologous transplant, Lipectomy, Dermal fillers, Dentists, Face.

## 1 INTRODUCTION

During the aging process, which takes place from the third decade of life onwards, and is a completely natural phenomenon, known in the scientific community as "immunosenescence", there is a qualitative cutaneous change, a redistribution (hypotrophy and volumetric hypertrophy of the fat

compartments/rooms of the face and continuous remodeling of the craniofacial bones, which normally undermines self-esteem [1,2].

Brazil is aging fast and this is an individualized and natural process of life. Despite being an expected process, it is characterized by several transformations and self-esteem is a triggering factor for several factors that guide the aging process [3].

The aging process can generate an oscillation in self-esteem and modify the quality of life of individuals, due to the significant changes in the skin, making the signs of time visible. Due to the increase in life expectancy, it is expected that Brazil will be the sixth country with the largest elderly population in 2025, due to factors that favor longevity [4].

Self-esteem, and self-love, make individuals want to grow old without looking old. Cosmetic and aesthetic interventions may not even be able to eliminate aging, but they can promote beneficial effects of improving tone and reducing the signs of aging, which can alter the neuroimmunoendocrine system, and promote a great psychological benefit [5].

Therefore, it becomes increasingly relevant, for studies that investigate the changes caused by the aging process, as well as ways to intervene in the suffering that it causes. Generally, the desire to undergo a procedure to change the appearance or shape of the body is related to self-esteem.

The appearance, the state of the skin, has a significant impact on the self-esteem of individuals, the alteration, the differentiation in the face due to aging, whether due to gravity, stress, or even loss of volume motivated by the reduction of fat, elastic fibers, and other connective tissue elements, has an impact on the reduction of skin elasticity, benefiting both tissue and muscle ptosis (sagging) [6].

Society established that the standard of beauty was associated with youth. In this context, the search for invasive and non-invasive aesthetic procedures has become frequent all over the world [7]

In addition to more invasive surgeries, treatments/procedures aim at the redistribution or replacement of facial volumes, and the application sites are approached according to the individual needs of each patient and must be evaluated according to the need and without exaggeration. [8,9].

Brazil reached the summit. Today, we are the country with the highest number of treatments and aesthetic plastic surgeries in the world, according to a survey recently released by the International Society of Aesthetic Plastic Surgery (ISAPS). In 2018, the country performed 1,498,327 cosmetic surgeries, followed by the United States, Germany, and Italy, among other large nations, mainly aimed at improving self-esteem (ISAPS) [10].

Self-esteem can be defined as a way for human beings to have self-acceptance. It is responsible for determining the perception that a person has of himself, that is, it establishes how much he likes himself and is directly linked to self-confidence, determining how each individual believes he is seen and accepted by society [11].

Improved self-esteem is one of the main reasons that have led people to undergo aesthetic treatments. When performing them, an increase in the feeling of well-being, happiness, and a positive self-

evaluation is noticed. They are subjective sensations, which makes the result of the intervention even seen as a psychological reparation [12].

Resolution CFO-198/2019 recognizes Orofacial Harmonization as a dental specialty. Article 2 mentions that: "Define Orofacial Harmonization as a set of procedures performed by dentists in their area of expertise, responsible for the aesthetic and functional balance of the face" [13].

Treated as a surgical procedure, bichectomy or bichatectomy [14] constitutes the resection of the "Bichat Ball" [15], which in addition to minimizing chronic trauma to the buccal mucosa arising from mastication [16] admirably improves facial harmony, making the more slender and symmetrical middle third of the face [14].

Dentistry works with areas that are intensely involved with the face, as it is the "business card" of human beings [16a]. Aesthetic appeal is directly related to physical and emotional acceptance. An aesthetic in harmony represents an improvement in self-esteem. This profession has gained space in the health sciences because it represents a combination of concepts and techniques among highly specialized professionals for the maximum performance of results, bringing fulfillment and comfort to the patient. Thus, bichectomy is a procedure aimed at the resection of the adipose body of the cheek, with aesthetic and functional purposes. Aesthetic because it provides a more harmonious face; and functional because it aims at correcting traumatic discomfort caused by interference with chewing.

