

A Simple Surgical Procedure for Creation of Dimple

Pritish H. Padgavankar¹ Amruta Bhalerao^{2*} Hemant Gadge³ Yogesh Gadge⁴ Neha Wagh⁵
Prarthana Bamble⁶

¹MDS, Medical Officer-Dental, District Civil Hospital Amravati, India.

²Senior Lecturer, Department of Prosthodontics, A.C.P.M. Dental College, Dhule, Maharashtra, India.

³Senior Lecturer, Department of Prosthodontics, A.C.P.M. Dental College, Dhule, Maharashtra, India.

⁴PG Student, Department of Conservative and Endodontics, Rishiraj Dental College and Hospital, Bhopal, MP, India.

⁵PG Student, Department of Prosthodontics, A.C.P.M. Dental College, Dhule, Maharashtra, India.

⁶PG Student, Department of Prosthodontics, A.C.P.M. Dental College, Dhule, Maharashtra, India.

ABSTRACT

Background: The aim of the our dimple creation surgery is to create a scar in dermis which adheres to the underlying muscle, and becomes a natural looking dimple. A dimple creation surgery needs anything between ten to thirty minutes to complete and is carried out under local anaesthesia.

Materials and Methods: Facial dimples were created in 15 cases. All the subjects were females. Five cases were bilateral and the rest were unilateral.

Results: We observed better, long term results with minor complications such as pain, swelling & temporary paresthesia were observed. Most of the subjects were satisfied with the results.

Conclusions: A simple blunt dissection, removal of buccal fat and suturing is safe, reliable and an easily reproducible way to create facial dimple.

Keywords: Facial dimple, Minor surgery, Cosmetic surgery, dimple creation surgery, dimpleplasty.

INTRODUCTION

Beauty of the face is intimately related to expressions. A portrait of a beautiful face is never as beautiful as a face that is alive and expressive. The ultimate beauty of the face is augmented with the presence of dimples. Cheek dimples is always considered as an attractive facial feature in both males and females with no specific predominance^[1-2]. they may occur unilateral or bilateral and usually are genetically inherited as a dominant trait^[3]. Cheek dimples are caused by the presence of dermo-cutaneous insertion of the fibers of the inferior bundle of the double or bifid zygomaticus major muscle^[4]. Dimples are dynamic facial features, this means that they show up with facial animations and disappear upon rest. This is attributed anatomically to an abnormal insertion of

the facial muscles to the skin^[2]. With increasing demand to look better the demand for surgically created dimples is increasing. The procedure is usually simple, safe and straightforward; however, rarely, complications can occur. Multiple surgical techniques have been proposed for dimple creation such as blind coring of the tissue from the buccal mucosa to the dermis^[5], placement of non-absorbable suture sling between the buccinators and the dermis^[6], removal of punch of tissues^[1] and the open surgical access that mimics the anatomical basis of the natural dimple. That's why all dimple creation surgeries relay on securing myodermal attachment between the buccinator muscle and the dermis^[2]. In this article, dimple creation was done by using two main principles of excising or removing soft tissue^[7] and using suturing technique with some modifications^[2,5].

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*Correspondence Dr. Amruta Bhalerao.

Department of Prosthodontics, A.C.P.M. Dental College, Dhule, Maharashtra, India.

Email: Not Disclosed

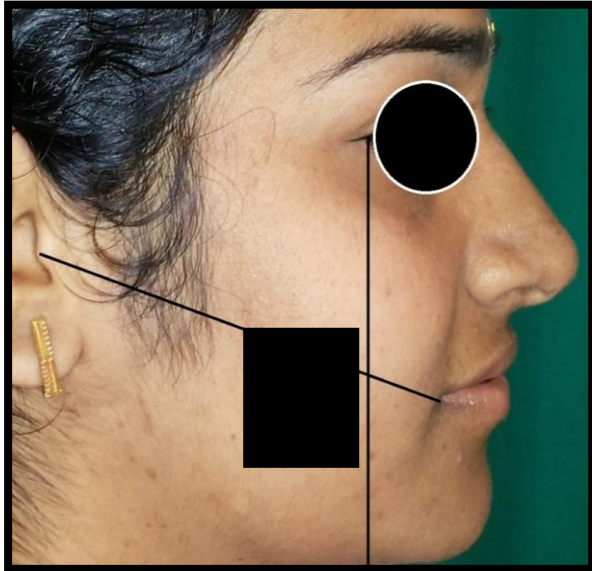


Fig 1: Pre operative marking on the face of patient.



