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Bichectomia as a surgical option for aesthetic-functional harmony. A case report

Bichectomía como cirugía de eleccion en la búsqueda de la armonía estético-funcional. Reporte de caso

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SUMMARY

Bichectomy is the partial surgical removal of an anatomical structure known as Bichat's fat pad. This technique involves removing the buccal portion of the fat pad, which influences facial contour and can create a rounded, less aesthetically pleasing appearance in some patients. This case report presents a 26-year-old female patient who sought consultation at a public dental clinic due to concerns about facial asymmetry, requesting surgery for Bichat's fat pad removal. The patient experienced no complications or risks during the surgical procedure, and the postoperative period progressed without incident. The procedure successfully met the patient's expectations, achieving enhanced cheekbone definition and improved facial harmony. Based on this experience, bichectomy proves to be an efficient procedure that fulfills its aesthetic and functional objectives when carefully considering the anatomical relationships of the buccal fat pad during extraction. The procedure effectively improves facial aesthetic harmony and masticatory functionality, provided that proper surgical technique and anatomical considerations are maintained throughout the intervention.

Keywords: *Aesthetics, fat body, mouth mucosa, surgical therapy, oral surgical procedures.*

RESUMEN

La bichectomía es la extirpación quirúrgica parcial de una estructura anatómica conocida como las bolas de Bichat. Esta técnica consiste en la remoción de la

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porción bucal de la grasa de Bichat, la cual influye en el contorno facial y puede generar una apariencia redondeada, menos estética en algunos pacientes. Este reporte de caso presenta a una paciente de 26 años que acudió a consulta en una clínica odontológica pública debido a preocupaciones sobre asimetría facial, solicitando la cirugía para la extracción de las bolas de Bichat. Durante el procedimiento quirúrgico, la paciente no presentó complicaciones ni riesgos, y el postoperatorio transcurrió sin incidentes. La cirugía cumplió exitosamente con las expectativas de la paciente, logrando una mayor definición de los pómulos y una mejor armonía facial. Con base en esta experiencia, la bichectomía demuestra ser un procedimiento eficiente que cumple con sus objetivos estéticos y funcionales cuando se realiza considerando cuidadosamente las relaciones anatómicas de la grasa bucal durante la extracción. El procedimiento mejora efectivamente tanto la armonía estética facial como la funcionalidad masticatoria, siempre que se mantenga una técnica quirúrgica adecuada y se respeten las consideraciones anatómicas durante la intervención.

Palabras clave: *Estética, cuerpo graso, mucosa bucal. terapia quirúrgica, procedimientos quirúrgicos orales.*

INTRODUCTION

Bichectomy is understood as a surgical procedure in which an anatomical structure known as Bichat's fat pad or Bichat's buccal fat pad (BFP) is partially removed. The buccal portion of this pad is related to facial harmony, and in cases where it is very prominent, it affects the facial contour, giving the appearance of a rounded face in people (1). The BFP can be partially removed (removal of the buccal portion) to improve facial harmony, reducing the thickness in the cheek region and giving the appearance of prominent cheekbones and a defined mandibular body (2). It can be used in oral surgery as a regeneration technique for gingival recessions, the latter useful for increasing the width of connective tissue and maintaining the level of the covered recession (3), to cover oral bone defects in the maxillary molar region and in closing oroantral communications in this same area.

Although Heister, in 1732, was the first to describe a specific structure in the cheek as glandular tissue (2), this structure was first defined as an encapsulated mass of fat by Marie François Xavier Bichat, a French anatomist, physician, and biologist who lived between 1771 and 1802 (4). The BFP appears at 3 months of uterine life and continues growing until birth, protrudes at the anterior border of the masseter, and extends to the parotid duct (5). It is surrounded by the buccinator muscle and facial expression muscles, as well as the parotid gland. The BFP is divided into four portions: temporal, pterygoid, body, and buccal; the latter can comprise 50 % to 70 % of the total volume and is responsible for generating changes in facial symmetry, which is why surgery is performed. This portion of the body is completely removed. The temporal and pterygoid portions cannot be removed for facial aesthetic purposes (2).

Dentists more frequently perform bichectomy surgery, as it resolves functional problems in cases of large fat pads that cause occlusal interference, leading to ulceration or hyperkeratosis, and aesthetic issues. It improves facial and masticatory harmony by achieving volume reduction in the oral region, recontouring the appearance, and increasing malar prominence (6).

We report a clinical case of surgical bichectomy treatment to contour and create simultaneous symmetry in a patient's face, thereby improving their quality of life and emotional well-being.

