



PERIOCCULAR BASAL CELL CARCINOMA : SURGICAL EXCISION WITH LID RECONSTRUCTION USING RETRO-AURICULAR SKIN GRAFT

Ophthalmology

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ABSTRACT

Introduction : Basal cell carcinoma is the most common malignant tumor of the eyelids with a recurrence rate of 5-15% after surgical excision , but very rarely having distant metastasis .

Material and Methods : 25 patients with histologically proved Basal cell carcinoma of the lower eyelids were taken up for surgical excision and simultaneous reconstruction of the eyelid using a free skin graft harvested from the retro auricular area of the patient .

Results : All the 25 patients were followed up for 6 months to look for any graft rejection and recurrence of the tumor . Despite 3 patients having infiltrating type of growth on histopathological examination , there was no recurrence .

Discussion : A single step approach of surgical excision of the tumor with simultaneous lid reconstruction using a retro auricular skin graft proves to be a cost effective and viable approach towards the treatment of lower lid Basal cell carcinoma .

KEYWORDS

Basal cell carcinoma (BCC) , Intraoperative frozen section (IFS) , Medial canthus , Lateral canthus .

INTRODUCTION :

Basal cell carcinoma (BCC) is the most common malignant tumor throughout the world . 80% of BCCs involve the head and neck region , of which 20% occur on the eyelids . About 90% of eyelid tumors on histopathological examination turn out to be BCCs .

As the name indicates , BCC arises from cells of the epithelial basal cell layer (i.e, small round cells found in the lower layer of the epidermis) . Histologically the tumor appearance is similar to normal epithelial basal cells , but the tumor cells form strands , cords or islands of tumor below the superficial layer . Palisading of the nuclei at the periphery of the islands of tumor is characteristic .

Although metastasis with orbital invasion is rare , but BCC of eyelids has a recurrence rate varying from 5 – 15% (1,2). The rate of recurrence depends on the location , size , the extent of infiltration, the histological type and the primary treatment. Aggressive histological forms of BCC are associated with a high risk of recurrence, possibly because of incomplete excision at the time of primary surgery .

The tumor appears as a nodular or morpheaform type. The nodular type of BCC appears as a collection of tumor cells as cords or strands, but without deeper penetration. In comparison, the morpheaform type, also called as sclerosing or fibrosing BCC appears as small islands of tumor within dense fibrous tissue and invading the deeper tissues , thus contributing to higher recurrence rate after surgical excision .

BCCs most commonly appear as a reddish nodule slowly forming on the eyelids . The lower eyelids are most commonly involved (50%) , followed by medial canthus (30%) , the upper eyelid (15%) and the lateral canthus (5%) (3). Less commonly BCC can be pigmented or present without any nodule . When the tumor does not make a nodule and grows with the eyelid, it can induce pulling of the eyelid (away from the eye) (4) . These cases (morpheaform variant) are much more difficult to treat because its edges are harder to define and they penetrate into much deeper tissues .

Intermittent intense exposure to ultra violent (UV) radiation is considered one of the main risk factors of BCC. Also the frequent involvement of the lower eyelid may be the result of light reflected by the cornea onto the lower lid margin. The infrequent involvement of the upper eyelid may be due to protection by the eyebrows, other factors such as chemical or physical irritation of tears may do more harm to the lower lid than the upper eyelid (5) .

PATIENT AND METHODS :

25 patients with histologically proved BCC involving the lower eyelids were involved in the study during period 2014 to 2018 . All lesions either involved or were situated within 5 mm of the lid margin .

There were 18 male and 7 female patients in the age from of 50 to 80 years .

Out of 25 cases , 14 had involvement of the central lower eyelid , in 8 cases the lesion involved the lower eyelid near the medial canthus and only in 3 cases was the tumor involving the lower eyelid near the later canthus .

A written consent was sought from all the patients after being explained the surgical procedure and the need for free skin graft for lid reconstruction to be harvested from the retro auricular area of the patient at the time of surgery only .

