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Complication after Bichectomy Surgery

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Abstract

Purpose: The partial buccal lipectomy is presented as a technique to sculpt facial angles and enhance aesthetics. The study aimed to investigate the prevalence of complications following bichectomy. **Materials and Methods:** Subjects with chubby faces indicated for the correction of facial shape by bilateral bichectomy were studied. Buccal fat pad excision was performed via intraoral upper gingivobuccal sulcus incision opposite the first and second molar teeth, preserving a cuff of mucosa for closure. All subjects were followed up for six months after surgery. The prevalence of complications after the surgery was assessed. **Result:** One hundred subjects underwent bilateral bichectomy. The age range of subjects was from 25 to 60 years old. Forty subjects were male, and 60 subjects were female. Among 100 bilateral buccal fat pad excision cases, seven patients complained of trismus; two patients had a hematoma. The post-operation infection rate was 2%. **Conclusion:** According to the study's findings, the possible complications resulting from the bichectomy consist of trismus, edema, hematoma, and infection. It seems that bichectomy is a safe procedure, and trismus is the most complication after bichectomy.

Keywords: Aesthetics, Buccal, Complication, Fat Pad

1. Introduction

The Buccal Fat Pad (BFP) is located in an area of the face surrounded by several important anatomical structures. By increasing the number of surgical interventions involving this structure, precise anatomical knowledge of this region is necessary to avoid iatrogenesis, which may cause temporary and permanent sequelae[1]. Heister firstly described BFP as a glandular tissue in 1732. However, in 1802 Bichat popularized and defined the structure as fat tissue[2,3]. This anatomical structure fills the masticatory space separating the masticatory muscles from each other and, also, from the mandibular and zygomatic branches, and it can also be used for aesthetic purposes in surgeries[4]. If the buccal extension is excessive, patients may complain of round face, excessive cheeks[5,6]. Therefore, BFP removal or partial buccal lipectomy is presented as a technique to sculpt facial angles and enhance aesthetics[7]. As usual, intraoral BPF removal is performed under local anesthesia, and the incision is performed in the maxillary gingivobuccal sulcus[3,8] or buccal mucosa at bite level; after incision, the buccal muscle is dissected, and BFP is exposed, and It is covered by a thin fibrous capsule, isolating it from the direct contact with the surrounding tissue. External pressure is applied over the skin to manipulate BFP into the incision, and without excessive traction, the exposed portion is clamped and excised. An absorbable or non-absorbable suture is used to close the wound. The potential complications include hematoma, trismus, infection, facial nerve impairment, parotid duct injury, over resection, induration, and asymmetry[9,10]; we aimed to study the prevalence of complications following bichectomy.

2. Materials and Methods

The authors designed a cross-sectional study. Subjects included in the study who attended the oral and

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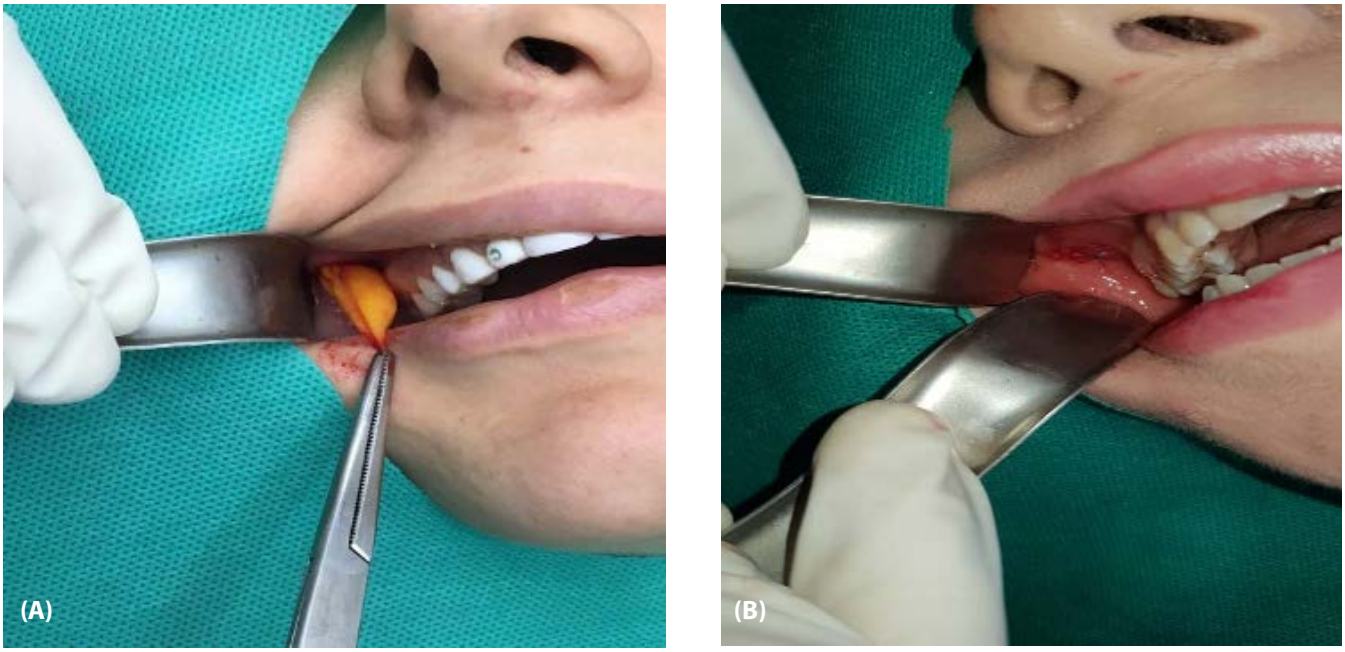


