

Eyelid Basal Cell Carcinoma Reconstruction and Outcome

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Abstract

A 60 year old female presented with an ulcerative lesion of lower eyelid that was slowly increasing in size over the past 6 months. The patient was provisionally diagnosed as a basal cell carcinoma of lower lid. First incision biopsy was done for confirmation followed by complete excision of the lesion combined with primary reconstruction of lower eyelid by superficial temporal artery based island forehead flap. At two year follow up the patient was symptom free and complete eyelid closure was maintained.

Keywords: basal cell carcinoma, reconstruction, eyelids, frozen section control

Introduction

Basal cell carcinoma (BCC) is the commonest periocular malignancy that arises from basal cells of the epidermis. It generally grows slowly, invades locally, destroys the orbit and adjacent tissues; but rarely metastasizes.¹⁻² The most common risk factors for BCC are fair skin, inability to tan and chronic exposure to sunlight.³ BCCs are more commonly found on the lower eyelids followed by the medial canthus, upper lid and lateral canthus.⁴ As clinical presentation can be variable, biopsy is recommended in all suspicious lesions. The various types of treatment modalities described in the literature include radiotherapy, cryotherapy, laser ablation, photodynamic therapy, chemotherapy and immunotherapy. These may be useful for inoperable or widespread disease.⁵⁻⁸ The gold standard for treatment of BCC is surgical excision with 3-4 mm safety margin combined with primary repair.⁹ However excision with 4mm margin may result in removal of significant amount of normal tissue which will require sophisticated reconstructive surgery. Therefore to achieve the best functional and cosmetic result, it is important to minimize the normal tissue loss. Here we report a case of lower eyelid BCC where total surgical excision was combined with primary reconstruction of lower eyelid with good functional and cosmetic outcome.

Case Report

A 60 years old female presented with black colour lesion over right lower eye lid which was slowly increasing in size for the last six months. On examination there was an elevated nodulo-ulcerative lesion of 6cm × 5cm in size involving the lateral half of right lower eye lid extending

upto lateral canthus. (Figure 1). Incision biopsy was done from base and edge of the lesion which showed signs of basal cell carcinoma. The lesion was excised with 4mm safety margin under frozen section control. The lower eyelid was reconstructed with superficial temporal artery based island forehead flap. (Figure 2a & b). The lower fornix was reconstructed with palatal mucoperiosteal graft. Stitches were removed after two weeks. At the four week postoperative visit, the wound was healthy. Patient was able to close the eye. At two year follow up, complete eyelid closure was maintained. The palatal mucoperiosteal flap survived well. There was no evidence of recurrence of BCC. Thus reconstruction of moderate to large lower eyelid defects with the similar one-stage procedure can be done in cases of basal cell carcinoma.

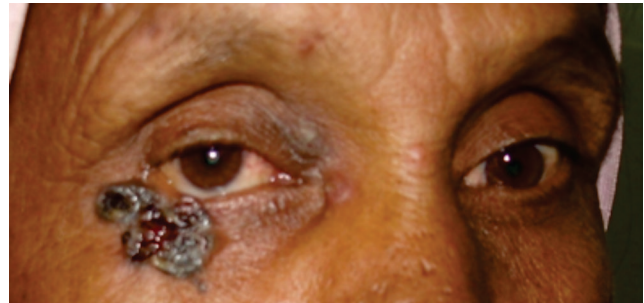


Figure 1: clinical photograph of the patient showing basal cell carcinoma lower eyelid



2 (a)



2 (b)

Figure 2 a&b: (a) Postoperative photograph after lower lid reconstruction (b) Postoperative photograph after lid reconstruction lateral view

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Discussion

Basal cell carcinoma is the commonest skin cancer of the eyelid, accounting for 80 - 90% of lid malignancies.⁹ The clinical presentation of BCC can vary in different patients. It can present as a reddish nodule slowly forming in periocular area or a pigmented lesion without a nodule, therefore biopsy is recommended for all suspicious lesions. Surgical excision remains the gold standard for BCC treatment, and excellent results are obtained if the tumour is completely removed. Mohs micrographic surgery, a method of tumour excision with complete frozen section margin control offers the lowest recurrence rate for BCC and is the standard against which other treatments are compared.¹⁰ However; it is costly, time consuming and not available at all centres. BCCs have traditionally been excised with wide safety margins to ensure total clearance, but this may be an unreliable method of guaranteeing complete excision. The actual tumour edge may be difficult to determine clinically. A 1997 study showed that surgeon's estimations can vary 5.5 mm from the actual margin of the lesion for primary BCCs.¹¹ Tissue conservation remains an important issue in eyelid tumour surgery, however it must never compromise the goal of complete, primary, tumour excision. Study by Hsuan et al showed no recurrences with 2 mm margins, but this included only nodular BCCs and a significant proportion of patients required second excisions before repair.¹² Sarma et al suggested that tumour cells at the operative site may be devitalised by surgery, thus accounting for the lower than expected recurrence rate.¹³ An alternative, more likely explanation is that the margins are so narrow that the specimen distortion through fixing and tissue processing and sampling makes it difficult for the pathologist to confidently confirm clearance. Numerous procedures are available to reconstruct such defects. The aim of the reconstruction is a mobile eyelid, corneal protection and aesthetically perfect outcome. Hamada et al treated 223 patients with BCC.¹⁴ All tumors underwent primary excisional biopsy with 2 to 4 mm healthy margins depending on tumor size. Seventy per cent of lid defects were treated by primary direct closure. The remainder, following confirmed histological clearance, underwent direct closure (2%), full thickness skin or tarsal grafts with skin flap (13%), local skin and muscle flaps (11%).¹⁴ In a study by Hsuan et al the reconstructive techniques varied according to the size and position of the defect.¹² These included direct closure with or without lateral cantholysis, advancement flaps¹¹, rotation flaps⁴, free skin grafts⁹, free tarsal grafts², Hughes tarsoconjunctival flap⁶, and left alone.⁴ There were no recurrences of the tumour in any patient. An island flap consists of skin and subcutaneous tissue, with a pedicle made up of only the nutrient vessels. Yang et al reconstructed full-thickness lower eyelid defect using superficial temporal artery island flap combined with auricular cartilage graft in 6 cases and reported the advantages namely rich vascularity, wide pedicle rotational arc, which could be transferred throughout the face region, good eyelid contour with color and texture match, limited donor-site scar, and minimal postoperative morbidity.¹⁵ In this case after total excision of lesion, the defect was large therefore primary lid reconstruction was done using

superficial temporal artery island flap for the outer lamella combined with palatal mucoperiosteal graft for the inner lamella. At two year follow up patient had good functional as well as cosmetic outcome.

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