Fig 2: Pre-operative photograph of the patient.



Fig 3: Intra-operative photograph of the patient.



Fig 4: Intra-operative photograph of the patient after suturing.



Fig 5: Post-operative photograph of the patient after 4 weeks.

SURGICAL TECHNIQUE

Dimple creation surgery is a simple, elective day care procedure. 20 dimples were created in 15 subjects. The patients age ranged from 20 to 32 years. 5 subjects requested bilateral dimples and 10 subjects requested single dimple mostly on the right side (7 cases right and 3 cases left). Informed consent was obtained from all individual participants included in the study. Through open discussion with our patients the preferred site for the dimples is marked preoperatively in front of the mirror. If the patient has faint dimples so it will be the best site for creating a more prominent one and if the patient has one dimple on one side so the other one is made at the same site of the other cheek. If the patient was indecisive about the site the proposed site was suggested by us at the

intersection of one vertical line from the lateral canthus of the eye with one horizontal line from the angle of the mouth (Figure 1). After marking the sites, the face and mouth of the patient were prepared and local anesthetic agent was administered as 1cc of lidocaine 1% with adrenaline 1:200000 was injected intra-orally in the buccal mucosa using hypodermic needles. [Figure 2]

A small vertical intra-oral incision was placed with B.P. blade and handle in the buccal mucosa at the marked point. Then, with the help of a blunt dissecting scissor, a careful dissection was carried out at the site of incision and small amount of buccal mucosa was excised from the site, without damaging the branches of the buccal nerve. The dimple can also be created with the help of a punch biopsy instrument by an intraoral approach and a circular core composed of mucosa, submucosal fat, and cheek muscles is removed sparing the skin. But the chances of damage to the buccal nerve are more with the punch biopsy instrument. Hence we performed careful blunt dissection and excised mucosa, submucosal fat, and cheek muscles, sparing the skin. This creates a shallow cylindrical shaped defect under the skin [Figure 3]. A vicryl 3-0 suture was passed intraorally through the buccal mucosa, cheek muscle on one side of the defect, then through the dermal layer of the skin and finally through the cheek muscle on the other side of the defect. The knot is then tied resulting in dimpling of the skin. Then the second suture was placed securing the myodermal attachment between the dermis and buccinator muscle [Figure 4]. Subjects were informed about the following: Pain, Swelling and oedema is likely during the first week. Mouth wash and fomentation (cold in the first 48 h and warm on the following three days) is advised. The dimple will be exaggerated in appearance and with time it will appear only with smiling (after one month). The anomalous anatomy responsible for dimples was surgically replicated using this technique. By allowing adequate exposure at the site of dimple creation, sutures between the muscle and the dermis were placed with improved control. No patient had injury to the Stensen duct or facial nerve branches. Sutures were removed after 7-10 days. Of the subjects, 12 have been followed up for 12 months [Figure 5]. After discharge, Broad-spectrum antibiotic with analgesics and anti-inflammatory medications were prescribed to all

the patients. Patients were instructed to maintain good oral hygiene in the immediate postoperative period and advised not to smile fully during the first two weeks.

RESULTS

The dimples were constantly prominent immediately after surgery and for a variable period ranging from two weeks up to two months after which they became dynamic appearing only with smile and facial animation resembling the natural dimples. Most of the patients noticed a fibrous or lymph node like structure of less than 1cm size at the site of surgery for 3-4 weeks after surgery which disappeared on its own. Mild fading of dimple was noticed in 2 cases, where revision surgery was performed. The patient satisfaction score was obtained from patients after performing Dimpleplasty. Patients were asked to give a score between 5 points to 0 point depending on their satisfaction or dissatisfaction with the results and also on basis of the complete procedure performed. The patient satisfaction score was 5 for nine patients; the satisfaction score was 4 for four patients and 3 for two patients. We sought to achieve the most natural appearance of the dimples on the face. However, two patients had very high and unrealistic expectations. Nevertheless, a very high patient satisfaction rate was noted in our study. No complications were observed during the procedure or the 6-month follow-up.

