

Combined Use of a Rotation Flap and High-Viscosity 2-Octyl Cyanoacrylate for Reconstruction of a Facial Defect After Excision of a Nodular Basal Cell Carcinoma by Mohs Micrographic Surgery

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High-viscosity 2-octyl cyanoacrylate (HVOCA) is a tissue adhesive that forms a strong bond across apposed wound edges, allowing normal healing to occur below. It is used to replace sutures in laceration or incisional repair. We report a case of an 88-year-old woman who underwent Mohs micrographic surgery for removal of a biopsy-proven nodular basal cell carcinoma on the right side of the nose. Two stages of Mohs surgery were required to achieve a cancer-free margin, and the surgical defect was corrected with a rotational flap and application of HVOCA on the superior surgical edge. In this case report, the cheek rotational flap along with HVOCA application on the nonsutured borders of the Mohs defect was successfully used for facial reconstruction. This combined approach in reconstructing the Mohs defect by scar positioning at the nasolabial fold level along with HVOCA application on the superior border of the surgical wound was a suitable treatment option for this patient.

An 88-year-old Hispanic woman with a biopsy-proven nodular basal cell carcinoma on the right side of the nose was referred to our clinic by a colleague for evaluation and consideration for Mohs micrographic surgery. The patient had a past medical history of hypertension, nervous disorder, and 2 squamous cell carcinomas in situ, which had been excised 4 years earlier. Current

medications included atenolol, valsartan, and sertraline. No drug allergies were reported.

At physical examination, a lesion on the right side of the nose presenting as a red, scaly papule and measuring 1.4×0.7 cm was detected (Figure, A). The patient was scheduled for Mohs micrographic surgery and reconstruction of the surgical defect.

After local anesthetic infiltration, the lesion, measuring 0.3×0.4 cm, was removed with Mohs micrographic surgery. Tissue samples were analyzed microscopically and mapped. Surgery was completed in 2 stages to reach a tumor-free margin.

The surgical defect (Figure, B), measuring 2.0×1.1 cm, was prepped and draped with sterile sheets and towels. After local anesthetic was infiltrated, a rotation flap from the right medial cheek was outlined, incised,

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Red, scaly papule measuring 1.4×0.7 cm at the right side of the nose before (A) and after (B) first stage of Mohs micrographic surgery. Patient is shown immediately after surgery and defect correction (C) and 2 days (D), 7 days (E), 2 weeks (with superior border healing well by second intention) (F), and 7 weeks (completed healed surgical defect) (G) after surgery.

and elevated. The wound edges were undermined in all directions, and homeostasis was achieved with spot electrocoagulation. The defect was closed with 10 buried subcutaneous sutures of 4-0 polyglactin and 1 running and 2 simple interrupted sutures of 5-0 nylon. The final suture line measured 4.0×1.5 cm (Figure, C).

After deep suturing, we tried to suture the superior part of the surgical defect, but our efforts resulted in pulling of the lower eyelid. We decided to remove the sutures at the superior part to prevent lower eyelid ectropion and distortion of cosmetic appearance and to let the area heal by second intention.

To approximate wound edges, maintain wound strength, and help prevent infection, we applied high-viscosity 2-octyl cyanoacrylate (HVOCA) tissue adhesive to cover and protect the wound defect. A pressure dressing consisting of topical sterile petroleum jelly, gauze, and paper tape was applied to the wound. Wound care instructions were given, and the patient was scheduled for follow-up visits.

RESULTS

The cheek advancement flap along with HVOCA application on the nonsutured borders of the Mohs defect

may be successfully used for facial reconstruction. This highlights the combined approach of scar positioning at the nasolabial fold level and HVOCA application on the superior border of the surgical wound. This case confirms that the flap works best when the donor area has more laxity than the recipient site. Satisfactory healing process and cosmetic outcome were obtained (Figure, D–G). We decided to use HVOCA in this case to avoid lower eyelid pulling, thereby preventing asymmetry and unwanted cosmetic results.

COMMENT

Mohs micrographic surgery is a specialized type of minimal margin surgery that allows for optimal histologic control and preservation of tissue during removal of various types of skin cancer.¹ HVOCA tissue adhesive is an alternative to traditional sutures for repair of lacerations and various surgical incisions. Its adhesive properties do not impair wound healing and may reduce the risk of infection by forming a film to cover the wound. Cosmetic outcomes with HVOCA have generally been favorable. The use of HVOCA in the repair of facial wounds after Mohs micrographic surgery was analyzed by

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Snizek et al,² who concluded that HVOCA was an excellent option for epidermal approximation of linearly closed wounds. However, the authors also noted that it should not be viewed as a replacement for epidermal sutures since there was no cosmetic difference between the results achieved with HVOCA and those achieved with epidermal sutures.

Surgical reconstruction of cutaneous defects on the head and neck is a challenging endeavor and can be achieved with grafts or flaps. Skin flaps enable rapid reconstruction when the color and texture of the donor site match those of the recipient site and there is adequate vascularization. The survival of a flap relies on adequate blood supply through its base and on neovascularization, which usually occurs 3 to 7 days after transfer.³⁻⁴

The junction between the nose and the cheek is a common site for the development of skin cancer. If removal of lesions from this area results in a defect that cannot be closed primarily, it is usually best to move cheek skin medially to cover the wound defect.²

For defects of the medial cheeks, maintaining the integrity and contour of the nasofacial sulcus is important to obtain a desired cosmetic result after reconstruction. In this case, a combination of surgical techniques was used to achieve optimal results during closure of the Mohs defect. The advancement of the tissue was based laterally, and the use of HVOCA along with the second-intention healing process on the more medial nasal sidewall helped prevent ectropion formation (Figure, G).

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