Crab Claw Reduction Cheiloplasty: The Indian Way

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Abstract

The goals of lip reduction surgery are to reduce the volume of the lips and restore an aesthetic labial contour and to maintain an ideal volume relationship between upper and lower lips. The aim of this study was to minimize the excessive large lips by modifying the incision and to get more Indian appearance of the lips by using crab claw technique. A total of nine patients (six males and three females) of age-group 21–22 years, having aesthetic concern due to excessive large lips, were treated in the case series. The distance from the vermilion border to the lip line was recorded at midline and 6–7 mm apart from the either side, and the distance between two peaks corresponding to the philtral ridges at baseline and at 6 months follow-up. A mean reduction of approximately 10 ± 0.70 mm at midline, 10.11 ± 1.05 mm on the right side, and 9.55 ± 0.72 mm on the left side of the lip was obtained in all the nine cases. No postoperative complication was observed in any of the patients, and all the patients were satisfied with the result, which was carried out through a survey completed by all the patients. The lip reduction surgery using crab claw technique proved to be successful in achieving decreased lip volume while restoring anatomical morphometric pattern of lip to look more Indian way.

Keywords: Lip, hypertrophy, reconstructive surgical procedures

Introduction

Patients today are increasingly conscious of personal appearance, and much attention has been focused on the smile. Lips represent an integral component of one's own smile.

Excessively large lips represent an occasional but significant challenge in aesthetic surgery. Excessive large lips are associated with congenital etiologies such as double lip,[1] labial pits, neoplasm, ethnic variations, and acquired causes such as trauma, infections, neoplasms, and syndromes such as Melkersson–Rosenthal syndrome and Ascher syndrome.[2] The excess tissue forms an accessory lip, which is apparent during smiling.

Lip reduction is the surgery to reduce the appearance of larger or fuller than desirable lips. The goals of lip reduction surgery are to achieve a harmonious relationship between the upper and lower lips that is in balance with the entire face as well as to attain normal lip competence. In the past, various techniques have been used for the same, such as bikini lip reduction[3] and Brazilian hang glider cheiloplasty,[4] in which the authors have modified the techniques based on the physical appearance of their respective natives.

The aim of this technique was to minimize the excessive large lips by lip reduction surgery by using a crab claw technique and to give a more native appearance.

Case Series

A total of nine systemically healthy patients aged between 21 and 22 years (mean 20.4 ± 6.5 years) were selected from the outpatient Department of Oral Medicine and Diagnostic Radiology of Swargiya Dadasaheb Kalmegh Smruti (SDKS) Dental College and Hospital, Nagpur, Maharashtra, India, presenting for the smile evaluation and with the complaint of excessive lip fullness. The participants were selected on the basis of the following criteria:

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Access this article online

Quick Response Code:

Website: www.jcasonline.com

DOI: 10.4103/JCAS.JCAS_95_19

How to cite this article: Puri S, Nandanwar J, Kasatwar A, Shewale A. Crab claw reduction cheiloplasty: The Indian way. J Cutan Aesthet Surg 2020;13:173-7.

1. Patient with aesthetic concern
2. Excessively large lip interfering with pronunciation and eating
3. Absence of hereditary/congenital abnormalities, cracking of lips, patients with cleft lip, competent lip, and history of surgery in selected area
4. Smokers

Before initiating this case series, the purpose and design of this technique was explained to the patients and informed consent was signed by every patient.

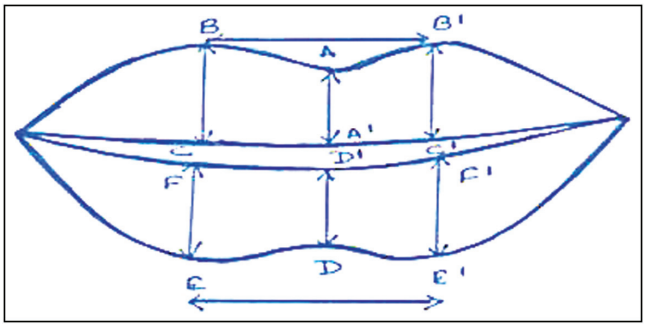

Figure 1: Measurements of upper and lower lip. Upper lip: The measurements recorded were distance from the vermillion border (A) to the lip line at midline (A^1) and 5 mm apart from midline on left (B^1 and C^1) and right side (B and C) and distance between the two peaks (B and B^1) corresponding to the philtral ridges at rest position. Lower lip: The measurements recorded were distance from the vermillion border (D) to the lip line at midline (D^1) and 9 mm apart from midline on left (E^1 and F^1) and right side (E and F) and the distance between the two peaks (E and E^1) corresponding to the philtral ridges at rest position

Measurements of lip

The clinical parameters were measured with the help of dental floss and Williams graduated periodontal probe as shown in Figure 1.

