International Surgery Journal
Sahai R et al. Int Surg J. 2020 Jul;7(7):2442-2445
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20202868

Case Report

Managing lip large papilloma extirpation defect by arterialized advancement vermilion flap

Rahul Sahai[1], Sudhir Singh[2]*

[1]Department of Plastic Surgery, S. N. Medical College, Agra, U. P., India
[2]Department of Plastic Surgery, Getwell Hospital, Varanasi, U. P., India

Received: 09 May 2020
Revised: 15 June 2020
Accepted: 16 June 2020

***Correspondence:**
Dr. Sudhir Singh,
E-mail: s.sulekha@gmail.com

ABSTRACT

The close resemblance of squamous papilloma with verrucous carcinoma and the chief etiological factor associated with its development, the human papillomavirus (HPV) raises a doubt about its close association with malignancy. The best way to treat HPV growths is surgical removal and assessment of lesion by histopathology. The defect needs reconstruction with full function and aesthetic outlook. Thirty-seven years old young man with history of tobacco chewing developed slow growing papilloma in upper lip in one year. It was excised fully and the defect was repaired by arterialized lip vermilion mucosal flap based on slightly tortuous labial vessel and so the flap could be elastically stretched even up to fifty percent of lip length and applied successfully. Same patient developed papilloma in lower lip as a separate primary after two years of nonrecurrence of previous operated upper lip papilloma. Lower lip lesion was excised similarly and repaired with same type of vermilion mucosal advancement flap from adjacent part of lower lip defect created. The post-operative period was uneventful and after three years of last operation there is no recurrence in either lip. Vermilion flap which is based on labial artery containing composite tissue comprising of mucosa and portion of orbicularis muscle mainly has been utilized to reconstruct the post excision papilloma lip defect with excellent functional and aesthetic results. There was no microstomia. It is single stage not involving donor site like tongue or cheek mucosa and is good upto half of lower lip defects.

Keywords: Vermilion arterialized advancement flap, Lip defect, Papilloma

INTRODUCTION

Lip squamous papilloma is common mucosal mass. It is manifested as a papillary or verrucous exophytic mucosal mass due to benign proliferation of the stratified squamous epithelium. Since associated with verrucous carcinoma due to the human papillomavirus (HPV) as a cause raises a doubt about its close association with malignancy.[1] Persistent infection with HPV is considered to be the main cause for the occurrence of cervical cancer but HPV in majority of white oral mucosal lesions manifests as flat, exophytic, wart-like, or papillary proliferations. HPV6, 11, 13, and 32 are associated with low risk HPV types but association of high-risk types of HPV such as HPV16, 18, 31, 33, and 35 are mainly seen with cervical cancers.[2] However, HPV prevalence in malignant head and neck tumors varies widely (1-100%).[3] High-risk HPV types have been detected in hyperplastic and dysplastic mucosal lesions of the oral cavity.[4] Keeping in mind, the association of this lesion with oral dysplasias and carcinomas an early diagnosis clinically as well as histopathologically becomes important and so the resection of the papilloma in first sitting is very important. However, excision of big lip papilloma requires aesthetic and functional reconstruction having proper lip seal and sphincteric mechanism. Here

we are going to discuss one case of papilloma of upper lip treated initially and then again treated for lower lip papilloma occurrence after two years with adjacent arterialized vermilion advancement flaps with good aesthetic and functional results.

CASE REPORT

Thirty-seven years old young man with history of tobacco chewing developed slow growing papilloma in upper lip in one year (Figure 1). It was excised fully and the defect was repaired by arterialized lip vermilion mucosal flap based on slightly tortuous labial vessel and so the flap could be elastically stretched even up to fifty percent of lip length and applied successfully (Figures 2-5). Same patient developed papilloma in lower lip as a separate primary after two years of nonrecurrence of previous operated upper lip papilloma (Figure 6). Lower lip lesion was excised similarly and repaired with same type of vermilion mucosal advancement flap from adjacent part of lower lip defect created (Figure 7 and 8). The post-operative period was uneventful and after three years of last operation there is no recurrence in either lip.

Figure 1: Pre-operative papilloma of upper lip of one-year duration.

Figure 2: Intra-operative upper lip defect created.

Figure 3: Arterialized vermilion flap.

Figure 4: Reconstructed lip.

Figure 5: (a) Image after one month and (b) after one month of repair.

Figure 6: Lower lip papilloma after two years with no recurrence of operated upper lip.

