

Case report

Treatment of eyelid divided nevus using shave and graft: an alternative technique

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Divided nevus of the eyelid is an uncommon feature among congenital melanocytic nevi. To report the outcome after treatment of eyelid divided nevus using shave and graft technique. Two cases of small to moderate size divided nevus at the eyelids were demonstrated, one on medial part including upper and lower punctal area and the other on lateral part. Shave and graft were done to alleviate the nevus in one or two-staged of operation. Patients underwent the uneventful operation. Pathologic results found nevus, free surgical margin without malignant transformation. Cosmetic result was satisfactory. In patient with medial divided nevus, no epiphora was found at 7 months after surgery. Since one size does not fit-all, shave and graft from hidden redundant lateral skin may be an alternative technique for small to medium size divided nevus with good cosmetic result.

Keywords: Divided nevus, kissing nevus, treatment, shave excision, full-thickness skin graft.

Divided nevus of the eyelid is an uncommon feature among congenital melanocytic nevi. Review of literatures and many surgical techniques have been proposed to provide good cosmesis and functional results. We briefly described a surgical technique using shave and graft from hidden redundant lateral skin with splendid results.

Materials and methods

Two young adult females presented with medium-sized divided nevi for cosmetic concern, one at lateral canthal area and the other at medial canthal area. Surgical procedures were performed after comprehensive eye examination, verbal and written informed consents were obtained. The research followed the ethical principles (COE 054/2021) and adhered to the Declaration of Helsinki.

Surgical procedure

Local anesthetic agent using 1% lidocaine with adrenaline was injected beneath the lesions. Skin was

excised and undermined until reaching the eyelid margin with 2 mm. surgical margin. The lesion at eyelid margins was shaved and cauterized. A full-thickness skin graft (FTSG) was taken from the hidden redundancy at the lateral aspect of the eyelid fold, by pinch technique, in an elliptical shape. The graft was placed over the surgical wound and sutured. The shaved eyelid margin was left healed by secondary intention. The excised tissue was sent for permanent histopathological study. The procedure can be done in one or two separate sessions using both ipsilateral and contralateral upper eyelid skin.

Case 1

The patient, aged 26 years old, presented with slowly progressive divided nevus of the opposing upper and lower eyelid margins at lateral canthal area since birth. Ocular examination was unremarkable except irregular surfaced, intact eyelashes, blackish lesion, size 1.0 x 1.5 cm at the upper eyelid and 1.0 x 1.2 cm at lower eyelid closed to lateral canthal angle. (Figure 1a) After long discussion, patient preferred two separate operations under local anesthesia by doing the upper lid initially followed by lower eyelid three months apart with final result (Figure 1b, c, d). Patient was satisfied and lost to follow-up after 8-month post-operation. Steps of surgery were demonstrated (Figure 2).

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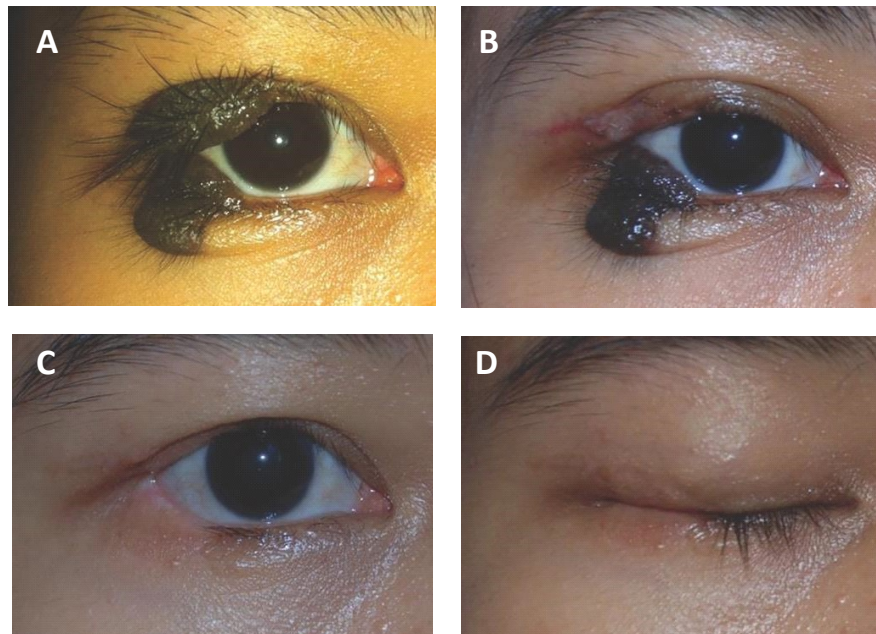


Figure 1. (A) Divided nevi at lateral canthal area of case 1, (B) 1 month after shave and graft at upper eyelid lesion, (C) 2 months after shave and graft lower eyelid lesion, (D) complete closure of right eye without gap between upper and lower eyelid.

