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Plastic Surgery

EARLY RELEASE AND SPLIT THICKNESS SKIN GRAFTING OF UPPER EYELID BURNS TO PREVENT EYELID ECTROPION

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ABSTRACT Upper Eye lid burns are more common among the eye injuries. Adequate acute management of eyelid burns is necessary to prevent ectropion .Ectropion of the upper eyelid is usually associated with constant danger of kerato conjunctivitis, corneal ulceration, scarring or perforation with loss of vision. The present study reviews 20 patients admitted for upper eyelid burns in the Department of Burns, Plastic and Reconstructive Surgery Govt Kilpauk Medical College & Hospital Chennai between January 2013 November 2014. our study analysis the results of early release of eyelid burns and collagen application on the day admission and Early grafting with SSG.
20 Cases of upper eyelid burns were selected for release and grafting.
17 cases were flame burns, 2 cases were acid burns and one case was scalds injury. Incision and collagen application on the day of admission and early split thickness skin grafting plays an important role in preventing the post burn cicatrical ectropion.

KEYWORDS : early release, upper eyelid burns, Cicatricial Ectropion.

INTRODUCTION

Upper Eyelids are delicate, complex structure in their anatomy and physiology. Severe thermal injury commonly result in considerable functional and aesthetic deformities of the eyelid Inadequate and improper initial management of the eyelid burns injury may be healed by secondary intention, with granulation tissue resulting in scar hypertrophy and ectropion. Most of the accidental burns are domestic in nature due to open fire. Even now most of the low income group families use kerosene pressure stoves, kerosene wick stoves for cooking and kerosene lamps for illumination.

Depth of burn injury, delay in the treatment, infection and inefficiency of acute burn care are the important causes of contracture of the eyelid and further ocular complications.

AIM OF THE STUDY

1. To evaluate the efficiency of the collagen application immediately on admission, & Early release and skin grafting for the prevention of ectropion in upper eyelid burns.

Inclusion criteria,

1. Patients with deep partial thickness and full thickness upper eyelid burns.
2. Eyelid burns with less than 50% of the total body surface area.
3. Upper eyelid burns without major corneal complications.
4. Upper eyelid burns due to flame and acid .

Exclusion criteria,

1. Upper eyelid burns with more than 50% of the total body surface area.
2. Upper eyelid burns with epidermal and superficial partial thickness
3. Upper eyelid burns patient with associated systemic disease like diabetes, hypertension, and severe systemic illness.
4. Upper eyelid burns with age less than 13 and more than 60.
5. Upper eyelid burns with previous ocular surgery.
6. Upper eyelid bursn with severe respiratory burns.

Materials and Methods

20 patients with deep partial thickness and full thickness upper eyelids burns were admitted at burns, plastic & reconstructive surgery department Kilpauk Medical College and Hospital Chennai-10, between January 2013 to December 2014. Detailed history was taken with reference to the presenting complaint of the patient, the cause and duration.

Acute management in eyelid burns

Management started with, thorough washing of the eyelid and eye with normal saline to prevent crusting of eyelid and eyelashes. We have thoroughly removed the remaining FB and chemical particles from the conjunctiva and eyelids. Topical antibiotics, artificial tears and cycloplegic drops were applied.

In burns intensive care ward as soon as the patients' general condition was improved, horizontal release incision was made from 5-8 mm lateral to medial cantus to 5mm medial to lateral cantus and 6-8 mm above the eyelid margin, under local anesthesia & aseptic precaution to release the full thickness burnt tissue. Hemostasis was secured. Dry collagen sheet applied immediately

Components that have been compromised as well as those that remain viable including elements of skin muscle tarsus and conjunctiva are properly identified and documented.

Suture materials and knots are placed in an effort to avoid direct contact with the surface of the cornea and globe.

Surgery is done under I.V anesthesia.

1. All patients underwent thorough pre-operative ophthalmologic examination and were documented. photographs were taken
2. All patients were free from diabetes mellitus, IHD, renal, liver diseases.

Surgical management of eyelid burns; 6-10 post burn day.

Eyelid release was done. The defect size is assessed. Over correction (nearly one and half times more) was done. The split thickness skin graft has been harvested from inner aspect of upper arm or scalp. The graft was spread over the saline gauge. Hemostasis was secured at recipient site. The required length and width of the split thickness skin graft was applied and fixed with 6-0 silk/catgut. Nonadherent gauge, two layers of dry gauge, dental compound mold was applied per-operatively and tie over dressing was done. At the donor site hemostasis was secured, non adherent gauge and double layer of dry pad and bandage was applied.

Postoperative period managed with oral analgesics, antibiotic and topical ointment.

OBSERVATION

1. Symptoms of corneal irritation conjunctival congestion were noted in 18 cases.
3. There was no limbal ischemia even in acid burns. Anterior chamber, pupil, fundus normal in all the cases.
4. 100% skin graft take in 17 patients
5. There was no evidence of exposure keratitis in 17 patients minimal
6. Graft loss was present in three patients. Repeat grafting done for two patients and one managed conservatively.
7. There was no evidence of post traumatic ptosis.

