

Bichectomy in a 25-Year-Old Female Patient: Case Report and Brief Review of the Surgical Technique

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ABSTRACT

Bichectomy is an elective and increasingly popular surgical procedure in plastic and maxillofacial surgery aimed at improving facial contour by partially removing the buccal fat pads. These anatomical structures, located between the buccinator and masseter muscles, play a critical role in midfacial volume and round facial appearance. Initially recognized for their role in infant suckling, the buccal fat pads are now appreciated for their aesthetic relevance and potential use in oral reconstructive surgery and regenerative medicine. This case report presents a 25-year-old healthy female patient who sought cosmetic enhancement of her midface. Clinical examination revealed bilateral cheek fullness and favorable skeletal support, without generalized adiposity or skin laxity. She met the established anatomical criteria for bichectomy. The surgery was performed under local anesthesia using an intraoral approach and standard technique. It was an outpatient procedure, completed without complications, and resulted in a favorable aesthetic outcome. The report includes a brief review of the buccal fat pad's 3D anatomy, vascularization, and interindividual variability. It also discusses its role as a rich source of mesenchymal stem cells. Key surgical considerations such as patient selection, anatomical landmarks, and complication avoidance are addressed. When properly indicated and executed, bichectomy is a safe and effective technique for achieving facial balance and contour refinement.

KEYWORDS: Bichectomy, buccal fat pad, facial contouring, aesthetic facial surgery, oral surgery, buccal fat, mesenchymal stem cells, midface, intraoral approach, case report.

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INTRODUCTION

The buccal fat pad (BFP), also known as Bichat's fat pad, is a specialized and encapsulated adipose structure located in the midface region, nestled between the buccinator and masseter muscles. Unlike other body fat deposits, the BFP maintains a relatively constant volume regardless of weight changes, making it a critical determinant of facial shape and contour. It plays an essential role in providing smooth cheek curvature and midfacial volume, contributing to a youthful, rounded appearance. Originally understood as a structure relevant only to neonatal suckling, recent anatomical and clinical studies have unveiled its broader functions, including

a protective role for facial muscles and facilitation of mastication and speech through its sliding properties 1,4,10. 1 Volume 05 Issue ...Month 2025 ARTICLE DETAILS Published On: D/M/Y Available on: <https://ijmscrs.org/> In recent years, bichectomy defined as the partial removal of the buccal fat pad has gained substantial popularity within aesthetic and maxillofacial surgery. It is particularly favored by young adults seeking a slimmer, more sculpted facial appearance. The procedure is generally performed through an intraoral approach, offering the advantages of reduced scarring and direct access to the fat pad. Several surgical protocols exist, yet they converge on key anatomical

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principles, including the identification of critical landmarks such as the parotid duct and facial nerve branches. While its aesthetic application is the primary driver of its popularity, the technique demands a comprehensive understanding of facial anatomy and a careful patient selection process. Ideal candidates are individuals with excessive cheek volume, good dermal elasticity, and no generalized obesity or ptosis of facial tissues ^{2,3,5,6}.

Beyond its cosmetic utility, the buccal fat pad is increasingly valued for its biomedical significance. Its unique embryological origin and high vascularity make it not only useful in reconstructive oral and maxillofacial procedures—such as closure of oroantral communications and coverage of bone grafts but also in tissue engineering. The BFP is now recognized as an abundant and easily accessible source of mesenchymal stem cells (MSCs), which exhibit significant regenerative capabilities. These cells have demonstrated potential in promoting angiogenesis, immunomodulation, and tissue regeneration, extending the clinical value of the BFP beyond aesthetic surgery into the realms of regenerative medicine and biotechnology ^{1,10}.

The historical evolution of bichectomy reflects broader changes in the perception of facial aesthetics and the integration of soft tissue procedures into facial harmonization practices. Initially seen as a minor cosmetic refinement, bichectomy has become a focal point in facial contouring, especially in social media-driven beauty standards that favor defined cheek hollows and prominent bone structure. Nevertheless, despite its apparent simplicity, the surgery is not devoid of risks. Complications, while rare, may include hematoma, nerve damage, asymmetry, or inadequate aesthetic results if performed without proper anatomical knowledge or patient indication. Therefore, continuous anatomical research, refinement of surgical protocols, and adherence to ethical aesthetic standards remain fundamental to the practice of bichectomy today ^{4,7,8,9}.

II. CASE REPORT

We present the case of a 25-year-old female patient with no relevant medical history, who presented to the aesthetic facial surgery clinic seeking a slimmer facial appearance. She expressed discomfort with the rounded look of her cheeks, which she felt gave her a youthful or “chubby” appearance not aligned with her aesthetic goals. The patient reported feeling particularly dissatisfied with her appearance in photographs due to the lack of contour and definition in the lower midface. She denied any history of systemic illness, trauma, or previous facial procedures. She was a non-smoker, did not use any medications, and her BMI was 22.3 (within the normal range). Preoperative laboratory testing showed values within physiological parameters.