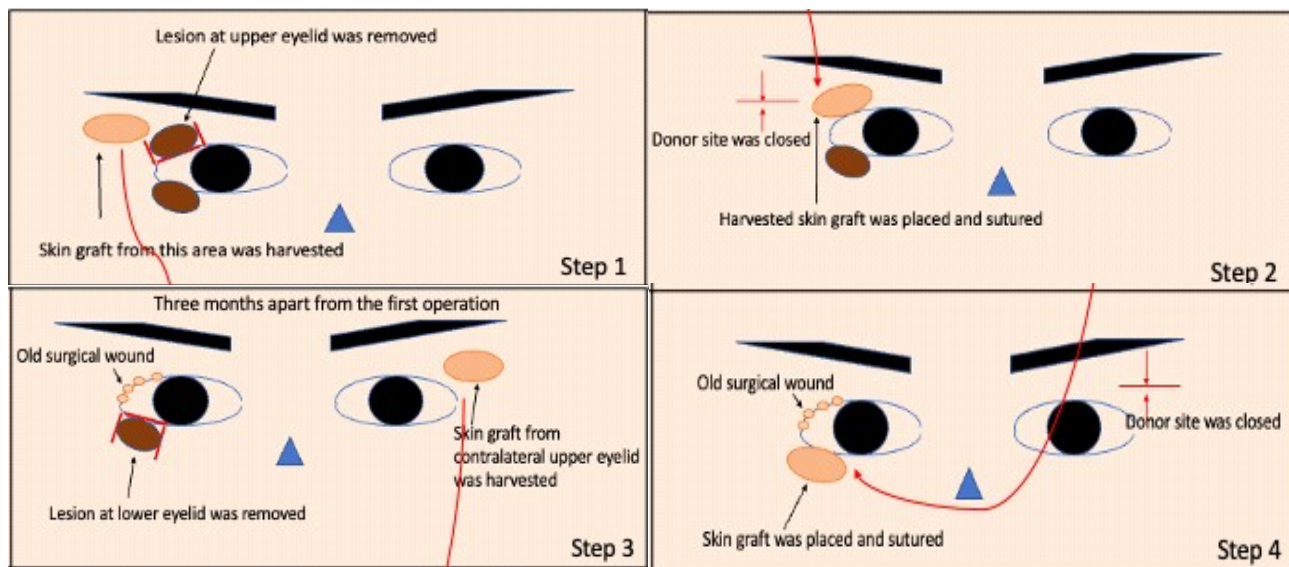


Figure 2. Surgical steps of the first patient.

Case 2

The patient, aged 22 years old, presented with slowly enlarged, divided nevus of the opposing eyelids at medial canthal angle since birth. Ocular examination was unremarkable except irregular surfaced, intact eyelashes, blackish lesion extended from the medial aspect of the upper eyelid to the medial canthus and lower eyelid, including the lower punctum and some distal part of canaliculus. Upper eyelid lesion was 1.1 x 0.8 cm and lower eyelid lesion was 1.0 x 0.6 cm. (Figure 3a). Operation was performed under general anesthesia in one session, starting at the left upper eyelid extended around the medial canthal angle to the lower eyelid. Lower punctum and small part

of canaliculus were excised. FTSG were taken from lateral skin fold of both upper eyelids, and placed over the surgical wounds forming an acute angle resembling medial canthal angle. Lower canaliculus occlusion was precluded by placing an annular loop silicone intubation. Concavity of lesion was observed in the initial postoperative period (Figure 3b). The shaved eyelid margin was left healed. Patient was re-evaluated at 1-week, 1-month, 3-month and 7-month after the operation (Figure 3c). At the last follow-up visit, patient had no epiphora. Lagophthalmos was not obviously noticed. The silicone tube was removed with patent drainage system. (Figure 4a, b).