Figure 1. **(A)** Depicts buccal fat pad removal via an upper gingivobuccal approach**. (B)** Sutured incision after buccal fat pad removal.

maxillofacial department and two private clinics between 31 May 2018 to 1 May 2021. The medical ethics group approved the study. Patient consent was obtained.

Subjects with chubby faces indicated for the correction of facial shape by bilateral bichectomy, in the ASA I category were studied. The subjects were removed from the study if they had previous maxillofacial surgery and augmentation, a history of facial nerve injury, hematologic disorder, or received anticoagulant drugs.

The patients were photographed in standard views of the face. All subjects underwent outpatient surgeries under local anesthesia by an oral maxillofacial surgeon. The patient received local anesthesia with a dental cartridge containing lidocaine 2% with 1/100000 epinephrine which was fully conscious.

The buccal fat pad partially was excised through the intraoral upper gingivobuccal sulcus incision opposite the first and second molar teeth, preserving a cuff of mucosa for closure (Figure 1(A)). The buccal extension of Bichet's fat pad was exposed by blunt dissection using a curved hemostat, and was gently teased out with precaution to the fat pad's capsule, The base of the fat pad was cauterized, with the cut taking care of the parotid duct, removing a generous amount of fat until the external bulge was no longer visible, the same was contralaterally performed, and the amounts of excised fat were compared. Once the amounts of removed fat and the contour of the cheeks both appeared equal, hemostasis was again assured. Then, the mucosa was loosely approximated with a continuous 4/0 vicryl suture (Figure 1(B)). The patient was kept on clear liquids for the remainder of the operative day and the next day, followed by a soft diet for one week. Subjects were followed up for six months after surgery and complication after surgery was assessed.

3. Results

One hundred subjects underwent bilateral bichectomy. The follow-up time was six months after surgery. The age range of patients was from 25 to 60 years old with a mean age of 38.4±8.91 years. The gender distribution consisted of 40 males and 60 females. Among 100 cases of bilateral buccal fat pad excision, seven patients (7%) complained of trismus and restricted mouth opening in the early postoperative period. All of them responded well to analgesia medicine and jaw stretching exercises. Two patients (2%) had hematoma three days after surgery, and those patients' treatment with ice therapy and pressure dressing, and the hematoma resolved after five days (Figure 2(A) to 2(C)). Also, two patients (2%) had a sign and symptom infection (swelling, pus, and mucosal erythema) three days after surgeries in the right

cheek. The treatment with antibiotic therapy resolved the infection after seven days, but one month after surgery, those patients again showed infection signs and a fistula in the right cheek. The therapy contains cleaning the fistula, antibiotic administration, and excision of the scar. The fistula was resolved after 20 days. (Figure 3(A)-3(C)) None of the 100 patients have a facial nerve injury. There was no case of parotid duct or bleeding in the surgery was observed. In Table 1, the description of subjects regarding complications of each patient who underwent bilateral buccal fat removal was presented.

4. Discussion

The limited number of published studies regarding buccal fat pad resection for aesthetic contouring of the midface and the lack of patient follow-up or reported postoperative complications implores us to explore the potential pitfalls of this seemingly benign surgical procedure. Many presumed published literature regarding surgical pitfalls of buccal fat pad resection is relative to the surrounding anatomical structures, which can be inadvertently injured during the resection.

