

## CERVICOFACIAL FLAP IN RECONSTRUCTION OF FACIAL DEFECTS AND SCARS

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국문초록

### 경안 피판에 의한 안면 반흔 구축 및 결손 수복

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외상에 의한 안면부의 반흔 및 안면 중앙에 의한 결손은, 사회적 적용면에서 고찰할 때, 환자 자신에 대한 심리적 부담 및 타인에 대한 혐오감을 유발시킨다. 그러므로 안면부의 반흔 구축 및 결손 수복은 환자의 사회적 적응을 쉽게 유도해야 하며 방법적인 면을 고려할 때, 보다 심미적인 결과를 추구해야 한다.

일반적으로 안면 반흔의 구축 및 결손의 수복 방법에는 피부 이식 또는 피판 이식이 이용되고 있으나, 원거리 피부 이식의 결과, 안면부의 피부와 상이한 양태를 나타내고 있어 심미적이지 못하며, 안면부에서의 피판 이식은 수복할 수 있는 반흔 및 결손의 범위가 제한되어 있는 결점이 있다.

경안 피판에 의한 반흔 구축 및 결손 수복은 외반증을 동반할 수 있는 단점이 있으나, 혈류 공급이 우수하고, 봉합후 반흔이 적으며, 보다 광범위한 반흔 및 결손을 수복할 수 있고, 안면부 피부와 성상이 유사하여 보다 심미적이다.

본 교실에서는 화상에 의한 안면부 반흔과 혈관종 절제술에 의한 결손 수복에 경안 피판을 이용하여 심미적으로 우수한 결과를 얻었기에 저자들은 문헌 고찰과 함께 증례 보고를 하는 바이다.

### I. INTRODUCTION

In reconstruction defects of the cheek, distant flap and local flap provided useful replacement of cheek. Histologically, most surgeon preferred to employ local flap similar in color and texture to that in the area of the defect. Generally, local flap in cheek region was classified as advancement, rotation, and combination of both technique(Fig. 1).

In 1918, Esser described his use of rotational flap with several additive adjustments that leaving noticeable scar<sup>3)</sup>.

In 1951, Ferris - Smith reported advanced flap for cheek repairs that should be used successfully. Fifteen years later, Mustard published limited rotational flap for lower eyelid<sup>4)</sup>. Converse method had a demerit of leaving graft area that is not matching in color or texture with that of defect area<sup>5)</sup>. Stark reported

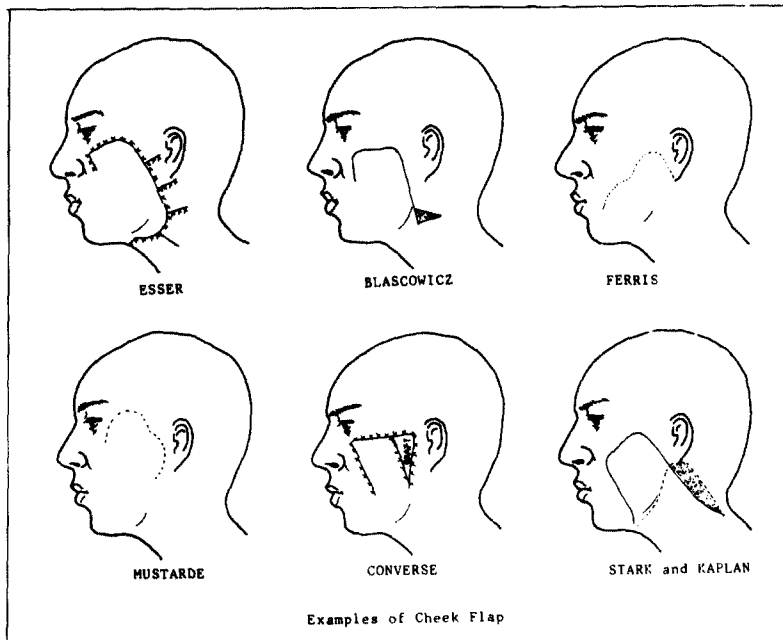


Fig 1. Several published cheek flaps had limited uses because of visible scar or limited capability.

widely undermined cervical flap for reconstruction of cheek area<sup>6</sup>. but advancement of cervical flap result in visible suture line on cheek.

Juri reported his use of cervicofacial flap in reconstruction of cheek defects<sup>2</sup>. This advancement - rotation flap had capability to cover more large defect of cheek, but not entire cheek and designed for defect located more medially.

In our case, the lesion involved entire cheek and upper eyelid, therefore, we must reconstruct entire cheek as one esthetic unit by more large undermining and extension.

\*excision of defect or lesion.

The excision of scar or defect area was performed at first. In case of more large defect or scar, it was recommendable to reconstruct the defect with successive two operations. Incision for flap design began superior lateral part of defect or scar. It run outward until it reaches lateral canthus of the eye. From this point, it continued outward and downward to reach ear robe. It rounded ear robe and ascends to postau-

ricular hair line, then along the hair line, it descended to cervical portion. Finally, it reached clavicle portion (Fig. 2).



Fig 2. Incision for cervicofacial flap began superior at lateral margin and passed preauricular region, ear robe, postauricular region, and hair line on neck. Finally it reached clavicle.

**\* undermining**

Incision of Juri flap reached hair line at the mid-posterior portion of neck. But more mobilization, Our incision reached clavicle, therefore undermining of the flap was performed below clavicle. Flap is elevated along the border mentioned above, maintaining sufficient fat to insure both adequate vascularity and acceptable thickness.

