

The Rhombic Bilobed Flap, a Simple, Geometrically Designed Flap

Yoshiaki Sakamoto, Hideo Nakajima, Kazuo Kishi

Department of Plastic and Reconstructive Surgery, Keio University School of Medicine, Tokyo, Japan

Address for correspondence: Yoshiaki Sakamoto, Department of Plastic and Reconstructive Surgery, Keio University School of Medicine, 35 Shinanomachi, Shinjuku-ward, Tokyo - 160-8582, Japan. E-mail: ysakamoto@z8.keio.jp

ABSTRACT

We describe a combination of the common rhomboid flap and bilobed flap and provide an example of its use. The rhombic bilobed flap is simple to use and is associated with fewer complications, such as pin-cushioning and standing cone deformities, while minimizing the risk of skin necrosis and tension on the flap.

KEYWORDS: Bilobed flap, rhomboid flap, skin cancer, skin flap

INTRODUCTION

The goals of facial reconstruction surgery centre on closing defects in an inconspicuous manner. Fortunately, the robust vascular supply of the face allows for many reconstructive options using localized flaps. The rhomboid flap is commonly used for facial skin defects because of its simple design. However, a severe transposition may result in the development of a standing cone deformity, making closure of the flap difficult as a result of the tension on the tissue. If the raised flap region is closed, severe tension will also lead to the development of other deformities that affect facial symmetry. To solve this problem, we have employed a modification of the bilobed flap.

TECHNIQUE

To create the modified rhombic bilobed flap design, an ABCD rhombus, with angles of 60 and 120 degrees, is drawn around the defect. The first lobe of the bilobed flap is formed by constructing a standard Dufourmental type of rhombic flap^[1] and the BAD angle is the same as the DEF angle, which makes the first lobe of the bilobed flap equal to the size of the defect. The second lobe of the flap is created from half to two-thirds of the first lobe. The angle of FGH is also equal to the angles of BAC [Figure 1].

A representative case of a 68-year-old man with a 9 mm, benign nevus on the side of his nose is described. One-year post-operatively, the ectropion of the inferior eyelid and the nasal deformities were no longer apparent; the patient was satisfied with the result [Figure 2].

DISCUSSION

The original rhombic bilobed flap concept required that the lengths of the sides of the flaps be the same but that the angles at the tips of the flaps be small.^[2,3] When using this approach, necrosis was noted at the tips of the second lobe because of its greater distance from the base of the flap. Therefore, we changed the design so that the angles at the vertices of the flaps were the same. This allowed the sides of the first lobe, around the defect, to be the same but the lengths of the sides of the second lobe to be shorter. Using this design, we did not note any skin necrosis.

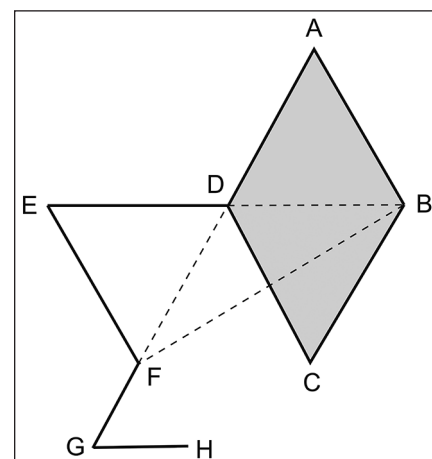


Figure 1: Design of the bilobed rhombic flap

Access this article online

Quick Response Code:



Website:
www.jcasonline.com

DOI:
10.4103/0974-2077.146670

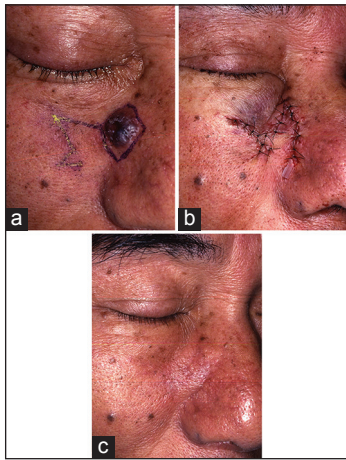


Figure 2: Defect reconstruction. (a) Nevus cell nevus on the side of the nose and the planning of the flap (b) immediately after the operation And the (c) 1-year post-operative result

The bilobed flap design has advantages over the single flap design in that the tension and stress on the skin can be dispersed across two flaps rather than across the single flap.^[4] A standard bilobed flap has the disadvantage of pin-cushioning that often develops as a result of the curvilinear flaps; the incidence of pin-cushioning is reported to be 5%.^[5] The precise geometric design of the revised rhombic bilobed flap decreases

the incidence of pin-cushioning by producing angular corners.

CONCLUSION

In conclusion, the revised rhombic bilobed flap is very simple to use and is associated with fewer complications, including pin-cushioning and standing cone deformities, while minimizing the risk of skin necrosis and tension on the flap.

REFERENCES

1. Limberg AA. Modern trends in plastic surgery. Design of local flaps. *Mod Trends Plast Surg* 1966;2:38-61.
2. Iida N, Ohsumi N, Tonegawa M, Tsutsumi K. Simple method of designing a bilobed flap. *Plast Reconstr Surg* 1999;104:495-9.
3. Dinehart SM. The rhombic bilobed flap for nasal reconstruction. *Dermatol Surg* 2001;27:501-4.
4. Esser JF. Stalked local rhinoplasty with bilobed flap, cover the secondary defect from the first lobe by the secondary lobe. *German for surgery* 1918;143:385.
5. Moy RL, Grossfeld JS, Baum M, Rivlin D, Eremia S. Reconstruction of the nose utilizing a bilobed flap. *Int J Dermatol* 1994;33:657-60.

How to cite this article: Sakamoto Y, Nakajima H, Kishi K. The rhombic bilobed flap, a simple, geometrically designed flap. *J Cutan Aesthet Surg* 2014;7:160-1.

Source of Support: None of the authors has a financial interest in any of the products, devices or drugs mentioned in this manuscript.

Conflict of Interest: The authors report no conflicts of interest.

Author Help: Reference checking facility

The manuscript system (www.journalonweb.com) allows the authors to check and verify the accuracy and style of references. The tool checks the references with PubMed as per a predefined style. Authors are encouraged to use this facility, before submitting articles to the journal.

- The style as well as bibliographic elements should be 100% accurate, to help get the references verified from the system. Even a single spelling error or addition of issue number/month of publication will lead to an error when verifying the reference.
- Example of a correct style
Sheahan P, O'leary G, Lee G, Fitzgibbon J. Cystic cervical metastases: Incidence and diagnosis using fine needle aspiration biopsy. *Otolaryngol Head Neck Surg* 2002;127:294-8.
- Only the references from journals indexed in PubMed will be checked.
- Enter each reference in new line, without a serial number.
- Add up to a maximum of 15 references at a time.
- If the reference is correct for its bibliographic elements and punctuations, it will be shown as CORRECT and a link to the correct article in PubMed will be given.
- If any of the bibliographic elements are missing, incorrect or extra (such as issue number), it will be shown as INCORRECT and link to possible articles in PubMed will be given.