On facial examination, the patient exhibited symmetrical fullness in the buccal region, without facial ptosis or generalized adiposity. Her malar projection and mandibular angle were well defined, offering an ideal skeletal foundation

for aesthetic improvement through soft tissue volume reduction. Palpation confirmed mobile, soft buccal fat pads without signs of fibrosis, infection, or asymmetry.

During the consultation, she also expressed interest in nasal profile refinement. After complete aesthetic analysis, the surgical plan included a closed rhinoplasty and bilateral bichectomy to be performed in a single session under general anesthesia. The procedures, risks, benefits, recovery expectations, and postoperative care were explained in detail. The patient signed the informed consent after all questions were addressed.

III. METHODS

The surgical procedure was performed in a sterile operating room under general anesthesia. As part of the comprehensive facial harmonization plan, the session began with a closed rhinoplasty. The approach was performed through intranasal incisions, with no external cuts or scars. A conservative resection of a small osteocartilaginous hump was performed, and tip refinement was achieved through suture techniques. No internal splints or external bandages were applied; only a single dorsal nasal splint was placed to protect the nasal structure postoperatively.

Immediately afterward, bilateral bichectomy was performed. The oral cavity was disinfected with 0.12% chlorhexidine and draped with sterile covers. Local anesthesia (2% lidocaine with 1:100,000 epinephrine) was infiltrated in the buccal mucosa, posterior to the parotid duct. A 1.5 cm horizontal incision was made, and careful dissection through the buccinator muscle was carried out to expose the capsule of the buccal fat pad.

Controlled external pressure on the cheek was applied to facilitate gradual extrusion of the fat lobe. The fat was gently grasped with Adson forceps and resected in a conservative, symmetrical manner to prevent asymmetry or over-resection. Critical adjacent structures, including the parotid duct, facial artery, and buccal nerve branches, were carefully preserved. Approximately 3.5 mL of adipose tissue was removed per side. Hemostasis was achieved, and the incisions were closed with 4-0 resorbable polyglycolic acid sutures.

The total operative time was approximately 2 hours, with bichectomy performed as the second phase. The patient was transferred to the recovery area in stable condition without incidents.

IV. RESULTS

The postoperative course was uneventful. The patient was monitored in the recovery room and discharged the same day with instructions for relative rest, cold soft diet for five days, antiseptic mouth rinses, and pain control using acetaminophen. No systemic antibiotics were prescribed, as there were no signs of infection or additional prophylactic needs.

During the first three days, the patient experienced mild to moderate swelling, without hematomas or neurosensory

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disturbances. At the one-week follow-up, intraoral incisions were healing appropriately, and the patient reported a smooth and tolerable recovery. By the second week, swelling had noticeably subsided, and early contour refinement was already apparent.

At one month post-op, the cheeks showed a significant reduction in volume, with enhanced mandibular angle definition and a slimmer facial contour. The patient expressed a high level of satisfaction, both with her midface appearance and with the proportional nasal enhancement achieved via closed rhinoplasty.

By the three-month follow-up, results remained stable and well integrated. There were no signs of fibrosis, contour irregularities, asymmetry, or scarring. The combination of bichectomy and rhinoplasty contributed to a harmonious and balanced facial transformation. No immediate or delayed complications were reported.

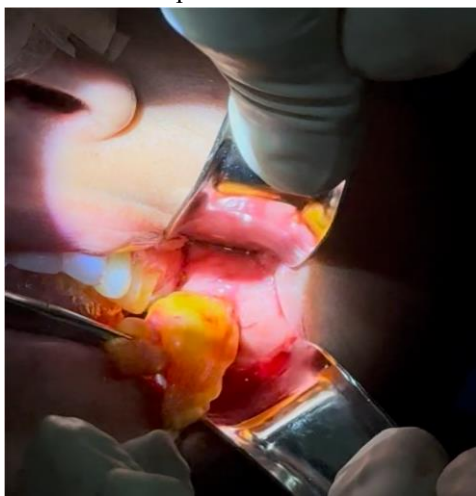


Figure 1. Intraoperative exposure of the buccal fat pad during surgical removal. Bright yellow, well-defined adipose tissue is seen emerging through the intraoral incision. The procedure was performed with precision to preserve nearby neurovascular structures.



Figure 2. Macroscopic view of the central portion of the buccal fat pad after dissection and traction. The tissue displays a distinct lobulated structure and a vivid yellow coloration, typical of the buccal fat compartment.

V. DISCUSSION

The buccal fat pad (BFP) has been described as a unique anatomical structure with functional properties beyond aesthetics. It consists of specialized, well-encapsulated adipose tissue situated between the buccinator and masseter muscles, acting as a dynamic cushion between facial muscle planes. Its deep vascularization allows volume stability even with weight loss. While important in neonatal suckling, it continues to play a role in mastication, phonation, and facial expression in adults ¹.

