ORIGINAL ARTICLE

MUSTARDE'S FLAP FOR POST BASAL CELL CARCINOMA EXCISION LOWER EYELID RECONSTRUCTION: OUR EXPERIENCE

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ABSTRACT: PURPOSE: To review the role of Mustarde's flap for post basal cell carcinoma excision lower eyelid reconstruction, its clinical outcomes and complications. **METHODS:** The Mustarde's rotational cheek flap has been used to reconstruct the lower eyelids of 16 patients from 2008 to 2015 in proven cases of bcc. **RESULTS:** Mustarde's flaps have very high functionally as well as cosmetic acceptability with minimum patient morbidity. The most frequent complications were downward contraction and sagging of the flap and ectropion of the lid margin. To prevent them, the zygomatico-cheek flap must be carefully designed, rotated, and sutured as high as possible so that immediately postoperatively, the palpebral fissure is only a narrow slit.
KEYWORDS: Mustarde's flap, Basal cell carcinoma, Lower eyelid reconstruction.

INTRODUCTION: Haryana is agriculture based state. Almost all farmers working in fields exposed to sunlight for full day. So incidence of basal cell carcinoma especially on sun expose area like face is very high. BCC is usually slow growing and rarely metastasizes but can cause significant local destruction and disfigurement if neglected or treated inadequately. The primary principal in the management of BCC of the eyelid is complete removal of the tumour and reconstruction. Mustarde's flap provides high functional and aesthetic quality in reconstruction.

MATERIALS AND METHODS: The paper presents retrospective analysis of data of 16 patients with histopathologically confirmed bcc, who were operated by one surgeon in period from 2008 to 2015. Before surgical repair of the tumour the following basic principles of eyelid reconstruction were kept in mind.(1)

- Replacement of involved tissue with similar tissue.
- Maintenance of integrity and mobility of upper lid (levator function).
- Establishment of aesthetic balance.
- Provision of protective lining, stable skin cover and internal lid support.

SURGICAL TECHNIQUE: The surgery was performed in general anaesthesia. BCC with 3-4 mm margin and flap is marked. Reconstruction was done at the time of surgery aiming at best possible functional and cosmetic result. Different types of sutures were used to mark the orientation of the bcc in the excised material; one for medial and two for the lateral side of the tumour.

After excision, flap marking confirmed by planning in reverse method. Flap raised in subcutaneous plane. The final extent of the incision can only be determined after undermining the cheek flap in the layer of subcutaneous fat and repeatedly testing to see whether further

extension of the incision and rotation of the cheek is necessary. Tension is taken off from the flap by anchoring it to the periosteum of the orbital margin. As defect become larger, the flap is extended superolaterally and inferiorly in front of the ear. Inner lamellae of lower eyelid were reconstructed by composite nasomucoperichondrium graft anchored to medial and lateral canthal ligament. The septal cartilage needs to be thinned and scored to conform to the shape of the globe.[2]

RESULTS: It is a retrospective analysis. Total 16 procedures were done. Five (31%) were female and sixteen (69%) were female. Age of patients vary from 42 to 78 years. Right eye was involved in 10(63%) cases and left eye was involved in 6 (37%) cases. Patients have been followed from three months to 2 years with a mean age follow-up of six months. Local Recurrence was noted in 2 cases one of which undergo revision excision and one refused for reoperation. The complications were downward contraction and sagging of the flap and ectropion of the lid margin in three cases. (19%). To prevent them, the flap must be carefully designed, rotated, and sutured as high as possible so that immediately postoperatively, the palpebral fissure is only a narrow slit.

DISCUSSION: To conceptualize the reconstructions of eyelids basic knowledge of eyelid anatomy is must. The lower lid is shorter in height, less mobile and contributes minimally for palpebral closure. The anterior lamellae consist of the skin and orbicularis muscle. The posterior lamella consists of the conjunctiva and tarsal plate.[3]

Eyelid is a layered structure, so appropriate layered reconstruction is essential.[4] Three elements are required foe eyelid reconstruction; an outer layer of skin, an inner layer of mucosa and a semi rigid skeleton interposed between them. One layer should carry its own blood supply and other can be a free graft. The basic aim of reconstruction is to restore the anatomy and function of eyelids. Color match is important for cosmetic appearance of anterior lamellae. There are varieties of techniques to reconstruct eyelid defects after bcc excision. Type of technique depends upon site and size of defect and surgeon's experience. Mustarde's flap provides high functional and aesthetic quality in reconstruction.[5] It was first described by Mustarde's in 1971and then by Callahan & Callahan (1980). Understanding this flap design and versatility is important for all surgeons involved in the treatment of tumours in the orbito-palpebral area. [6]It is a simple flap to be mastered very easily. Patient's satisfactions are very high. It is associated with minor complications to be managed very easily.