CLINICAL CASE

A 26-year-old female patient presented to a public dental clinic for consultation due to dissatisfaction, stating that her face appears oval, prompting her to consider undergoing surgery for the extraction of buccal fat pads. The areas of the buccal fat pad that influence facial appearance (buccal, infraorbital, and zygomatic) were palpated to identify potential risks during surgery. The patient was then informed about the function, location, and relationships of the buccal fat pad, as well as the phases of the procedure, postoperative care, and risks associated with surgery. Before performing the surgical procedure, the patient underwent a series of rinses with 0.12 % chlorhexidine and 0.05 % *Cetylpyridinium chloride* for their antiseptic properties, to locate the reference site for the incision (the papilla of the parotid duct), as it must be made below, anterior to, or posterior to it.

The posterosuperior alveolar nerve was blocked with 2 % lidocaine with 1:80 000 epinephrine.

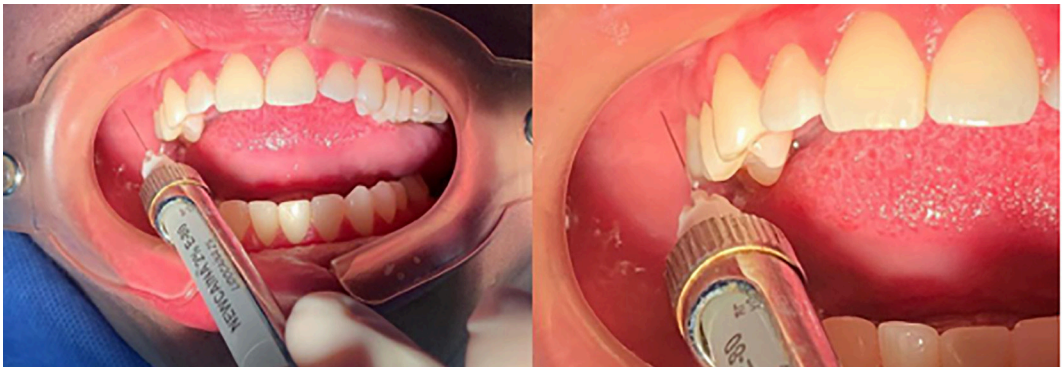

Figure 1. A-B. Posterosuperior alveolar nerve block with 2 % lidocaine with 1:80 000 epinephrine.

Access to Bichat's fat pad was achieved through a small incision-puncture, no more than 5 mm in length, in the vestibular fold in the second molar area, using a Bard-Parker scalpel with a rounded handle and a No. 15 blade.

Figure 2. A-B: Incision-puncture in vestibular fold in the second molar area, no more than 5 mm in length with scalpel blade No. 15..

This incision provides access to the anatomical space where the body of the pad is located. After traversing the vestibular fold mucosa, the upper portion of the buccinator muscle, and the fibrous connective tissue aponeurosis that marks the entrance to the aponeurotic space, where Bichat's fat pad is situated, the dissection is performed in the incision area using small, curved Kelly forceps.

Figure 3. A-B-C. Open incised area and tissue division with curved Kelly forceps.

Until, after using surgical suction, the specialized fatty tissue divulsion occurs, which we call the positive queen test.

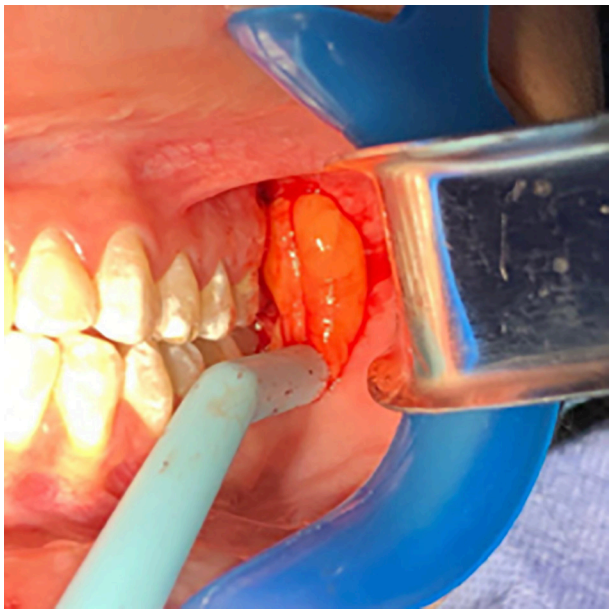

Figure 4. Positive queen test, achieved with surgical suction and confirms that the approach performed was adequate.

After clamping the divulsed fat portion, the dissection of the fibrous capsule covering the pad is performed so that the avulsed portion passesively.

