Journal of Nepal Dental Association (2009), Vol. 10, No. 1, Jan.-Jun., 65-67

Case Note

Reconstruction of lower lip defect with Karapandzic flap: A case report

Upadhyaya C[1], Aryal N[2]

[1]Lecturer, [2]Dental Surgeon, Dental Department, Kathmandu University Teaching Hospital, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal.

Abstract

Medium and large sized lower lip defects are often difficult to reconstruct and challenging to obtain an aesthetic appearance and an acceptable function. We report a patient who had squamous cell carcinoma of the lower lip and was treated with wide excision and reconstruction with Karapandzic flap. The post operative result was satisfactory with near to normal mouth opening and good sphincter action with good oral seal.

Key words: Karapandzic flap, Lower lip reconstruction

Introduction

Standard techniques for reconstructing small and medium sized defects of the lip are well-established and are constantly undergoing minor modifications and enhancements to suit particular situations. Many techniques have been advocated for the reconstruction of lower lip defects. Each procedure has its own merits and the choice must depend on the size of the defect and availability of tissue from the neighboring sources[1]. The sliding lower-lip reconstructive procedures are the Karapandzic and the Estlander flap. The Karapandzic flap is essentially a Gilles flap that maintains the nerve supply to the lower lip and has replaced the Gilles flap. This flap is a rotation-advancement flap along the nasolabial fold that pivots at the commissure and upper lip.

Karapandzic flap was introduced for lower lip reconstruction in 1974[2]. The advantage of this flap is one stage surgery to restore integration of orbicularis oris muscle with its sphincter action.

Case report

A 71 year old male patient came to the Dental OPD,Dhulikhel Hospital, Kathmandu University Teaching Hospital with a complaint of non healing ulcer over the lower lip for more than four months. On examination there was a chronic ulcer with everted margins over the lower lip measuring 3×4 cm. The ulcer involved the vermillion border and extended lingually till the labial mucosa. Submental, submandibular and other neck lymph nodes were not clinically palpable. Biopsy of the affected lower lip showed well differentiated squamous cell carcinoma. A wide excision and reconstruction with Karapandzic flap under general anesthesia was planned for this patient. Post-operative period was uneventful and the patient is still under follow up since one year with no further complains and recurrence.

Fig. 1: Ulcer on the lower lip involving the vermillion border.

Correspondence

Dr. Chandan Upadhyaya, Dental Department, Kathmandu University Teaching Hospital, Kathmandu University School of Medical Sciences, Dhulikhel, Nepal, E-mail: updch@yahoo.com

Fig. 2: Wide excision and design of Karapandzic flap.

Fig. 3: Sutures placed after reconstruction with Karapandzic flap.

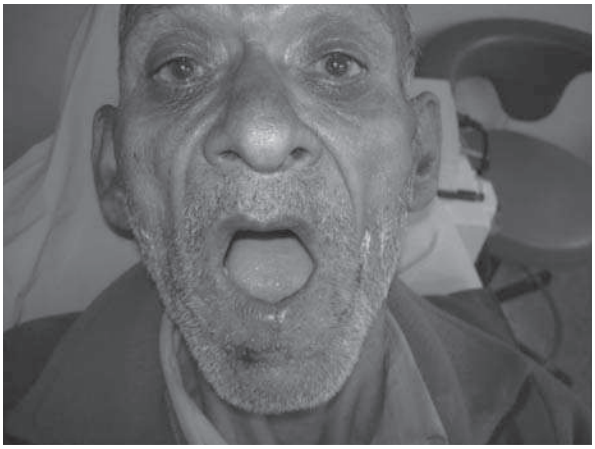

Fig. 4: 7th post operative day after suture removal.

Discussion

The lips are the primary aesthetic feature of the lower central face, with functional requirements that include speech, containing oral contents, and kissing. A hallmark of the lips is their mobility, which is critical for natural appearance and function. Reconstruction of lip defects is simple in that reconstruction, in most cases, is feasible, but complex in that a natural-appearing, dynamic reconstruction is often elusive[3].

The motor nerves of the lips originate from the buccal and marginal mandibular branches of the facial nerve. The buccal branch innervates the orbicularis oris muscle. Sensory innervation is via the infraorbital and mental branches of the trigeminal nerve. Blood to the lips is via the superior and inferior labial arteries from the external maxillary arteries.

The choices for lip reconstruction are plenty and include the remaining lip segment, the opposite lip using a cross-lip flap technique, the adjacent cheek and nasolabial area, the submental and chin area, and distant flaps including free flaps[4]. These options are organized in the order of decreasing preference. Functional goals for lip reconstruction include vermilion coverage, skin coverage, reapproximation of the commissure, maintenance of adequate stomal diameter for normal mouth opening and possible dentures, recreation of the oral sulcus, recreation of a competent oral sphincter, perioral sensation and cosmesis[4].

Luce reviews different reconstructive options for the lower lip when, defects less than 30% the direct approximation is indicated. For defects of 30-65%, the preferred method is a cross lip technique. The defects of 65-80% are best repaired with modified Webster or Karapandzic flaps. For total i.e. >80% defects, free composite flap or cheek transposition flaps are necessary[5].

Karapandzic carried tissue from the bilateral lower nasolabial fold by maintaining sphincteric continuity with perioral circumlinear incisions and including a neurovascular pedicle within the soft tissue. The motor function and sensation of the lips are thus never interrupted[1,2,6]. It is relatively easy to reconstruct the continuity of the orbicularis oris muscle. The Karapandzic method of lip reconstruction is advantageous because it reestablishes the integrity of oral sphincter and thereby maintains the oral competence. This technique is a single procedure and scars are located mostly in the natural labiomental groove or nasal still. The indication of its adequacy is a well marked nasolabial fold[1,2]. The disadvantages of this flap are microstomia and tightening of lower lip with distortion. Despite of these disadvantages, Karapandzic flap can serve as an excellent choice for the reconstruction of the lip and provides good aesthetic and functional result in most of the cases.

References

1. Jabley ME, Clement RI, Orcutt TW. Myocutaneous flaps in lip reconstruction. Application of the Karapandzic principle Plast Reconstr Surg 1977;59(5):680-8
2. Karapandzic M Reconstruction of lip defects by local arterial flaps.Br J Plast Surg 1974;27:93-7
3. Meyer R, Abul Failat AS. New concepts in lower lip reconstruction. Head Neck Surg 1982;4(3):240-5
4. Wilson JS, Walker EP. Reconstruction of the lower lip. Head Neck Surg. 1981;4(1):29-44.
5. Luce EA.Reconstruction of the lower lip .Clin Plast Surg 1995;22:109-21
6. Webster RC, Coffey RJ, Kelleher RE. Total and partial reconstruction of the lower lip with innervated muscle bearing flap. Plast Reconstr Surg 1960;25:360-7.

LETTER TO THE EDITOR

Letter to the editor is welcome and generally should not exceed 500 words and cite more than three references. It should reach in time to be included in the next issue of the journal. Correspondents should include, job title and their address. Letters can be sent by email to editor@jnda.com.np