Lagophthalmia Post Zona: Autoskin Graft Skin for Surgical Treatment

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1. Introduction:

Lagophthalmia can be caused by Herpes zoster ophthalmicus. HZO occurs typically in older adults but can present at any age. The upper eyelid of eye had an adherent contracted scar that caused the upper eyelid to shorten and thus expose all of the cornea and part of the ocular conjunctiva.
With lagopthalmia there are both aesthetic and functional problems [1]. This paper introduces simple surgical techniques that can be performed under local anaesthesia without the need for expensive technical equipment. Some results for appearance as well as visual acuity of patient have been reported herein.

2. Case report:

A 56-year-old female presented with a 7 month history of *Herpes zoster ophthalmicus* (HZO) in her left eye. For 6 months she had received intermittent treatment, largely in the form of pain relief, at a provincial hospital. Two weeks previously she experienced severe left frontal Headaches and eye ache for which oral steroids were prescribed by another (private) doctor. A further week later she developed headaches and the eye became increasingly red. She was admitted to the author's hospital. Ocular examination revealed the following: visual acuity 20/20 OD (right eye), light perception OS (left eye), intraocular pressure 18 mmHg OD and 10 mmHg OS. The upper eyelid of the left eye had an adherent contracted scar that caused the upper eyelid to shorten and thus expose all of the cornea and part of the ocular conjunctiva.. The conjunctiva of the upper lid was totally exposed with a round ulcer 1.5 mm in diameter. There was also a corneal ulcer of 10 mm diameter, with an irregular surface, that gave a positive response to fluorescein. The anterior chamber was not observed. Laboratory findings included RBC 3,900,000/mm3, WBC 7,500/mm3, HIV negative, normal chest X-ray and ECG. (Figure attaches).

Treatment: Techniques of surgery:

1. Two parallel incisions were made: above the eyelid and another 2 mm above this. The two edges of the incision were dissected to create a flap that could be grafted from the lower eyelid to correct the lagophthalmia.

2. A crescent-shaped skin flap 70 x 20 mm was created from the lower eyelid (a parallel marginal 2 mm incision was made at the lower eyelid with another lower incision).

3. The head of the flap was at the medial canthus and the pedicle at the lateral canthus. The pedicle was too big to nourish the flap.

4. The donor area of the lower eyelid was then closed with simple sutures to avoid eversion of the lower eyelid. (Figure 3).

5. Lastly, the crescent-shaped flap from the lower eyelid was rotated clockwise to the upper eyelid.

6. The head of this flap was sutured to the medial canthus, the upper flap to the upper incision of the upper lid, and the lower flap to the lower incision. The pedicle of the flap was the lateral canthus.

One week following the graft, the pedicle was severed.

Post-operative Recovery: Three months later, corneal ulceration and visual acuity had improved such that vision had progressed from light perception to hand movement. (Figure attach)

3. Discussion

3.1 *Herpes zoster lagophthalmia*. Lagophthalmia caused by *Herpes zoster* is rarely seen. Lagophthalmia due to adherent scar and contracted scar of upper eyelid caused by herpes zoster is rarely seen but this condition needs to treat early for protective vision. With lagopthalmia there are both aesthetic and functional problems. Surgical treatment is satisfying these problems. A new technics will describe details as above. A split level eyelid graft was used to repair a vertical full thickness defect.

In this patient, a pedicle flap from the lower to the upper lid (Mustarde's method) was used, associated with a split-level eyelid on the outer surface [1]. There are several advantages to this technique. The first advantage for this patient was a shrinkable lower lid. The laxity of the lower lid skin was sufficient for reconstruction of the upper lid lagophthalmia [2,3]. The contracted scar of frontal skin of this patient could not be used for the upper lid graft [1, 2. 3]. The second advantage was that the tarso plate and conjunctiva were not deflected. The levator muscle remained in good condition both before and after surgery. This is the most important structure in upper lid reconstruction [2, 3, 4]. According to Mustarde's method, the pedicle should be about 8 mm wide, but we created a 20 mm pedicle in order to permit a one-stage procedure [1]. The skin flap was nourished by two sides: one from direct suture, the other from the pedicle. The root of the pedicle (2 cm) was covered by a vaseline bandage for one week. The pedicle was severed one week following the surgery. The third advantage was single-

stage procedure graft helping the patient satisfied at district level in developing country. In this case tarsography is not necessary because with surgical treatment for lagophthamia is success. The next step will be done a perforated corneal grafting [5, 6]

3.2 Other problems with HZO: HZO causes around 40% of all cases of keratitis, 40% of uveitis cases, as well as necrotic retinitis, secondary glaucoma, ocular motor nerve palsies, cataract, and scleritis [5, 6]. HZO and HIV: In Kenya, *Herpes zoster ophthalmicus* (HZO) has been reported in 23% of patients with AIDS, aged between 8 and 47 years. Ocular motor nerve palsies and corneal involvement have been seen in 3% and 2% of cases, respectively. HIV has been isolated from a healthy cornea of a patient with AIDS [5, 6, 7]. In the author's unit, the patient was HIV negative.

