



V-Y Nasolabial Flap for Reconstruction After Basal Cell Carcinoma Excision

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ABSTRACT

Background: Basal cell carcinoma (BCC) is the most common malignancy worldwide.¹ It is usually found in older populations, particularly those exposed to ultraviolet radiation. It is almost always curable when detected and treated early. Surgery remains the cornerstone of BCC treatment, but standard excision results in defects requiring reconstruction. A V-Y flap is a popular option for smaller defects due to its advantages. **Case:** A 33-year-old male with a blackened lesion on the left vermilion border of the upper lip with a diameter of 2 cm for three months, suspected of basal cell carcinoma. The patient underwent wide excision, and the defect was reconstructed using a V-Y flap. **Conclusion:** Wide local excision is a treatment of choice for BCC to ensure clear margins, preventing further local recurrence and distant metastasis. V-Y advancement flap is preferable for the reconstruction of small to medium size facial defects with less scarring and better aesthetic results.

Keywords: Basal cell carcinoma, reconstruction, VY Flap

ABSTRAK

Latar belakang: Karsinoma sel basal (KSB) adalah keganasan yang paling sering ditemukan di seluruh dunia; biasanya pada populasi usia lanjut, khususnya yang terpapar radiasi sinar ultraviolet. KSB hampir selalu dapat disembuhkan apabila terdeteksi dan diberi tata laksana secara dini. Pembedahan tetap merupakan landasan tata laksana KSB, akan tetapi eksisi standar akan meninggalkan defek yang membutuhkan rekonstruksi. Untuk defek yang lebih kecil, flap V-Y merupakan pilihan populer karena kelebihanannya. **Kasus:** Seorang laki-laki usia 33 tahun dengan lesi berwarna hitam di batas vermilion kiri di atas bibir dengan diameter 2 cm sejak 3 bulan, diduga karsinoma sel basal. Pasien menjalani operasi eksisi luas dan defeknya direkonstruksi menggunakan flap V-Y. **Simpulan:** Eksisi lokal luas adalah tata laksana pilihan KSB untuk memastikan margin yang jelas, mencegah rekurensi lokal, dan metastasis jauh. Flap V-Y lebih dipilih untuk defek wajah dengan ukuran kecil hingga sedang karena bekas luka yang lebih kecil dan secara estetika lebih baik. Sarah Anjani Putri, Yugos Juli Fitra, Kurniadi. V-Y Nasolabial Flap untuk Rekonstruksi setelah Eksisi Karsinoma Sel Basal.

Kata kunci: Flap VY, karsinoma sel basal, rekonstruksi



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BACKGROUND

Skin cancer is the third most common malignancy in Indonesia after cervical and breast cancer.¹ A type of skin cancer, keratinocyte carcinoma, is the most common malignancy in the human population worldwide² and presents as a significant global health problem.³ Basal cell carcinoma (BCC) comprises 80% of all keratinocyte carcinomas.² This malignancy rarely causes mortality and primarily happens in immunocompromised patients. Metastasis is more likely to result from uncommon aggressive histological types of BCC and only attributed to 1% of the disease. However, BCC has high morbidity due to its destructive local spread.

Basal cell carcinoma is a skin cancer that arises from the basal cells in the lower layer of the epidermis. The patient often presents with a slowly enlarging, nonhealing lesion with a pearly and translucent margin that may bleed following minor injury; it may also be accompanied by pruritus.⁴ This tumor is usually found in the face and the neck due to its exposure to ultraviolet radiation from sunlight as the main risk factor.⁵ An increased sun exposure during childhood and adolescence is a critical risk for BCC development in adults.⁶ BCC risk correlated with intermittent and intense sun exposure but not cumulative long-term exposures.⁷ Studies also showed a correlation between BCC and lighter skin color, tendencies to burn rather than tan, and

severe sunburns.⁸

There are three main clinical subtypes of BCC: nodular, superficial, and morphea form. The most common form is nodular BCC, accounting for about 60-80% of cases. It's usually presented as elevated nodules with pearl-shaped telangiectasia on the periphery and surface.⁹ Accounting for 15% of cases, superficial BCC is the second most common clinical subtype.¹⁰ The appearance of this subtype includes a well-circumscribed, scaly, pinkish-red macule, parched, or thin papule or plaque with or without a crust. It is usually found at a younger age, with a mean age of 57 years old.⁷ The most aggressive and uncommon subtype is morphea from BCC,

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also called sclerosing or infiltrating BCC due to its characteristics. The lesion usually presents as a scar-like plaque with a pink to whitish color and shiny, smooth surface or ill-defined bordered depressions.