Thus, the objective of the present study is to report the case of a patient with the verified and verified need to remove a Bichat ball for better occlusal functionality and conformity of facial harmonization with fat grafting of bichectomy material in the malar regions and mandibular angle.

## **2 ETHICAL CONSIDERATIONS**

The Oral and Maxillofacial Surgeon has the pertinence of diagnosing and surgically treating diseases and their sequelae in the craniofacial region [17,18].

According to the Normative Resolution of the National Health Agency n° 387/201521, of October 2015, repealed by RN n° 428/201722 of November 2017, bichectomy will also have an aesthetic result but should not be indicated only for this purpose [19].

Psychological and social issues involve the delicate threshold between what is aesthetic and/or functional. Bichectomy is a functional procedure and is invariably a congenital anomaly. Thus, the dental surgeon has the competence to carry out acts about Dentistry, the orofacial region, provided he is duly qualified [16,20].

However, Resolution CFO-198/20192 qualifies professionals with the specialty of Orofacial Harmonization. Henceforth, the Joint Commission of the Federal Council of Dentistry and the Federal Council of Medicine [21] determined that the physician's competence is the treatment of malignant neoplasms, access through the infrahyoid cervical route, as well as aesthetic surgeries; excluding aesthetic-

functional surgeries of the masticatory apparatus, which are exclusive to the dentist [17]. The dental surgeon has legitimacy, competence, and legal support to perform the surgical technique of bichectomy [16,17].

Studies report that no contraindications were observed in bichectomy, despite the lack of studies on the subject. However, they advised that the patient be over 18 years old, healthy, non-smoker, and realistic about intended goals [22].

Despite being a surgical procedure, bichectomy is very safe and promotes quick and definitive results in appearance, such as thinning the face. This fatty tissue is similar to that found in other parts of our body. However, it is not used as an energy source for weight loss. In many people, this layer of fat is larger than in others, which can change the shape of the face, making it rounder.

It is indicated for those who are dissatisfied with the volume of the cheeks or for people who have the habit of biting that part of the body internally, which causes canker sores and bleeding. With the procedure, self-esteem and confidence about the shape of the face improve a lot.

### 3 CLINICAL CASE

Patient L.A.G.R., 38 years old, male, sought dental care at the Tereza Scardua Institute clinic (which is a reference in Orofacial Harmonization, located in São Paulo), to carry out a face evaluation, referring discomfort due to excess volume in the oral region and occurrence of intraoral lesions caused by occlusion. He also mentioned discomfort due to the lack of definition in the mandibular and malar angles, as he found his cheeks to be very voluminous (he said he had a “round face”), and he reported that this worsened after the age of 30.

After going through a detailed anamnesis and clinical evaluation by professionals and verifying the indication for bichectomy, (also known as lipectomy - which is a surgical procedure for total or partial removal of fat contained in the face region, to improve the lesions and to define and refine the face), the patient was informed in detail about the surgery and essential care in the postoperative period, and the expectations regarding the treatment were verified.

After this phase, the possibility of fat grafting using the Bichat ball was evaluated, verifying that after other sites were filled, the sensation of volumization insistently reported by the patient would also decrease.

After the anamnesis, he did the pre-surgical exams: blood glucose, complete blood count, and coagulogram to see if she was in good health to undergo the process. After being evaluated positively, we move on to the stage of marking and carrying out the procedure.

The minimally invasive technique consisted of:

- a) hygiene of the oral mucosa (with friction) with chlorhexidine, with emphasis on the incision region;
- b) incision of approximately 4 to 5 millimeters, with a number 15 cold blade, on the inside of the cheeks.