HZO and post herpetic neuralgia: HZO is not fatal but post herpetic neuralgia causes misery and distress. Treatment should start early at the time of HZO infection with antiviral agents, oral analgesics, and steroids [8, 9]

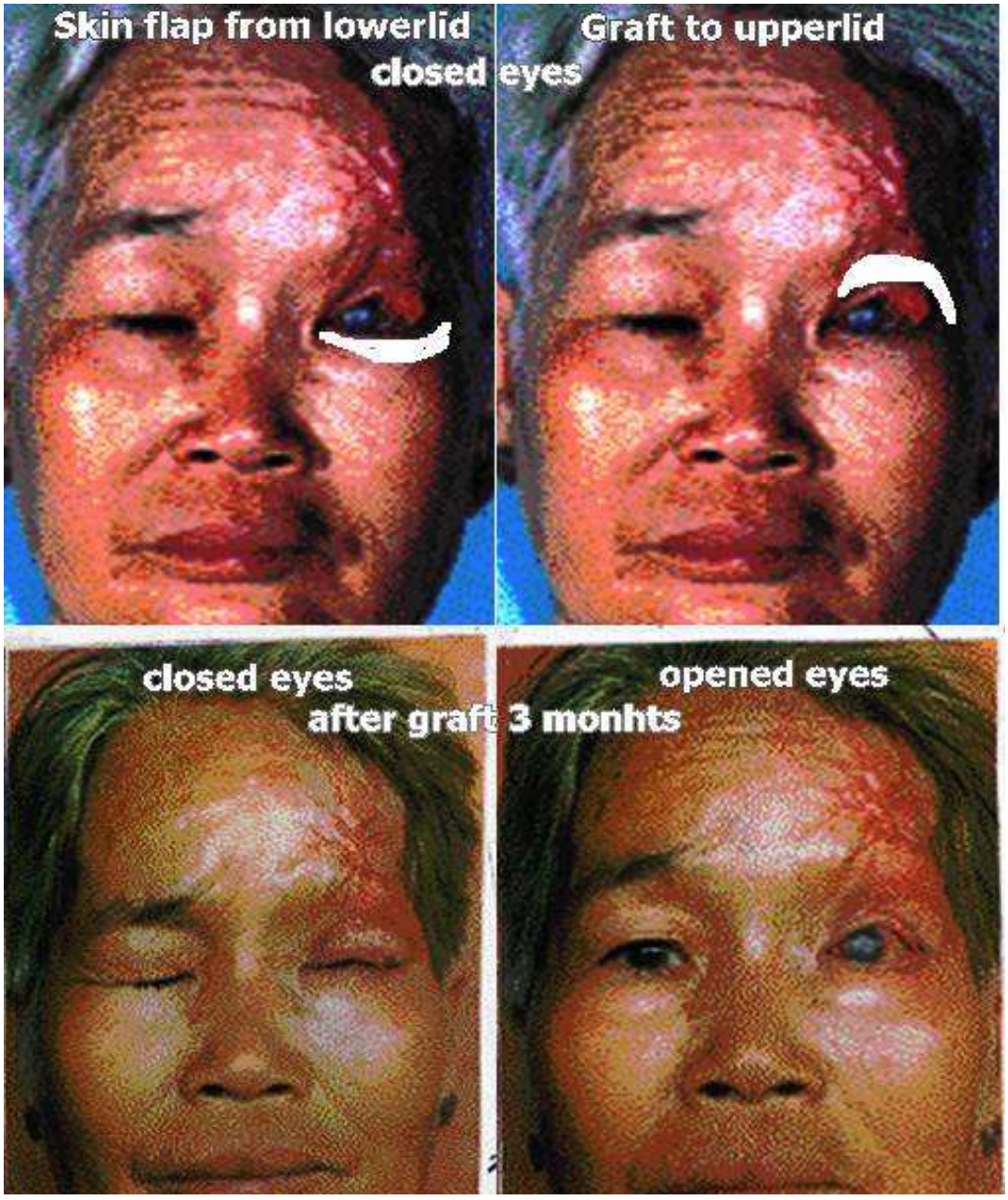
Table 1. Classification and treatment of herpetic neuralgia:

***Acute herpetic neuralgia* (AHN)**	***Post herpetic zoster neuralgia* (PHN)**
* AHN < 3 months * prodrome → vesicles * phrase of recovery	* PHN: > 3 months * during: > 3 months to years * Intermittent → stop
Treatment: AHN	**PHN**
1. Antiviral drugs: Acyclovir…7days 2. Prednisolone 40mg/daily/2 weeks 3. Analgesics: narcotic & non-narcotic 4. Block sympathetic drugs	1. Antidepressive drug: Imipramine 2. Aspirine, Capseine 3. Physiotherapy 4. Anticonvulsive drugs: Carbamazepine

In this case, the patient took both analgesics and steroids although steroids were more effective. In a patient with lagophthalmia, this resulted in severe corneal ulceration. In corneal scarring treated by perforated corneal grafting, recurrence took place in 20% of cases [1]. Zoster vaccine for prevention: Adults 60- year-old and over should have a single dose of zoster vaccine whether they have had herpes zoster or not. This vaccine has been shown to decrease the incidence of zoster [10]

4. Conclusion:

This simple surgical techniques with single-stage procedure that can be easily performed under local anaesthesia without the need for expensive technical equipment at district hospital level. Lagophthalmia surgery by this auto skin grafting should be done as soon as possible for preventing corneal damage, will then improve visual acuity as well as appearance mentioned above.


Skin flap from lowerlid
closed eyes
Graft to upperlid
closed eyes
after graft 3 monhts
opened eyes