Surgical excision of the tumor was done without any intraoperative frozen section control (IFS) and a clear margin of 3 – 4 mm surrounding the lesion was excised . Hemostasis was achieved using a light cautery . An appropriate size of free skin graft was harvested from the retro auricular region in the area devoid of hair . The graft was placed over the tumor excised area and sutured with interrupted 6-0 vicryl suture . A pressure bandage was put in place for 48 hours to prevent any collection below the skin graft . The sutures were removed about 2 weeks post-operatively .

All the patients were kept under regular follow up for a period of 6 months to look for any sign of graft rejection (discoloration of graft , ulceration) , lid deformity or recurrence of the tumor .

RESULTS :

A total of 25 patients with histologically confirmed BCC were operated upon for surgical excision with 3 – 4 mm of clear skin margin. Primary reconstruction of the lower eyelid was done using a free skin graft harvested from the retro auricular area .

Final postoperative paraffin section study of the excised tissue by a histopathologist confirmed that the surgical margins were clear and devoid of any tumor cells in 23 patients. However 2 patients had positive margins on postoperative histopathology studies. None of these 2 patients , however had clinical evidence of any residual tumor tissue .

At the end of 6 months follow up , all the 25 patients behaved with full acceptance of the skin graft and showed no signs of any recurrence of the tumor .



Fig(1) Fig(2) Fig(3)
Figure 1 : shows BCC involving the lower lid near medial canthus

Figure 2 : shows tumor excised completely and lid reconstructed with free skin graft

Figure 3 : shows the same patient 6 months post surgery with good graft uptake

A written informed consent for publication of the photograph was obtained from the patient)

The clinico-pathologic features are summarized as Table 1 .

Table :1

Characteristic	Male	Female
No. of patients	18	7
Mean age (years) (range)	64.5(54-72)	62.5(57-70)
Anatomical location (No) (%)		
Lower lid , central	10(55.5%)	5(71.4%)
Lower lid , medial canthal region	5(27.7%)	2(28.5%)
Lower lid , lateral canthal region	3(16.6%)	0
Mean tumor size (range) mm	15.3(9-24)	14(10-21)
Histopathology (*)		
Circumscribed growth (%)	16(88.8%)	6(85.7%)
Infiltrating growth (%)	2(11.1%)	1(14.2%)
Histopathological margins (**)		
Positive margins	2	0

(*) : infiltrating growth pattern was defined as a portion or all of the tumor consisting of elongating strands of infiltrating BCC tumor cells
 (**) : positive margins were defined as the presence of tumor cells at one or more cut surfaces of the surgical specimen .

DISCUSSION :

Surgical excision of BCC should be undertaken as early as possible to maintain the appearance and functionality of the eyelid . Excision with eyelid reconstruction using a free skin graft is a viable option as both function and esthetic outcome are factors desired by the patient .

The distance of the tumor from the eyelid margin and the diameter of the tumor are important to estimate the prognosis and choose the best surgical technique . When the tumor affects the eyelid margin, reconstruction with a flap based on the tumor size in the eyelid is necessary . The United kingdom National Multidisciplinary guidelines recommend that non-infiltrating BCCs less than 2 cm in size should be excised with a margin of 4-5 mm (5)

Ho et al (6) conducted a series of BCC excisions with a 3 mm margin from perceived edge of the lesion . The lid reconstruction was performed a few days after obtaining the histopathology results . If the margin was clear , lid reconstruction was performed. If the margins were involved , further excision was done followed by lid reconstruction . However such a procedure would need a two step approach , not acceptable to all the patients particularly in developing countries like India where the socio-economic constraints are one big factor . Therefore our approach of excision of BCC with simultaneous lid reconstruction was acceptable and well taken by the patients .

Conway et al (7) assessed the recurrence of primary BCC after resection with and without intraoperative frozen section (IFS) control . He found the long term results to be better in IFS control group . However such a procedure warrants a high tech histopathology services near the operative room , not practically possible at all centers including ours .

CONCLUSION :

A single step surgical approach of excision of BCC with 3-4 mm of clear margin with simultaneous eyelid reconstruction using a retro-auricular skin graft is time saving , cost effective and has shown promising results in terms of the lid esthetics and without any recurrence of the tumor .

Disclosure :

The authors report no conflicts of interest in this work .

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