Our cervicofacial flap was combination of rotation and advancement. Cervical portion of flap was advanced upward and cheek portion was rotated to cover entire cheek. Postauricular portion was rotated to preauricular portion. Preauricular portion was rotated to lateral canthus region of eye. Lateral canthus portion of eye was rotated to most medial portion of defect.

## II. CASE PRESENTATION

**\* case 1**

NAME : Kim S. I. (21/F)

C.C. : facial scar due to burn

She had been burnt to stove at a year old. Alopecia on frontal area, and pigmented scars on both cheek caused by burn made her appearance ugly. Alopecia on forehead was reconstructed with triple triangular scalp flap. Facial scar located lateral to alar of nose. Design for cervicofacial flap was drawn with methylene blue. After excision of scar tissue, incision for cervicofacial flap started from the upper - most portion of defected skin and run above the zygomatic arch horizontally (Fig. 3). It reached to preauricular region and run up beneath the ear robe. After reaching hair line, it run down along the hair line to upper third of neck. Dissection was performed at fat layer. Rotation and advancement of flap was performed with much tension. a week later, distal margin of flap became necrotized. Partial thickness skin graft from thigh was used to repair raw surface after resection of necrotic tissue. About a year later, keloid formation was observed, but noticeable scar was not detected on non hidden face (Fig. 4).

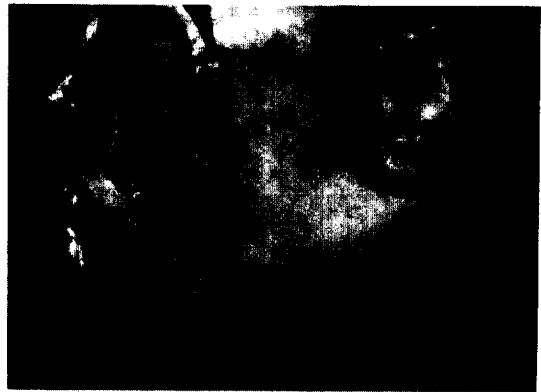


Fig 3. Incision for the flap finished to middle third of neck.



Fig 4. Facial photograph of patient. (postoperation)

**\* case 2**

NAME : Lee K. H. (48/M)

C.C. : red mass on Rt. face

This patient has suffered from his ugly appearance due to congenital red mass on right half of face. This mass occupied entire right cheek, upper lip, dorsum of nose, and periorbital area. Decision on extent of excision was the first problem to solve. Except Upper lip, entire mass was excised. At first, we used the microvascular free scapular cutaneous flap for defected cheek skin, but the flap was necrotized at 7 days



Fig 5. Design for the flap involved supplement incision line on nasolabial groove and posterior margin extended to clavicle.



Fig 6. Sufficient dissection permitted tensionless mobilization.



Fig 7. Ectropion and marginal necrosis of the flap were detected.



Fig 8. Facial photograph after operation. The noticeable eschar was not observed.

later. We decided to resection the flap and use cervicofacial flap for cheek coverage.

Incision for cervicofacial flap started from latero-superior margin of raw cheek surface and passed preauricular region. After turning around ear robe, it approached to hair line and descended along the hair line to clavicle. For tensionless advancement of flap, a supplement incision was added on nasolabial groove from inferior margin of raw cheek (Fig. 5). After sufficient dissection at the fat layer, rotation and advancement of the flap to cover raw cheek skin was completed (Fig. 6). For avoidance of hematoma

formation, multiple drains were employed with pressure dressing. Immediately patient represented ectropion, and morbidity of neck. About a week later, distal flap necrosis about 2cm×2cm on dorsum of nose was detected (Fig. 7). So partial thickness skin graft was utilized. One year later, visible scar was not detected on face, and morbidity was improved completely. But ectropion remained same (Fig. 8).

### III. DISCUSSION

Our cervicofacial flap was local flap of cervicofacial region. We used rotation and advancement technique for mobilization of flap. Unavoidable scar placed on nasolabial groove, postauricular region, hair line, and lateral surface of neck. Stark recommended "cut back dart" about 4cm on clavicle portion of flap<sup>7</sup>. But incision to clavicle was sufficient to mobilization the flap for entire cheek coverage. A. McGreggen was afraid of deformity of advancement flap in facial region<sup>1</sup>. But sufficient undermining, incision, and combination with rotation technique solved this problem. We encountered ectropion of involved side and maginal necrosis of flap. Nepster recommended that for avoidance of ectropion, superior horizontal incision placed on superior to zygoma arch<sup>4</sup>. And for more reliable vascularization, he recommended that undermining must be performed at level of muscle, because vascularization of skin depends on underlying muscle as much as 30%<sup>4</sup>. Hematoma was common complication of skin flaps. In order to avoid hematoma, use of drain and pressure dressing was recommendable. Stark used special posture of patients to lessen flap tension and hematoma<sup>8</sup>. In head and neck region, excess tension formed dead space and ill controlled bleeding filled the space. Therefore decreased tension by sufficient undermining and mobilization, proper pressure dressing, and use of drain contributed toward survival of flap without complication. In summary, the advantages of cervicofacial flap were.

1. reconstruction entire cheek as one esthetic unit.
2. good vascularity.

3. no defect of donor site.
4. convenient operation.

While on the other complications of cervicofacial flap were

1. ectropion
2. marginal necrosis

### IV. SUMMARY

We used cervicofacial flap in reconstruction of cheek defects with good results. So we recommended its use in reconstruction of large cheek defects.

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