CONCLUSION: Mustarde's flap provides very good option whenever there is a need to reconstruct the lower eyelid after bcc excision. The majority of patients had a good cosmetic result and required no further intervention. It can be easily done by all head and neck surgeons. It has very low complication rate and low patient morbidity.

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Image 1: BCC lower eyelid

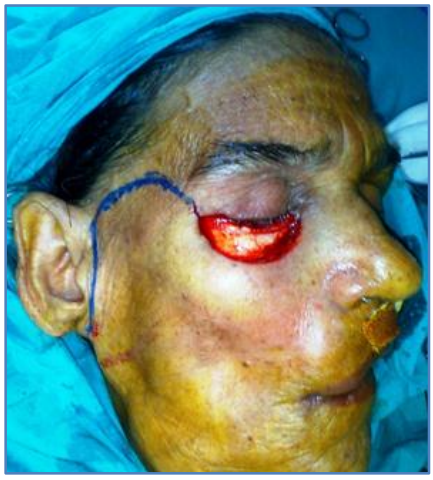

Image 2: Flap marking

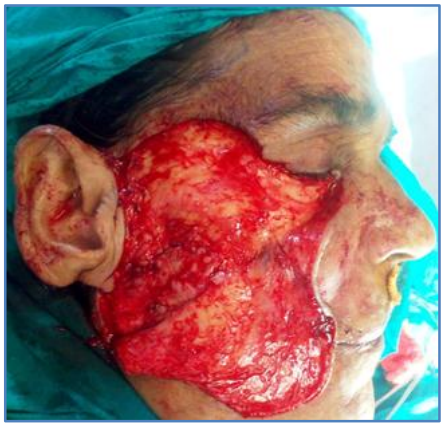

Image 3: Flap dissection

Image 4: Early post-op

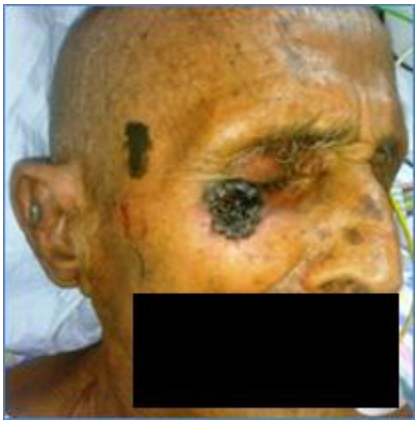

Image 5: BCC lower eyelid

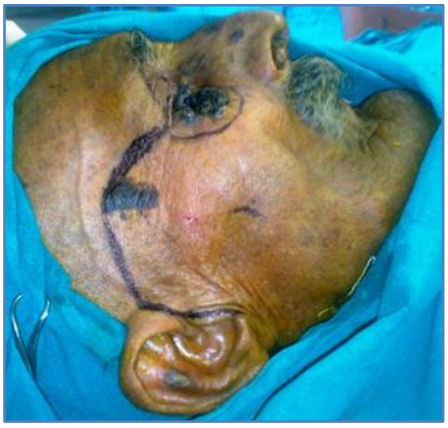

Image 6: Flap marking

Image 7: Post-operative

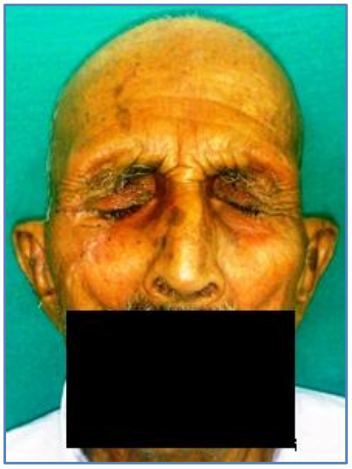

Image 8: Eye closure

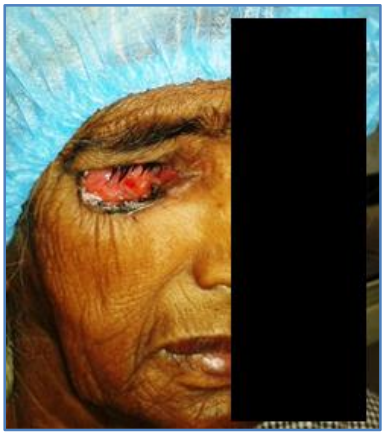

Image 9: BCC lower eyelid

Image 10: Ectropion

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