DISCUSSION

In Arabian society, cheek dimples are considered as a sign of beauty and attractiveness. The same concept is also established in oriental communities^[6]. Dimples on the cheek look attractive and are thought a sign of good fortune and prosperity in many cultures. The presence of dimples is inherited in an autosomal dominant fashion. The cheek dimples are expressed on chromosome 16 and ultimately parents with dimples will pass this to their children. There is increased demand for the creation of facial dimples, and many females seek cosmetic surgeons to achieve facial dimple^[7]. Since Boo-Chai^[6] took the credit for creation of facial dimple in 1962, several authors had reported different techniques for connecting the active facial muscles to the dermis. In 1971, Argamaso^[8] excised the cylindrical

segment of tissue consisting of the buccal mucosa, muscle and subcutaneous fat to form a permanent dimple. Many techniques have been introduced to create cheek dimples. They can be categorized into two major categories: Suturing with or without blind coring technique and open approaches.

Bao and his colleagues (2007) described an elegant technique where they used a syringe needle to guide a monofilament nylon suture through the dermis and the active facial muscles (usually the buccinator), a sling was formed between the skin and the buccinator muscle, the knot was tied, and the dimple was created^[5]. Keyhan and his colleagues said that for better suturing technique, the enhanced exposure is useful particularly in subjects with 'chubby' cheeks, where the depth of the field and fat tissue can make precise suturing difficult. The blind core procedure using a trephine bur was described. This approach provides a predictable outcome with persistence of dimple more than one year^[7]. Thomas et al. claimed that the anomalous anatomy responsible for dimples is surgically mimicked without requiring any soft tissue removal but by allowing adequate exposure^[2]. Contrary to what was proposed, an incision in mucosa was done. Also, dissection of muscle with cutting part of buccinator muscle was made. Indeed, open technique and blind core method have the same permanent results (up to 1 year). Suturing alone without excision of tissue has no lasting results and the dimple will fade with time. There was no standard scale used by all authors, the results vary and the outcome was different. Only, Argamaso evaluated his results using a scale including excellent, good, acceptable, not acceptable and failure^[8]. Most women hope that the side effects of the operation will be slight with short recovery period. Potential complications of dimple surgery include sudden disappearance of the dimple, asymmetry, foreign body reaction, bleeding, and nerve injury (buccal branch of the facial nerve) or salivary gland duct injury (Stensen duct), which are rare. Infection and oedema occurred with Vicryl rather than Nylon sutures. However, Vicryl produced more lasting results. This may be due to more tissue reaction and fibrosis.

Risk of bleeding during or after dimple creation surgery was avoided With careful blunt dissection and careful removal of buccal fat from site of dimple

creation. Advantages of using suture technique are less hematoma or infection. Other advantages of this technique include the following: 1. Mild postoperative pain, swelling occurs and, consequently, subjects can return to work or other activities two days after the operation; 2. It is easy to adjust the bulk of dimples by adjusting the tension of the knot and the amount of dermis tissue. In addition, this study has an advantage that our technique was performed on all patients by a single surgeon. Moreover, this technique is very easy and fast as the time needed for surgical procedure per side to create the dimple was less than 10-15 minutes. The main disadvantage of this technique is, temporary paresthesia, infection in first week of surgery & mild fading after 4 months. In case of dissatisfaction with the appearance of dimple, Authors from Australia advocated the use of medium density hyaluronic acid fillers for resolving dimple formation^[9]. Others used subcision with needle through subcuticular undermining with or without subcutaneous filler injection to fade the dimple^[10].

COMPLICATION

Usually, dimple surgery is an extremely safe procedure, but like any other surgical procedure, there are inherent risks. The risk of bleeding during or after dimple creation is quite low. Infection is exceedingly rare and the risk is minimized with proper oral hygiene and antibiotics. The risk of injury to the buccal branch of facial nerve is extremely uncommon. However, early recognition and management of complications is important to avoid unpleasant aesthetic results^[11]. Blind coring of the soft tissue from the buccal mucosa to the dermis carries the risk of injury to the buccal branch of facial nerves^[1]. Further, transcutaneous sutures can cause puncture scars and have been reported to cause foreign body granulomas^[7]. The patient noticed painful swellings over the cheeks with restriction of mouth opening. with proper medication the patient got immediate relief from the pain and achieved satisfactory mouth opening. The patient recovered in 3 weeks time without any scarring of the cheeks.

CONCLUSION

This simple procedure described by the authors for placing a facial dimple provides a predictable

outcome with minimal side effects or complications, which makes it an excellent operative choice compared to other techniques. Consideration of vascular anatomy, shape of the face and smile direction are important aspects for the outcome.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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