While the morphologic characteristics of the lesion could determine a clinical diagnosis, the definite diagnosis should be by histopathology examination via biopsy. The results should show uniform cells with round or oval basophilic nuclei with larger size and darker color than nuclei of epidermal basal keratinocytes.¹¹

First-line therapy for BCC is surgical treatment by excision; the defect could later be repaired using primary closure as the most common method (39.5%), followed by a local flap (34.2%).¹²

Case

A 33-year-old male farmer with no smoking history and no relevant family history came to the hospital with an itchy, blackened lesion on the border of the upper lip, which had not resolved for three months. There was no history of weight loss, other skin lesions, or other systemic symptoms.



Figure 1. A round lesion on the upper lip area. (Source: personal documentation)

Physical examination showed a round lesion diameter of 2 cm bordering the vermilion on the upper left lip. The lesion had a blackened ulcerative surface, with crustae having a poorly differentiated and hyperemic border. There was no induration upon palpation and no tenderness.

Wide excision was selected as the treatment of choice to obtain good results and reduce

the chance of recurrence. The safety margin, in this case, was 0.5-1 cm, and the specimen was taken as deep as the muscle. A general surgeon did this procedure. The sample was sent for pathological diagnosis.



Figure 2. Post-incision. (Source: personal documentation)



Figure 3. Specimen sent for pathological examination (Source: personal documentation)

The defect was closed using VY nasolabial flap conducted by a plastic surgeon. The suture used for this flap was 4.0 vicryl for the inner part of the stitch and 5.0 nylon for the outer part.

The histopathology examination showed a free margin of tumor and basal cell carcinoma was confirmed as the definitive diagnosis. After 10 days, the patient came to the outpatient clinic. The examination showed a vital flap and an intact nasolabial fold.

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Picture 4. Reconstruction with VY nasolabial flap. (Source: personal documentation)



Picture 5. 10 days post-operation. (Source: personal documentation)

Discussion

Basal cell carcinoma is the most common malignancy worldwide in humans.⁷ This malignancy is often found on the face, an important cosmetic area for most patients.¹³ The main goals of BCC treatment are to eradicate the tumor to prevent a recurrence, to correct any functional impairment caused by the cancer, and to give the best cosmetic outcome.¹⁴ The lesion must be managed correctly by the oncological requirements while maintaining operational and cosmetic outcome.¹⁵ Various options are surgical removal, radiotherapy, cryosurgery, and other topical therapies; surgery remains the cornerstone of BCC treatment.^{16,17}

Standard excision is one of the surgical techniques often used for BCC. Conventional "bread loaf" excision is usually used to ensure complete removal with histologically negative margins to lower the recurrence rate.¹⁶ Standard excision to the depth of mid



subcutaneous adipose tissue and a 4 mm margin of uninvolved skin around the tumor was recommended.¹⁸

The reconstruction of face defects requires more attention because of its cosmetic importance. For smaller defects, primary closure is usually used to ensure the maintenance of similar skin color, texture, and thickness.¹⁹ However, it could distort anatomic structures. Skin graft could be an option for defect closure; some concerns may arise from a poor color match in the recipient site, especially in the Asian population.²⁰ Complications in the donor site could be pain and hypertrophic scarring.

The local flap is usually the treatment of choice to reconstruct facial defects. Its

advantages include a pleasing contour, color, texture match, and decreased scar contracture. Advancement or transposition flap can be used for defects with a similar area to the case. The rhomboid transposition flap is commonly used for significant defects; it transfers adjacent tissue to the defects and maintains its texture and color. However, it is not favorable for facial defects due to a large scar size. After closure, the tension along the scar line is difficult to be maintained; therefore, widening and depression of the scar could happen in the lines with maximum pressure.

Another technique is the V-Y advancement flap. This is a popular option, with the advantages of having similar tissue in the same operative field and a good blood supply.¹³ For this particular case, the location of the defects

is adjacent to the vermilion border. The results of the V-Y flap resemble the native vermilion border, and the lip symmetry is maintained. In this case, we used a nasolabial V-Y flap to keep the nasolabial fold and prevent facial distortion. Considering the functional and aesthetic outcome, the V-Y advancement flap is preferable in this case.

Conclusion

Wide local excision is a treatment of choice for BCC to ensure clear margins, and to reduce further local recurrence, and distant metastasis. V-Y advancement flap is preferable for the reconstruction of small to medium size facial defects with less scarring and better aesthetic results.

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