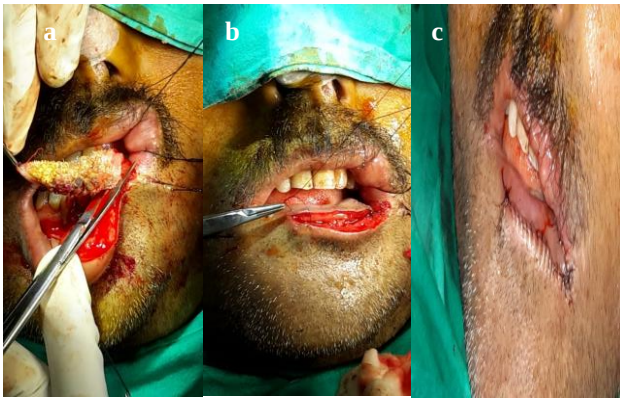

Figure 7: (a) Excision, (b) arterialized advancement vermilion flap of lower lip and (c) reconstructed lower lip.

Figure 8: (a) Good lip seal - after total 5 years and 3 years follow up for upper and lower lips reconstruction and (b) normal mouth opening - after total 5 years and 3 years follow up for upper and lower lips reconstruction.

Vermilion flap which is based on labial artery containing composite tissue comprising of mucosa and portion of orbicularis muscle mainly has been utilized to reconstruct the post excision papilloma lip defect with excellent functional and aesthetic results. There was no microstomia. It is simple single stage without involving donor site from near different organs like tongue or cheek mucosa. It involved the local tissue of lip only and very good upto half of lower lip defects.

DISCUSSION

Lip squamous papillomas are benign proliferating lesions induced by human papilloma virus. These lesions are painless and slowly growing masses. Squamous papilloma is the most common benign oral epithelial lesion, and it is well known to be associated with human papilloma virus 6 and 11 and even with human papilloma viruses (HPV)-32.[3] The close resemblance of squamous papilloma with verrucous carcinoma and the chief etiological factor associated with its development, the human papillomavirus (HPV) raises a doubt about its close association with malignancy.[1] The best way to treat HPV growths is surgical removal and assessment of lesion by histopathology. The defect needs reconstruction with full function and aesthetic outlook. Numerous methods have been described for lip repair and are available.[5-14] There are many methods for reconstruction of loss of tissue of the lip.[15] Superficial skin or mucosa loss after excision of the lesion should not be covered by skin graft or mucosa as required because it is unaesthetic and may break the Klien line or vermillion white roll if it crosses its borders. Flaps are far better choice. Lip reconstruction methods can be classified according to its mucosa and skin structure. Red lip vermillion can be constructed by tongue flap, advancement mucosal flap, buccal musculocutaneous flap and mucosal graft with its advantages and disadvantages. Mucosal graft is not aesthetically good and tongue flap is tedious requiring two stages and involvement of donor tissue from other organ.[16] Buccal flap sacrifices tissue from cheek mucosa. However advancement mucosal vestibular flap from local defect area is found to be better suited for cosmetic lip coverage in lip defect but gives thin appearance of reconstructed lip.[17] Vermilion myomucosal or myomucosalcutaneous arterialized advancement flap is an axial patterned flap based on the marginal labial artery encircling the lip.[18,19] The labial artery runs in slightly spiral pattern and so can be elastically elongated even to cover fifty percent of lip vermilion defect and restore the orbicularis sphincter ring without comprising mouth opening size, function and aesthetics compromise.[20] The labial vessels bifurcate from the facial artery crossing the cheek near the labial commissure. They are the same vessels that the Abbe, Estlander and Karapandzics used in their flap designs.[6,7,21.22] The reconstruction of lip defects should go for good aesthetic result and preserve the function of the oral sphincter.[23] The available vermilion tissue is raised as an aesthetic subunit containing the labial artery within a composite tissue sandwich consisting of orbicularis oris muscle and labial mucosa on the posterior aspect and orbicularis and labial skin on the anterior aspect. Cutting through the mucocutaneous junction of the vermilion with lip skin exposes the orbicularis muscle. Reconstructing the lip defect upto fifty percent extent can be done from available lip tissue left after removal of papilloma lesion is the method of choice and has good functional and cosmetic outcomes. It has good sphincter function and lip seal.