The buccal fat pad contributes significantly to the contour of the cheek and face. Its prominence is encountered during examination for facial rejuvenation surgery. In some patients, the buccal fat can cause unwanted fullness and, in more extreme cases, was shown to pseudoherniate and result in the appearance of a sagging mass within the cheek[11], potential damage to surrounding nearby anatomical structures aside, perhaps the most significant pitfall regarding resection of the



Figure 2. **(A)** The patient's view after buccal fat pad removal (Case No.2). **(B)** Hematoma in the left buccal space. **(C)** Patient after resolving of hematoma.

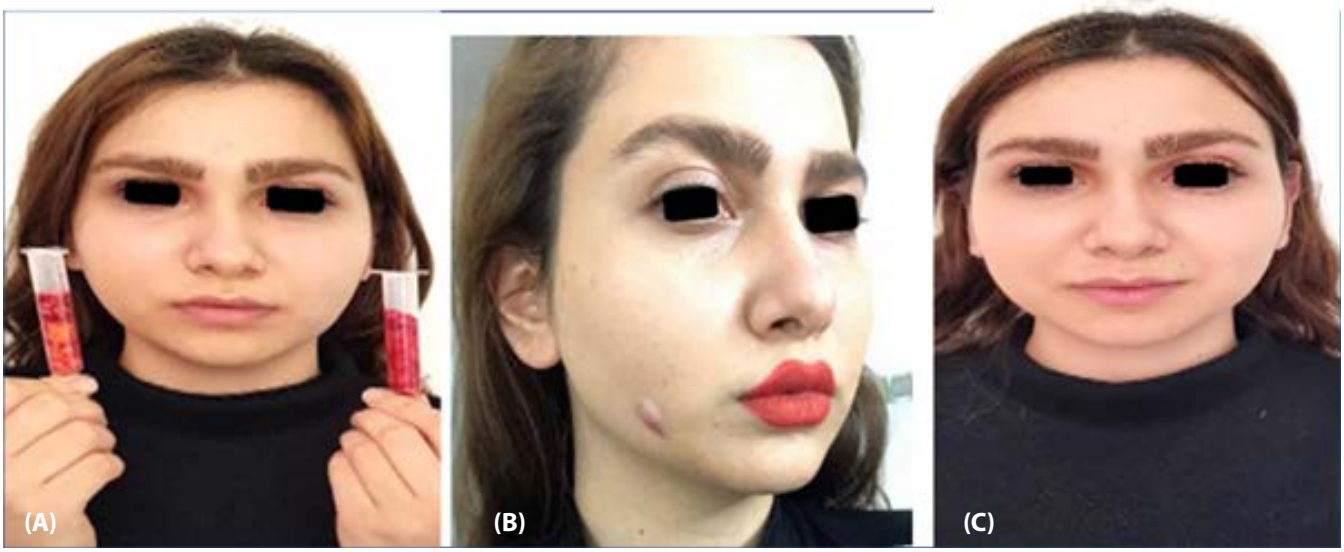


Figure 3. **(A)** The patient's view after buccal fat pad removal (Case No.3). **(B)** Fistula formation following infection. **(C)** Patient after resolution of infection and excision of the scar.

Table 1. Descriptive data depicting the spread of complications following Bichectomy

Complications	Number of patients affected out of 100 cases (N)	Patient Age (Y)	Sex	Duration of follow up (months)
Trismus	N=7	45	F	6
		33	F	6
		27	F	6
		30	F	6
		34	F	6
		30	M	6
		40	M	6
Hematoma	N=2	38	M	6
		42	M	6
Infection	N=2	29	F	6
		52	F	6

buccal fat pad is concerning the long-term hollowing of the midface[12].

The anatomical structures related to the surgical procedure of the buccal extension of the buccal fat pad are as follows: parotid gland duct, facial nerve and its buccal branches, facial artery and its branches, facial vein and masseter, buccinator and zygomatic major muscles. The possible complications resulting from the surgical intervention of a buccal fat pad are damage to facial nerve buccal branches, bruises, edema, trismus, hematoma, infection, and traumatic injury of the parotid duct and facial vessels. There is an evident lack of published long-term patient follow-up following buccal fat resection in efforts to track these case complications or undesired outcomes, so in this study, we assess the complication of bichectomy in 6 months follow-up.

In our research, facial nerve injury or parotid duct damage was not detected in subjects who underwent BFP removal. Also, it did not mean that such complications do not occur in BPD removal. Further studies with a large sample size may be suitable for the assessment of such complications.

5. Conclusion

According to the study's findings, the possible complications resulting from the bichectomy consist of trismus, edema, hematoma, and infection. It seems that bichectomy is a safe procedure, and trismus is the most complication after bichectomy.

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