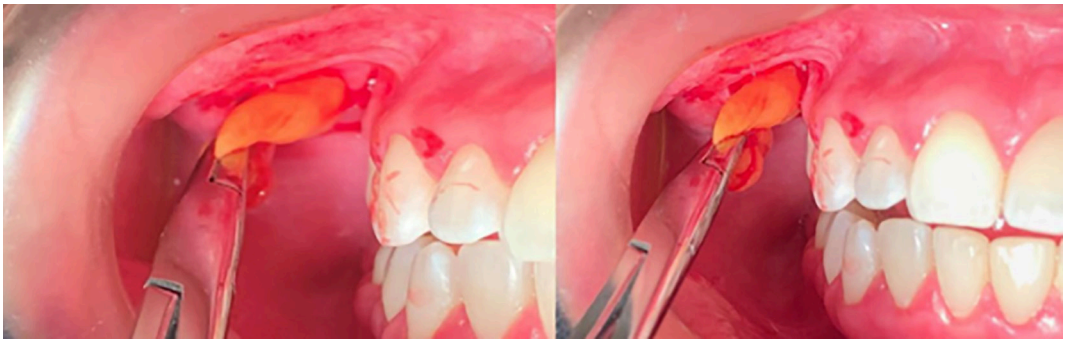

Figure 5. A-B: Partial avulsion of BFP with curved Kelly forceps.

Without the patient experiencing pain. A good way to know when the buccal portion and part of the body have been completely removed is when the patient manifests a painful symptom, such as tension or pulling in the temporal region or internal pterygoid (mandibular angle). At this point, the fat pedicle is cut.

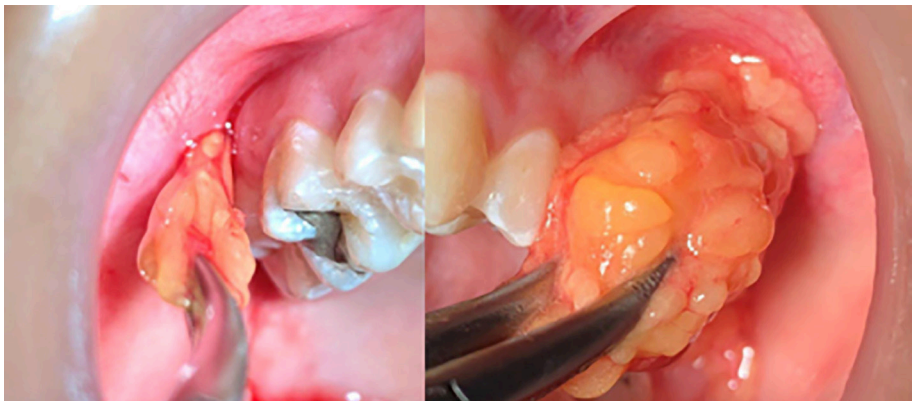

Figure 6. A-B: Complete avulsion of BFP before cutting the fat pedicle.

Taking the extracted pad portion to a 10 mL hypodermic syringe to measure the amount of fatty tissue removed, which should be between 4 to 5 mL.

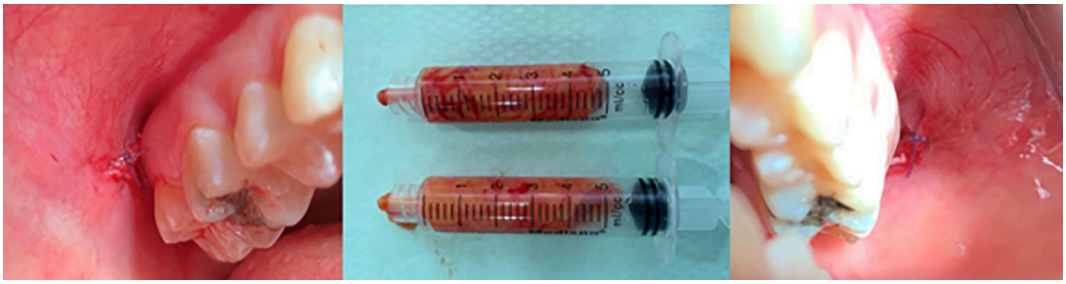

Figure 7. A-B-C: Suture in incision area right and left side with Vicryl-Ethicon (E-15) No. 4.0/16mm.

The area is then cleaned and sutured with absorbable Polyglactin 910 No. 4-0/16 mm sutures.

After the suture and procedure, analgesics and anti-inflammatories are prescribed: Etoricoxib 120 mg 1 tablet daily for 3 days and Dexamethasone 8 mg ampoules, apply one daily for two days, along with support therapy with cryotherapy using local ice pressure for 10 minutes in the first 6 hours and three times a day for 2 hours, the use of a chin strap, which is placed immediately after the procedure is completed and maintained for 24 hours in the first three days and then while sleeping for three more days.