CONCLUSION

Papilloma of lip is unsightly and surgical removal is best option followed by adjacent arterialized myomucosal or myomucocutaneous vermilion advancement flap based on marginal labial artery. The flap seems to be elastic in nature as it can easily cover even fifty percent of lip defect created by excision of lip papilloma. Here the patient has no recurrence even after long period of follow-up and has good cosmetic and functional lip seal.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Terai M, Hashimoto K, Yoda K, Sata T. High prevalence of human papillomaviruses in the normal oral cavity of adults. Oral Microbiol Immunol. 1999;14:201-5.
2. Varnai AD, Bollmann M, Bankfalvi A, Kovacs K, Heller H, Schmitt C, et al. The prevalence and distribution of human papillomavirus genotypes in oral epithelial hyperplasia: Proposal of a concept. J Oral Pathol Med. 2009;38:181-7.
3. Sabeena S, Pallade SR, Kamath N, Mathew M, Arunkumar G. Papilloma of lip associated with human papilloma viruses-32 infection in a child. Indian J Med Microbiol. 2016;34(1):97-9.
4. Bouda M, Gorgoulis VG, Kastrinakis NG, Giannoudis A, Tsoli E, Afentaki D, et al. High risk HPV types are frequently detected in potentially malignant and malignant oral lesions, but not in normal oral mucosa. Mod Pathol. 2000;13:644-53.
5. Mazzola RF, Lupo G. Evolving concepts in lip reconstruction. Clin Plast Surg. 1984;11:583-617.
6. Walker JC, Sawhney OP. Free composite lip grafts. Plast Reconstr Surg. 1972;50:142-6.
7. Jabaley ME, Orcutt TW, Clement RL. Applications of Karapandzic principle of lip reconstruction after excision of lip cancer. Am J Surg. 1976;132:529-32.
8. Johanson B, Aspelund E, Breine U, Holmstrom H. Surgical treatment of nontraumatic lower lip lesions with special reference to the step technique: a follow-up on 149 patients. Scand J Plast Reconstr Surg. 1974;8:232-40.
9. Owens N. Simplified method of rotating skin and mucous membrane flaps for complete reconstruction of the lower lip. Surgery. 1944;15:196-200.
10. Manafi A, Moghadam MA, Mansouri M, Bateni H, Arshad M. Repair of Large Lip Vermilion defects with Mutual Cross Lip Musculomucosal Flaps. Word J Plast Surg. 2012;1(1):3-10.
11. Kuttenberger JJ, Hardt N. Results of a modified staircase technique for reconstruction of the lower lip. J Craniomaxillofac Surg. 1997;25:239-44.
12. Karapandzic M. Reconstruction of lip defects by local arterial flaps. Br J Plast Surg. 1974;27:93-7.
13. Kawamoto HK. Correction of major defects of the vermilion with a cross-lip vermilion flap. Plast Reconstr Surg. 1979;64:315-8.
14. Estlander J. A method of reconstructing loss of substance in one lip from the other lip. Plast Reconstr Surg. 1968;42:360-4.
15. Neligan PC. Strategies in lip reconstruction. Clin Plast Surg. 2009;36:477-85.
16. Zarem HA, Greer DM. Tongue flap for reconstruction of the lips after electrical burns. Plast Reconstr Surg. 1974;53:310-2.
17. Manstein CH. Vermilionectomy and mucosal advancement. Plast Reconstr Surg. 1997;100:1363.
18. Goldstein MH. A tissue expanding vermilion myocutaneous flap for lip repair. Plast Reconstr Surg. 1984;73:768.
19. Goldstein MH. The elastic flap for lip repair. Plast Reconstr Surg. 1990;85:446-52.
20. Abbe R. A new plastic operation for the relief of deformity due to double harelip. Med Rec. 18981;53:477.
21. Ethunandan M, Macpherson DW, Santhanam V. Karapandzic flap for reconstruction of lip defects. J Oral Maxillofac Surg. 2007;65:2512-7.
22. Westreich R, Meisner J, Reino A, Lawson W. The use of combined Bernard-Webster and Karapandzic flaps for subtotal lower lip reconstruction. Plast Reconstr Surg. 2008;121:340-1.
23. Constantinidis J, Federspil P, Iro H. Functional and aesthetic objectives in the reconstruction of lip defects. Facial Plast Surg. 1999;15:337-49.

Cite this article as: Sahai R, Singh S. Managing lip large papilloma extirpation defect by arterialized advancement vermilion flap. Int Surg J 2020;7:2442-5.