Figure 3. (A) Divided nevus at medial canthal area of case 2 which involved upper and lower punctum, (B) Immediate post operation, concavity of medial aspect was observed, (C) One week after operation, good skin graft attachment with minimal ecchymosis was found, donor sites were within good cosmetic appearance.

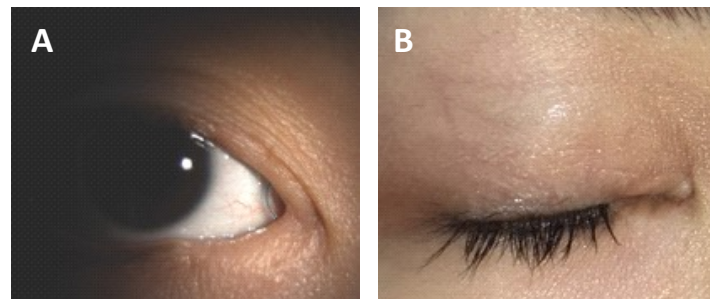


Figure 4. Seven month after the operation, (A) acceptable contour with retained silicone tube was observed. (B) No obvious lagophthalmos was seen.

Both cases demonstrated nevus, free surgical margin without malignant transformation.

Discussion

Divided nevus is an uncommon congenital disorder which predominantly occur in female gender. Patients mostly present with cosmetic concern, some also have psychological and functional problems such as tearing due to punctum occlusion.⁽¹⁾ Lesion can be small or as large as panda lesion around the periocular area. Size can be graded into 3 categories; small (< 1.5 cm), medium (1.5 - 19.9 cm), and large (> 20 cm).⁽²⁾ Management is challenging and various treatment modalities have been described as non-surgical methods such as dermabrasion, cryotherapy, laser both Nd-YAG and CO₂⁽²⁾, and several surgical techniques in reconstruction according to 8 different zones such as tarsoconjunctival flaps, myocutaneous

flap^(3,4), local flap, distant pedicle flap or FTSG for large lesions, modified Kuhnt-Szymanowski, amniotic membrane graft for mucocutaneous junction and conjunctiva with nearby skin advancement.⁽⁵⁾ Some surgeons prefer the entire lesion removal including eyelid margins, some prefer to leave the eyelid margin intact, in contradiction, for cosmesis concern and its function. Systematic review found 2.8% malignant transformation in large congenital melanocytic nevi greater than 20 cm.⁽⁶⁾ Most eyelid lesions fell into small to medium size category. For medium size lesion, eyelid reconstruction is intractable, staged surgery may be required.⁽⁷⁾ Moreover, Naik MN, *et al* described epithelial stripping in two-staged fashion by leaving the raw surface healed by secondary intention and temporary tarsorrhaphy which later split at 12 weeks.⁽⁸⁾ Our cases would be described as small lesions with eyelid margin and lacrimal drainage system

involvement. A simple technique by shave and graft was performed in this study. The surgical technique including skin removal and eyelid margin shaving, and the raw surface was covered by FTSG. Skin graft and myocutaneous flap are useful for lesions at lateral area of the eyelids. However, for lesions at medial aspect as the second case, skin graft from lateral redundant skin is convenient. Surgical technique is simple, under local anesthesia and less postoperative ecchymosis. Antibiotic eyedrop and ointment was prescribed to prevent infection and keep the wound in moisture as well. The shaving area was sooner filled-up, and maintained minimal concaved eyelid margin. The shaved eyelid margin without eyelashes can be camouflaged by eyeliner or hair transplantation afterwards. The result of this surgical technique was elegant without obvious scarring and unacceptable hump skin-flap by using the same skin texture, colour and thickness. For lesions involving the lacrimal punctum, mono-canalicular or bi-canalicular stent can be helpful to prevent the occlusion of the drainage pathway depending on the area of excision. In this study, surgeon chose silicone annular loop according to its achievable cost, instead of unaffordable mono/bi-canalicular stent with or without assisted endoscopy.

Conclusion

In conclusion, shave and graft may be one effective technique for small to medium size divided nevus of the eyelids.

Conflict of interest statement

Each of the authors has completed an ICMJE disclosure form. None of the authors declare any potential or actual relationship, activity, or interest related to the content of this article.

Data sharing statement

The present review is based on the reference cited. Further details, opinions, and interpretation are available from the corresponding authors on reasonable request.

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