Figure 8. A-B-C-D: Pre- and immediate post-surgical right and left side.

Lymphatic drainage with a 940 nm diode laser is a valuable therapy to avoid severe post-surgical inflammation. This therapy is performed on the day of the procedure and involves two sessions every 48 hours to repair tissue, reduce inflammation, and prevent edema in the treated area to achieve optimal healing.

Figure 9. Compression bandage placed in the immediate post-surgical period, to be used permanently for three consecutive days.

DISCUSSION

Facial bulging is characterized as a negative repercussion on aesthetics as it increases facial profile convexity. According to Silva et al. (7), this is noticed in society as an image inversely proportional to an aesthetic or defined profile, alluding to an obese appearance. This occurs because the BFP in the cheeks increases the lower third of the face, either due to being overweight since the lipid level corresponds to body fat level, or due to genetic factors. In these cases, bichectomy offers a solution to patients who wish to reduce this section of their face while defining contours in an outpatient and low-cost manner (4).

Bichectomy has gained importance since its first reconstructive uses in 1977, and its current importance is more linked to the aesthetic field. Although Tarallo et al. (8) clarify that this BFP involutes with age and that these aesthetic uses could be affected both by reduction of the pad and profile toning in an overweight patient where this oval facial shape is linked to muscular hypertrophy, Kim et al. (5) indicate that the involution of this BFP is minimal during aging, in addition to exposing advantages of this vascularized tissue in its separation from the origin site and its use as reconstructive material. In a risk-benefit balance, Kim et al. clarify that, being an outpatient procedure and a tissue with ideal properties for dissection, a 6x5x3 graft with an average thickness of 6 mm can cover an area of 10 cm^2. It also has an abundant blood supply and a rich network of capillaries inside, which makes this tissue and procedure a choice with a high success rate.

Pimentel et al. (9) consider bichectomy to be a procedure that is at its peak, where its uses in reconstructive, regenerative, and aesthetic surgery are constantly advancing. Therefore, they suggest certain precautions to consider in this outpatient procedure, primarily knowledge of the technique and anatomical structures, as this is where adversities are most likely to occur. According to retrospective studies, bichectomy should prioritize long-term patient follow-up to assess satisfaction levels and possible complications, with the most common being problems in hemostasis, healing, and facial asymmetries due to malpractice.

Evaluating the postoperative state, Román-

Torres et al. (10) conducted a longitudinal study, observing a main effect of limited opening accompanied by pain during the first 30 days, with an increase of 2.7 mm on the fourth day of recovery and a return to normal function on the thirtieth day, without presenting any further symptoms. Out of 40 patients, only 3 had a desired postoperative outcome due to the absence of control times; patients' pain and dysfunction were stabilized when contacting the health service. Román-Torres et al. mention techniques for postoperative care such as intense cryotherapy, corticoids for the first 3 days to avoid excessive edema, and analgesics for the first 5 days, leading the patient to recover normal feeding conditions after 15 days. Adopting these preventive measures in the clinical case, functional recovery can be appreciated within the 15-day range in addition to a remodeling of the patient's facies, visible at the same time as recovering masticatory function (10).

CONCLUSION

The authors of this clinical case agree that bichectomy is a surgical resource of choice for achieving facial harmony and improving oral and emotional well-being. It is appropriate and effective as long as the physician optimizes the procedure and is familiar with the anatomical relationships and potential complications of the surgery. The cost-benefit relationship, according to evidence in literature and studies, leads to categorizing bichectomy surgery as an outpatient procedure with a high success rate. However, this does not exclude informing the patient of pre- and post-operative risks and complications, as well as providing guidance that relates to appropriate care for recovery and respective pharmacological support in the prevention and control of postoperative inflammation and infection.

Ethical Considerations

Informed consent was obtained from the patient in accordance with the ethical principles outlined in Resolution 8430 of 1993, as established by the Ministry of Health of Colombia, which provides guidelines for health-related research. The procedure and its alternatives, benefits, and potential complications were explained in detail to ensure the patient's complete understanding and voluntary acceptance of the proposed treatment and its potential implications for her oral and overall health.

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Author contributions. NG-E: Surgery Assistant. Image management. Draft revisions. **BE-S:** Surgery Assistant. Image management. Draft revisions. **AM-M:** Idea Development. Performance of surgeries. Draft revisions. **AD-C:** Idea Development. Image management. Draft revisions.

All the authors approved the final document.

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