Surgical procedure

The surgical protocol emphasized complete asepsis and infection control. Then the area of surgery was dried completely with the help of surgical gauze. The assessment of the excessive mucosa was carried out with the help of adjuvant pinch technique using tissue forceps. Excessive mucosal area was marked by using a marker pencil as shown in Figure 2A, resembling a crab claw. After topical anesthesia (2% lidocaine and epinephrine 1:100,000), infraorbital, mental, and oral commissure block were administered.

While squeezing the upper lip between the fingers of the left hand to limit bleeding, a number 15 blade was used to excise the mucosal tissue, making sure the incision was slightly beveled so as to excise a wedge of tissue [Figures 2B, 2C]. Hemostasis was achieved with the help of fine needle tip electrocautery (Servotome, Satelec, Meriganc, France). Excision of the lower lip was conducted in a similar way, followed by careful hemostasis [Figure 3B and 3C]. Both the upper and lower lips were closed with a deep layer of interrupted 4-0 resorbable sutures (Vicryl®, (Ethicon, Somerville, New Jersey, USA)), followed by a cutaneous layer of interrupted resorbable 4-0 sutures (Vicryl). No dressing was required [Figures 2F and 3F].

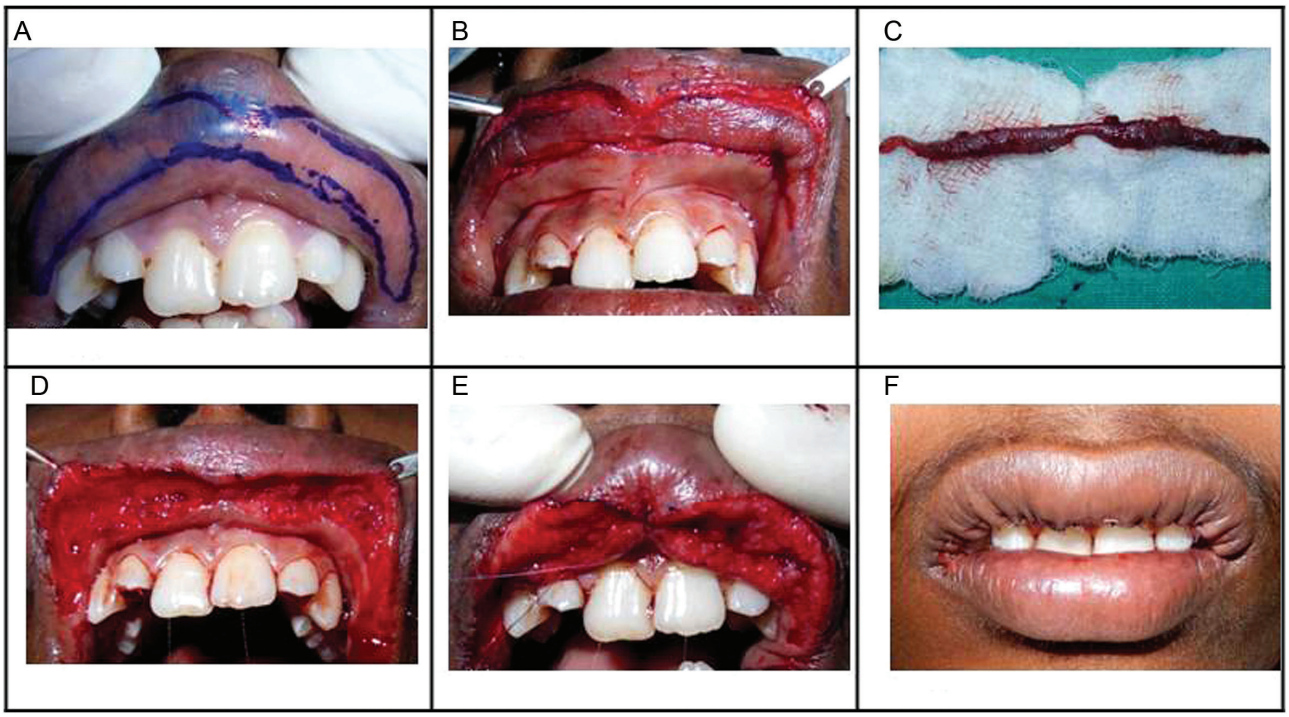

Figure 2: Cheiloplasty in upper lip. (A) Two horizontal marking showing excessive mucosal area resembling crab claw. (B) Incisions given. (C) Excised wedge of tissue. (D) Surgical wound after excision of tissue. (E) Initially suture placed in center. (F) After suture placed

Postoperative care

Nonsteroidal anti-inflammatory and systemic antibiotic three times a day was prescribed for 5 days post surgery. Patients were instructed to restrict the movement of lips for 2–3 days. They were advised to take liquid diet for 4–5 days. Patients were recalled after 1 week and 3 months for reevaluation.