DISCUSSION

- Our study is based on the analysis of eyelid burn cases at Burns, Plastic & Reconstructive surgery, Kilpauk Medical College and Hospital Chennai-10, during the period of January 2013 to November 2014. 20 cases of either Rt or Lt side of upper lid were included in this study, because of its functional importance. The vision loss due to burns per-se is rare except for chemical burns. our study shows accidental flame burns is a common cause involving 17 cases, 2 cases of acid burns and 1 case of scalds. Study shows incidence is equal in both sexes 10 cases male and 10 cases female Early release incision made on the upper eyelid relieves the tourniquet effect of eschar also helps to remove the dead tissue which stimulates an overwhelming systemic inflammatory response syndrome. Prevention of infection by earlier cover of burn wound shortens the period of wound inflammation. Incidence is more in the age group ranging from 21 to 40 years. This explains that middle age group patients are subjected to a greater risk for burns injury

In our study we have operated one eye at a time, operating both the eyes together leads to temporary blindness due to dressings for a period of a week. This is highly distressing and frightening to any person with otherwise normal vision, more so in elderly and in children.

We did not operate the ipsilateral eyelids in single stage, because it will fail to achieve the required over-correction.

Early excision significantly decreases wound colony count as seen in the study of juan P.Barrest and David Herndon. Similar result was obtained in our study also.

Zarada A; Zielinski A & Lille, Sean T. M.D.;Engrav, Loren H. M.D.; in their series demonstrated that the early grafting of eyelid burns with full-thickness graft, can prevent the development of recurrent ectropion and limited Split-thickness grafting where he cannot do full thickness graft.

Our series also demonstrates same results with split-thickness graft, .
In our study 4 patients were operated within 7 days of burns and 16 were operated after 7 days.

Whereas in Barrow, Robert E. Ph.D.; Jeschke, Marc G.M.D.; Series, 17 had eyelid release within 7 days of burns and 40 had eyelid release after 7 days of injury and Corneal ulcers developed in 2 out of 17 of the early eyelid release equal to our series. Our present study correlates with the above findings.

- Housinger TA, Hills J, Warden GD study presents early excision and grafting. Sixty-six patients with early excision and grafting of eyelid & facial burns after a mean 12.7 days of burns. Procedures were done in two stages. In our series Early release and grafting of eyelid surgery done on a (mean) 10.9 days.
- Engrav and MDMatthias B. Donelan with their study mentioned that excision and grafting has become the standard of acute burns.

CONCLUSION

- The role of early incision and collagen application for deep partial thickness and full thickness burns with early split thickness skin graft play an important role in preventing the post burn cicatricial ectropion.

1.This minimizes the period of wound inflammation and further complications.

REFERENCES

1. David N. Herdon, total burn case 3rd issue.
2. Grabb &Smith plastic surgery 5th edition
3. Albert &Jakobiec: principles and practice of ophthalmology, 2nd ed., Vol IV, W.B.Saunders Co., 1994.
4. Bosniak: Priciples and Practies of ophthalmic plastic and reconstructive surgery, Vol I, W.B Saunders Co., 1996.
5. Duane's clinical ophthalmology- eyelid abnormalities, Vol 5,Lippincott-Raven 1996.
6. Gholam A Peyman: Priciples and practice of ophthalmology. Basic oculoplastic surgery vol III, Jaypee Brothers, 1987
7. Kanski JJ: Clinical Ophthalmolgy: a systematic approach Butterworth Heinemann, 4th ed., 1999.
8. Levine MR. Manual of Oculoplastic surgery, churcill livingstone 1988.
9. Smith B. Cherubini TD. Oculoplastic surgery C.V. Mosby Co., 1970.
10. Stephenson CM: Opthalmic, Plastic, Reconstructive and orbital surgery 1997.
11. Wolff's Anatomy of the Eye and Orbit.,8th ed., Chapman and Hall 1997.
12. Artuson MG: the pathophysiology of severe thermal injury pathological aspects of the burns syndrome and alterations of capillary permeability, 274 p 75,1961. And J Burn Care Rehabil 6:129,1985.
13. Heimbach D, Engrav L, Grube B, Marvin J: Burn depth: A review world J Surg 16:10,1992.
14. Warden GD, Kraavitz M,Schnebly A: The outpatient management of moderate and major thermal injuries. J Burn Care Reh.
15. Janzekovic Z: A new concept in the early excision and immediate grafting of burns. J Trauma 10:1103,1970.
16. Thompson P et al: Effective early excision on patients with major thermal injury J Trauma 27:205,1987.
17. Jonsson CE, Dalsggard CJ: Early excision and skin grafting of selected burns of the face and neck. plastic and reconstructive surgery 88:83,1991.