Bichectomy has become a widely accepted cosmetic procedure to enhance facial contour and highlight the mandibular angle. Although minimally invasive and outpatient in nature, it should be strictly indicated in patients with localized midfacial fullness, good skin quality, and no generalized laxity or obesity. Roman-Torres et al. emphasize that appropriate patient selection is critical to avoid adverse or disappointing outcomes and that the procedure is most effective in young adults with favorable facial bone structure ².

The intraoral approach is the most commonly used surgical technique as it provides direct access to the BFP without visible scarring. This method involves a horizontal incision in the buccal mucosa, followed by blunt dissection and careful fat extraction. Due to the proximity of critical structures such as the parotid duct, facial artery, and facial nerve branches, detailed anatomical knowledge and meticulous execution are required. Deliberador et al., in their 58-case series, confirmed that a rigorous technique significantly reduces complication rates such as hematomas, asymmetry, or nerve injury ³.

Various complications have been reported, including transient paresthesia, midface hollowing, internal fibrosis, or premature aging. Moura et al. warn that over-resection can lead to undesirable and disproportionate facial volume loss, resulting in an aged and imbalanced appearance. As a result, they advocate for conservative and controlled resection based on individual clinical evaluation ⁵.

Beyond its aesthetic implications, the BFP is of increasing biomedical interest due to its richness in mesenchymal stem cells (MSCs). Favero et al. have shown that the BFP is a highly accessible and abundant source of MSCs capable of differentiating into osteoblasts, chondrocytes, and adipocytes, making it a promising material for regenerative therapies and oral reconstructive procedures ¹.

From a technical standpoint, modifications like the "trident technique" proposed by Brito-Vera et al. aim to refine resection by dividing access into three specific planes. This method enhances symmetry and minimizes functional or aesthetic complications. These surgical innovations highlight that bichectomy, though relatively brief, demands high precision and thorough three-dimensional anatomical understanding ⁹.

Finally, the clinical case presented aligns with findings in the literature: when performed on properly selected patients,

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by trained professionals following clear anatomical guidelines, bichectomy results are typically predictable, safe, and aesthetically successful. The combination with closed rhinoplasty led to a comprehensive improvement in profile aesthetics, without postoperative complications or functional impairment³.

CONCLUSIONS

Bichectomy has evolved from a marginal procedure to a well-recognized technique in modern facial aesthetic surgery. This transformation is largely due to improved understanding of facial three-dimensional anatomy and a rising societal interest in midface definition. In this context, the buccal fat pad (BFP) has shifted from being viewed as a simple fat deposit to being recognized as a structure of functional, anatomical, and therapeutic significance. Its role in shaping midfacial volume makes it a strategic target for surgery—but also one that must be approached with surgical caution.

The presented case highlights how appropriate patient selection, based on objective clinical and morphological parameters, is essential for achieving predictable and successful outcomes. The patient—a healthy young female with localized midface fullness—met the ideal criteria for bilateral bichectomy. Surgical planning, combined with precise intraoral technique, resulted in an uncomplicated recovery and improved facial definition. The decision to combine it with closed rhinoplasty was aesthetically sound, producing a comprehensive enhancement of the facial profile.

Despite its superficial simplicity, bichectomy demands technical and anatomical precision. The proximity of key vascular and neural structures requires detailed knowledge and careful surgical handling. Over-resection or poor technique can lead to facial asymmetry, artificial results, or even premature aging. Thus, surgeon experience and technical mastery are fundamental to achieving natural, lasting improvements.

Beyond its cosmetic value, the BFP has gained attention as a source of mesenchymal stem cells, offering potential applications in regenerative medicine. Although this role is still developing in clinical practice, it reinforces the importance of viewing the BFP not just as fat to be removed, but as a biologically valuable tissue. This broader perspective should inform surgical decisions, encouraging responsible and informed use of this anatomical structure.

Psychologically, bichectomy can positively impact a patient's self-image when performed under realistic expectations and clear indications. However, surgeons bear the ethical responsibility of fully informing patients about the procedure's limitations, potential risks, and the need to preserve natural facial proportions. Aesthetic surgery should promote well-being—not distortion or indiscriminate modification of facial identity.

This calls for a comprehensive surgical approach, one that seeks not only photogenic results but also preserves facial function, expression, and long-term harmony. Midfacial

contour surgery requires careful assessment of bones, muscles, fat, and skin, positioning the surgeon as a facial architect rather than just a technician. Achieving balance between aesthetics, structure, and function is the true goal of well-executed bichectomy.

In conclusion, bichectomy is a powerful and safe surgical tool when used with responsibility, anatomical respect, and individualized clinical judgment. The clinical case presented serves as an example of successful surgical integration between complementary procedures that, when properly planned, can deliver aesthetically pleasing, functionally stable, and emotionally satisfying outcomes. Facial aesthetic surgery should follow this model: technical precision, personalized planning, and a holistic view of the human being as both a biological and emotional entity.

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