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악성 변화를 동반한 외상성 창상으로 발생한 광범위 안면부 결손의 이마 중앙부 피판술을 이용한 후 재건 : 증례 보고

Paramedian Forehead Flap Reconstruction for Extensive Central Facial Defect Following Malignant Transformation of a Chronic Traumatic Wound : A Case Report



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Purpose: Chronic non-healing facial wounds may undergo malignant transformation and result in extensive composite defects that challenge reconstruction. The paramedian forehead flap (PMFF) remains the gold standard for large nasal and central facial defects because of its robust vascularity and versatility. We present reconstruction of a massive central facial defect after basal cell carcinoma arising in a chronic traumatic wound.

Methods: A 59-year-old man presented with a chronic glabellar–nasal ulcer following nasal avulsion injury from a traffic accident. The lesion measured 9×7 cm with exposed bone and persistent infection. During planned reconstruction, intraoperative frozen biopsy revealed basal cell carcinoma consistent with malignant transformation in a chronic wound. Multidisciplinary staged wide excisions involving the glabella, nasal dorsum, medial cheek, medial canthus, lacrimal system, and ethmoid sinus resulted in an 11×9 cm composite defect without distant metastasis. Reconstruction was performed using a two-stage supratrochlear-based PMFF with skin grafting.

Results: The flap survived completely and provided stable soft-tissue coverage. Postoperative radiotherapy (60 Gy) was delivered without flap compromise. The patient maintained nasal airway patency and demonstrated acceptable aesthetic contour. Radiation-induced epiphora occurred but required conservative management. At 9-month follow-up, there was no evidence of recurrence.

Conclusion: Even in massive defects and suboptimal wound bed conditions caused by chronic infection, the PMFF provides reliable structural stability and superior aesthetic integration due to its excellent color, thickness, and texture match with nasal and midfacial skin. Therefore, the PMFF remains a reliable reconstructive option for extensive central facial defects following oncologic resection.



Fig 1. Preoperative clinical photographs at initial presentation (A, B). Large chronic ulcer involving the glabella and nasal dorsum following traumatic nasal avulsion injury. The wound demonstrates exposed bone, unhealthy granulation tissue, and extensive soft-tissue loss across the central facial aesthetic units.



Fig.2 First-stage surgical management and wound stabilization. (A) Immediate postoperative appearance following wide excision and split-thickness skin graft for temporary coverage and wound bed preparation. (B) One-month postoperative appearance demonstrating stable graft take and preparation for definitive reconstruction.

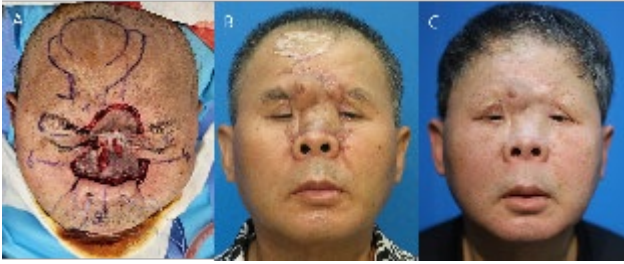


Fig 3. Definitive reconstruction using a paramedian forehead flap. (A) Intraoperative design of wide oncologic resection and supratrochlear-based paramedian forehead flap. (B) Early postoperative appearance following flap inset. (C) Seven-month postoperative appearance demonstrating stable coverage, restoration of central facial contour, and acceptable aesthetic outcome.