The removal of the Bichat ball took place in a single moment (from the surgical room to a sterile

environment - metallic vat). The residual material that was not removed at that single moment was discarded.

c) The procedure was performed under local anesthesia. The time varied between 20 and 40 minutes and the patient was discharged on the same day.

d) The stitches used were absorbable, that is, it was not necessary to remove them.

e) once the Bichat ball was in a sterile medium, it was worked (cut and then homogenized in 2 syringes of 20 ml with a sterile and disposable protractor so that the material became more fluid, in the form of a gel) (Figure 1).

f) Homogenization was carried out for approximately 10 minutes.

g) After this procedure, marking was made on the angle of the mandible and malar region and an orifice was made with an 18 G needle, and the facial filling technique was used where the material was injected and deposited in the same plane as other filler materials (Subdermal plane). For the deposition of the material, a disposable 18 G cannula was used for liposuction, liposculpture, and fat grafting of the TAB brand in the predefined receptor region (in the case of the study: angle of the mandible and malar region of the patient) (Figure 2). In this case report, we observed the immediate result, after 30 days and 6 months after the facial fat grafting (Figure 3).

Due to the histological characteristic of the Bichat Ball (rich in fibroblasts), it was possible to use it as a filler material on the face: a practice commonly used with body fat in plastic, orthognathic, and trauma surgeries. In this case, autologous Bichat ball fat grafting was performed in the malar region and mandible angle, which does not prevent it from also being applied to the chin, piriform region, and premaxilla.

At the beginning of the postoperative period, the appearance of swelling and small bruises is common, but over the days this problem decreases. In a maximum of one week, the person can resume all their activities. No need to take time off from work. In the case of our patient, these interurrences were not verified in the postoperative period.

Like the procedure, the recovery was also very quick. On the first day after surgery, the patient limited his diet to the consumption of cold liquids. On the second day, only pasty food was due to the bichectomy.



Figure 1: Homogenization of the Bichat ball in 2 20 ml syringes with a sterile disposable transfer device to make the material more fluid.