Result

A total of nine subjects (six males and three females) with age range of 20–27 years (mean, 20.4 ± 6.5 years) associated with excessively large lips, were treated by using lip reduction surgery. During the course of study, wound healing was uneventful. A mean reduction of approximately 10 ± 0.70 mm at midline, 10.11 ± 1.05 mm on the right side, and 9.55 ± 0.72 mm on the left side of the lip was obtained in all the nine cases [Table 1]. No postoperative complication was observed in any of the patients, and all the patients were satisfied with the result, which was carried out through a survey completed by all the patients [Table 2].

Discussion

The aim of this technique was to minimize the excessive large lips by lip reduction surgery to restore an aesthetic labial contour. In this case series, mean reduction in the lip of approximately 5–7 mm was obtained in all the nine cases.

Many techniques for lip reduction have been proposed, but they are focused either on the reconstructive side (e.g., cleft palates, hemangiomas, and siliconomas) or

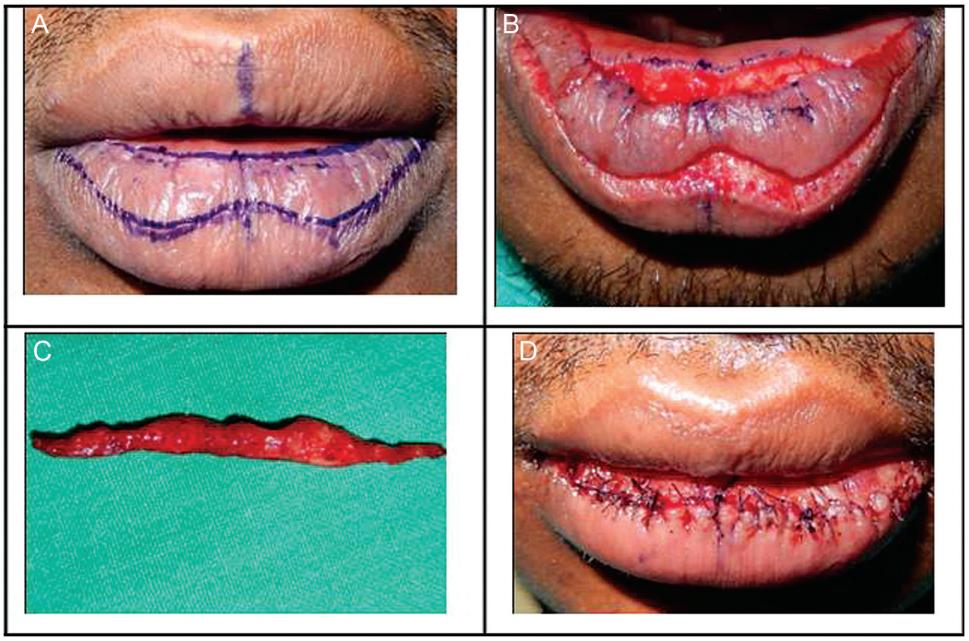

Figure 3: Cheiloplasty in lower lip. (A)Two horizontal marking showing excessive mucosal area. (B) Incisions given. (C) Excised wedge of tissue. (D) Lip mucosa sutured to the alveolar mucosa

Table 1: Measurements for cases preoperative and 6 months postoperative

Case	Surgical site	Pre-op at midline (AA^1)	Post-op at midline AA^1)	*P* test	Pre-op right side (BC)	Post-op on right side (BC)	*P* test	Pre-op on left side (B^1C^1)	Post-op on left side (B^1C^1)	*P* test	Distance between two peaks (pre-op)	Distance between two peaks	*P* test
AB	Upper lip	16	9		16	9		16	9		16	12	
AC	Lower lip	18	11		18	11		18	11		18	13	
AD	Upper lip	18	10		18	11		18	9		15	11	
BE	Upper lip	17	10		18	9		17	9		14	10	
FG	Lower lip	16	9		16	9		16	9		18	11	
UV	Lower lip	16	10		16	9		17	10		15	10	
RT	Upper lip	18	11		17	11		18	9		16	11	
SU	Lower lip	17	10		17	11		17	10		16	10	
MN	Upper lip	18	10		18	11		18	10		17	11	
Mean ± SD		17.11 ± 0.92	10 ± 0.70	<0.001	17.11 ± 0.92	10.11 ±1.05	<0.001	17.22 ± 0.83	9.55 ± 0.72	<0.001	16.11 ± 1.3	11 ± 1	<0.001

