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만성 광선 손상에 기인한 극심한 피부 취약성을 동반한 진행성 협부 편평세포암의 미세혈관 재건술

Reconstruction of a Advanced-Stage Giant Cutaneous Squamous Cell Carcinoma Using an Anterolateral Thigh Free Flap and Early Secondary Ectropion Correction : A Case Report



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Purpose: Surgical management of giant squamous cell carcinoma (SCC) in patients with severe comorbidities requires a balance between radical resection and functional restoration. We present a case of T4a cheek SCC in a high-risk patient successfully reconstructed with an anterolateral thigh (ALT) free flap, followed by aggressive management of secondary ectropion.

Methods: A 70-year-old male Tungsten Inert Gas (TIG) welder with idiopathic pulmonary fibrosis and extreme skin fragility, secondary to occupational actinic damage from long-term TIG welding, underwent wide excision with a 1-cm safety margin guided by navigation and NIM neuro-monitoring. The procedure involved resection of the superficial parotid gland, masseter muscle, and intraoperatively confirmed eroded zygoma, followed by Stensen's duct ligation. A 15x7cm² ALT free flap was utilized for reconstruction, with viability assessed via indocyanine green (ICG) angiography.

Results: Histopathology revealed a moderately differentiated SCC (3.8x3.0cm²) with a 15-mm invasion depth and perineural invasion. Despite achieving clear margins, paralytic and mechanical ectropion developed immediately due to facial nerve branch sacrifice and flap weight. A lateral tarsal strip procedure was performed on postoperative day (POD) 11, which successfully restored the lower eyelid position and tension.

Conclusion: The ALT free flap is a robust option for extensive facial defects in medically compromised patients. Early functional intervention, such as the lateral tarsal strip, is crucial for managing secondary complications like ectropion to achieve optimal clinical results in complex head and neck reconstructions.

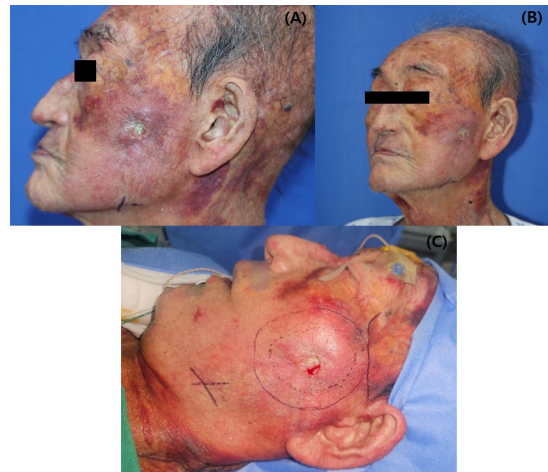


Fig. 1. (A, B) Preoperative photographs of squamous cell carcinoma on the left cheek, showing an ulcerative lesion and extreme skin fragility secondary to occupational exposure. (C) Intraoperative markings illustrating the planned resection extent.

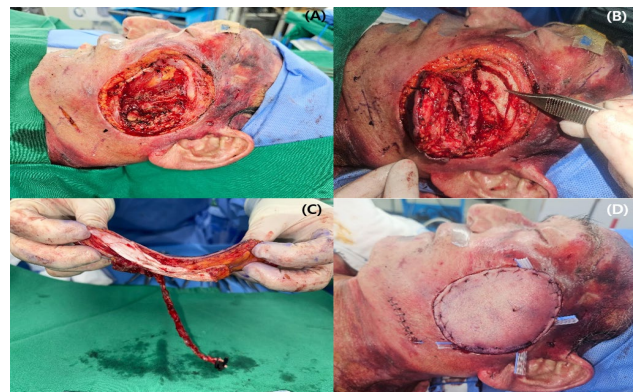


Fig. 2. Intraoperative photographs illustrating the surgical procedure. (A) Final defect after wide excision. (B) Deep resection involving superficial masseter muscle and part of zygoma. (C) Harvested anterolateral thigh (ALT) free flap with its vascular pedicle. (D) Immediate postoperative view after flap inseting.



Fig. 3. (A) Pre-operative view before lateral tarsal strip (LTS) procedure, each image shows symptomatic ectropion of the left lower eyelid. (B) Two weeks after LTS operation, the photo demonstrates improved ectropion and less conjunctival exposure. (C) 45 days after flap surgery.