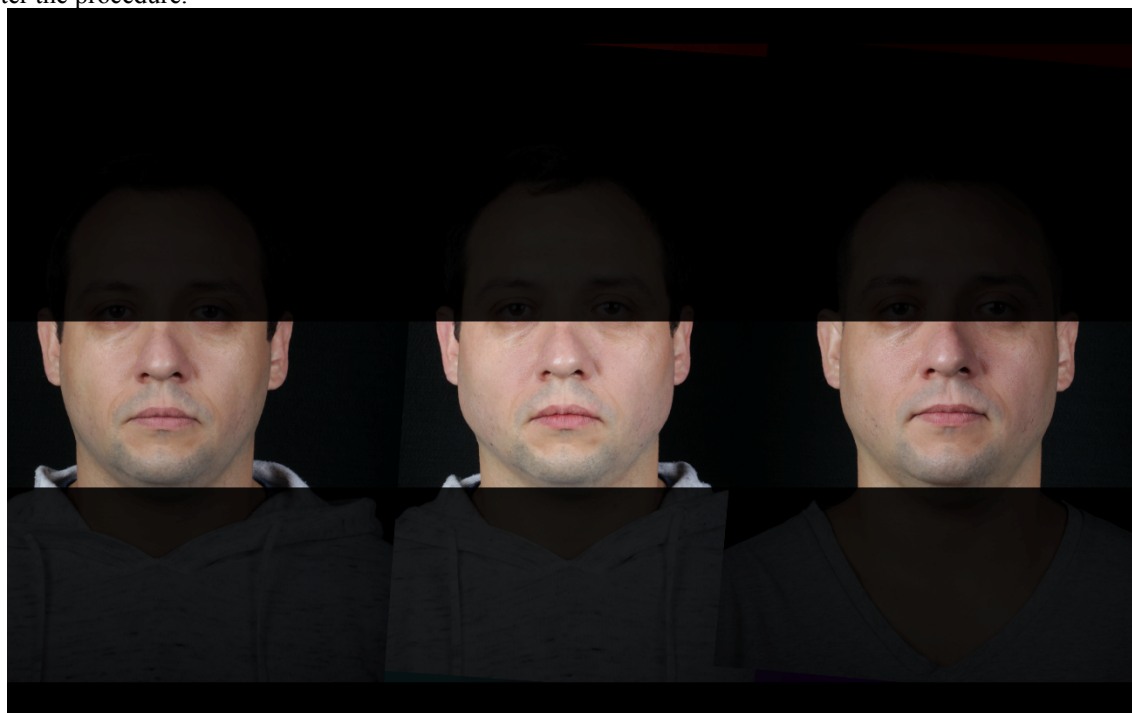
Source: the authors

Figure 2: Marking for filling in the angle of the patient's mandible and malar region



Source: the authors

Figure 3: Photograph of the patient in three moments. From left to right: before the procedure; 1 month after the procedure; 6 months after the procedure.



Source: the authors

### 3 DISCUSSION

In this work, the injected volume and the maintenance of this volume were not measured in millimeters. Visually, we observed an improvement in the format measured by the Beaut Setup (which is the interpretation and planning of the uniformity of theoretically ideal measures based on facial harmonization).

The most interesting description in this unprecedented case report is the form of grafting and the type of material used, which has not yet been described in the literature. The volume of the fat graft stabilized around the 1st postoperative month. The authors valued the uniformity of the aesthetic unit. No other comparative analyzes of results were carried out considering gender, age, or body mass index due to the lack of studies in the area. However, the aesthetic result was uniform and there were no complications described by the patient or verified by the professionals involved.

Fat grafting techniques are increasingly refined and, currently, with a better understanding of the action of mesenchymal cells, which are abundant in fatty tissue, they have been more used. It is worth emphasizing that it is still a little predictable procedure regarding the maintenance of the first injected volume, and more than one grafting session may be imperative. Also, other filling materials can be used later [23,24].

Fat grafting has many advantages, including the absence of foreign body granuloma or biofilm formation [25]; the possibility of injection in all layers; the abundance of material, allowing larger volumes to be injected, with better distribution; and better tissue integration, with more natural and complete results.

Recently, research has been carried out to evaluate the ability of fat grafting to regenerate or rejuvenate the skin [26].

Injecting the liposuction is relatively difficult, requiring a larger caliber cannula, the consistency of the product is not uniform (hence the need for homogenization), depending on the concentration of the liposuction and the presence of larger fat globules, in addition to not being free of complications [27]. However, when performed by qualified professionals, it becomes a safer procedure and can replace or complement a larger procedure.

Filling with extra volume is a simple and effective solution, and can be performed with alloplastic materials or with autotransplantation of lipoaspirate [28] in the periorbital and deep zygomatic sulcus. The volume of the middle third of the face is a personal constitutional characteristic, accentuated by the aging process, which includes bone remodeling, skin thinning, and atrophy of fat compartments. This lack of volume is not easily or effectively corrected in blepharoplasty or rhytidectomy, for example [29]. Which gave us even more certainty that fat grafting for the patient would be a process that could yield a good result since it is autologous material and an option for patients who are allergic to some type of biofilters.

#### **4 CONCLUSIONS**

The present study demonstrates the effectiveness of bichectomy when there is a good indication and confirms the high aesthetic efficiency of autologous fat grafting with the Bichat ball in the mandibular and malar angle region, both in terms of distribution and volume maintenance, with no complication rate. Volume replacement in this region can even replace minor correction and volumization surgery with other biofilters.

The fat graft is autogenous, not causing problems associated with alloplastic materials, and complications can be easily minimized or avoided with learning.

Despite the legal qualification of the clinical dentist, the bichectomy must be performed with indication, diagnosis, and planning.



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