Table 2: Patient satisfaction survey responses

Sr. no.	Question	Response options	Time point	
			Pretreatment (n = 9)	Posttreatment (n = 9)
1	How satisfied are you with your smile?	Not at all satisfied	9 (100%)	
		Slightly satisfied		
		Somewhat satisfied		3 (33.33%)
		Very satisfied		6 (66.66%)
		Extremely satisfied		
2	How satisfied are you with the amount of lip showing when you smile?	Not at all satisfied	7 (77.77%)	
		Slightly satisfied	2 (22.22%)	
		Somewhat satisfied		
		Very satisfied		8 (88.88%)
		Extremely satisfied		1 (11.11%)
3	How would you rate the amount of lip showing when you smile?	Way too little		2 (22.22%)
		Too little		7 (77.77%)
		About right		
		Too much	8 (88.88%)	
		Way too much	1 (11.11%)	
4	Having had this overall experience, would you choose to have lip surgery again?	Definitely would not		
		Probably would not		2 (22.22%)
		Probably would		5 (55.55%)
		Definitely would		2 (22.22%)

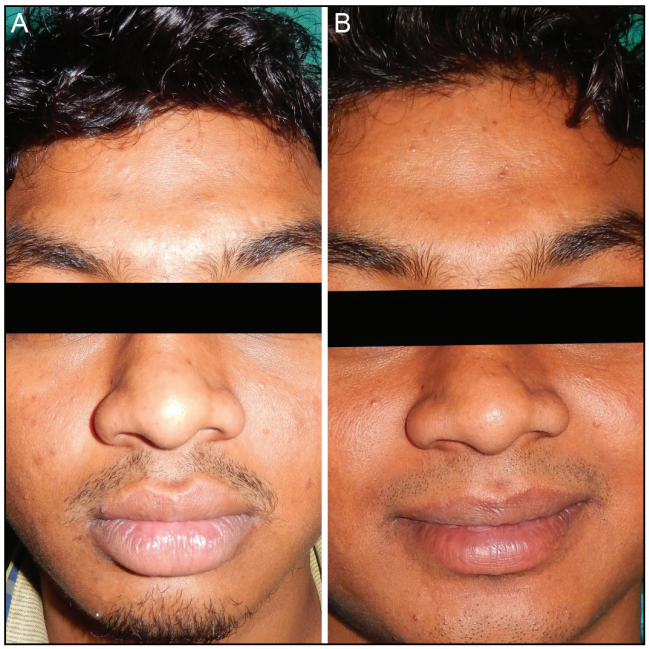

Figure 4: (A) Preoperative view for cheiloplasty in lower lip. (B) 6 months postoperative view for cheiloplasty in lower lip

Figure 5: (A) Preoperative view for cheiloplasty in upper lip. (B) 6 months postoperative view for cheiloplasty in upper lip

solely on the reduction aspect.[3-9] These techniques rarely emphasize the aesthetic contour of the lip. Pitanguy,[10] since the 1960s, has been one of the pioneer surgeons to approach lip contouring as a cosmetic procedure. His contribution to the importance of Cupid's bow has guided surgeons over the years in modern cheiloplasty.

In addressing hypertrophic lips, the common approach described in the literature advocates excising a horizontal wedge of soft tissue from both upper and lower lips (Pierce[11]). The present findings were also supported by a study conducted by Fanous *et al.*,[3] which stated that lip reduction procedure is a more thoughtful approach because it addresses the problem of lip volume while taking into account both the relative proportion of the lips and the aesthetic harmony of the labial unit.

The incisions were modified, which resembles crab claw to make the lip anatomy look more Indian way. The following limitations were found from the previous techniques: (1) normal lip anatomy was not considered, which varies from individual to individual, and (2) the incisions were not extended up to the commissures.

The goals of lip reduction surgery are to achieve a harmonious relationship between the upper and lower lips, balancing with the entire face, and to achieve normal lip competence.

Conclusion

This technique restores an attractive labial contour by shifting the shape toward a more "Indian way" and resulting in more aesthetically pleasant lips.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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