

# Clinical Diversities in Basal Cell Carcinoma of the Eyelids

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**Abstract:** ***Purpose:** Studying three similar cases of basal cell carcinomas and comparing their diverse presentations clinically and histopathologically. **Methods:** Three cases who presented to the outpatient with lid tumors diagnosed as basal cell carcinoma both clinically and histopathologically were assessed were studied and their diverse presentation noted. **Results:** In the three presentations, the first case presented as a small solid tumour, sago grained pearly in the upper lid, after wedge resection of the whole tumor, had no recurrence, the second case presented with an extensive lesion involving the length of the lower lid, irregular with ulceration and pearly rolled up edges, reluctant for surgery for aesthetic reasons, underwent chemotherapy and radiotherapy, the third case had features similar to the second case but came with extensive systemic lesions in lungs and bone underwent chemotherapy and radiotherapy. **Conclusion:** The biological behavior being unique in basal cell carcinomas due to which their presentations can be very diverse, their treatment is done keeping in mind that late diagnosis leads to more invasive surgery with functional and aesthetic effects.*

**Keywords:** Diverse presentations, Basal Cell Carcinoma, Clinical Diagnosis, Histopathology, Reconstruction

## 1. Introduction

Eyelid tumors can present as benign and inflammatory conditions which masquerade eyelid cancers in their presentation and extent (1). The difference in the behaviour and appearance of eyelid lesions is due to the difference of the skin of the eyelid and its specialised attachments from the rest of the body. So ruling out malignancy is the first concern (2).

75 .01% - 92.0 % of eyelid malignant tumors are usually basal cell carcinoma (BCC) usually occurring in the elderly between the ages of 50 to 70 years, rare before and after this age (1,3). The lower lid involvement is higher than upper lid and sunlight exposure considered being an high risk factor (4).

Incidence of orbital invasion documented is only 1.6% to 2.5% (5). It is not life threatening as malignant melanoma but locally invasive with bad morbidity and complications (6). It has a good prognosis as it doesn't spread to lymph nodes or other organs (1).

## 2. Case Series

The patients were assessed according to their age/sex, solar exposure, tumor location, type of presentation, diagnosis clinical, histological, surgical margins involvement and systemic examination (3).

### Case no 1:

A thirty six year old female presented with a sago grain sized pearly lesion over the left upper eyelid margin (figure 1) which had gradually increased in size over past three

months. On examination, it was firm, nodular, non tender, non indurated with small dilated blood vessels on its surface. Wedge shaped resection of lid was done with tumor free margins and sent for histopathology (Figure 2, 3). Patient comes for regular follow ups, no recurrence seen.

### Case no 2:

A fifty six years old female presented with an extensive lesion located along the whole length of left lower eyelid (figure 4), that had been slowly growing for last two years. On examination, nodular-ulcerative lesion on the entire lower eyelid extending onto the cheek region, irregular in shape with uneven surface, with central ulceration and pearly rolled up pigmented indurated borders. There was no intra-orbital involvement. Biopsy was sent for histopathology and showed features of basal cell carcinoma (figure 5,6). Patient was reluctant for surgery for aesthetic reasons, so was advised radiation and chemotherapy, status quo on follow up.

### Case no 3:

A sixty nine year old male presented with extensive hyper-pigmented nodular-ulcerative lesion involving the lateral 1/3rds of the lower lids and lateral canthus with rolled out margins involving the full thickness of the lid. Slough was present on its surface. Biopsy showed features of nodular-ulcerative basal cell carcinoma (figure 7, 8). Systemic examination showed extensive metastasis in lung with pleural effusion and nodular lesions in liver. Patient was sent for chemotherapy and radiotherapy. He was lost to follow up.

### 3. Discussion

Amongst the malignant eyelid tumors basal cell carcinoma has been found to be the most common (90%) of all cases (2). Usually seen in the elderly, its rarely seen in children or young adults with a male preponderance (7).

BCC is seen more in those living in the equatorial latitudes than polar, and high ultraviolet exposure is considered to be the high risk factor (2,5,7). It damages the DNA and its repair system, and the immune system changes results in alterations in the genetic pattern leading to neoplasms formation. In about 50% of BCC cases, UV induced TP53 tumor-suppressor gene mutations have been documented (5). Dark skinned Asians show lower incidence than light skinned fair people (2).

Other risk factors like exposure to arsenic, tar, coal, paraffin, some industrial oils, radiation, burn scars, xerodermapigmentosa previous trauma, and immune suppression also have been suspected. There is a strong suspicion to the embryonic role in basal cell carcinomas as it is known to occur at the embryonic fusion planes and its incidence is four times more(7).

Due to the light reflection by the cornea seen more on the lower lid, it is found to be more involved the upper lid which is protected by the eyebrow (5). Other studies showed it to be common in the order of lower lid (48.9-72.1%), medial canthus (25-30%), upper lid (15%), lateral canthus the least.

Slow growing, easily visible (3), pink colored, pearly edged characteristic features of basal cell carcinoma known to delay seeking treatment can also present as ulceration, bleeding (5) with little or no lymphatic spread or metastasis (3). Other presentations could be waxy papules with a depression in the centre, crusting rolled edges specially with trauma, telangiectasia (8).

Basal cell carcinoma may mimic clinically benign lesions like blepharitis, keratoacanthoma, actinic keratosis, chalazia (4). Many gross clinical types like nodular, ulcerated, pigmented, fibroepithelioma of pinkus, superficial spreading, cystic, infiltrated, morpheaformetcare reported in literature(7). Clinically nodular, nodular-ulcerative, cystic and plaque-like (morpheaform) are usually seen. Nodular, adenoid, cystic, keratotic, morphea, multifocal and pigmented is the histological classification (4).

Lack of characteristic epidermal change needs a histopathological diagnosis to confirm (4). The histologic type, microscopic ulceration, surgical resection margin involvement and tumor distance from these margins helps in confirmation of diagnosis (3).

Among the several methods for the diagnosis, biopsy is the simple and applicable procedure gives us the best analysis and relevant information to diagnose (2). Histology should be the final diagnosis, nodular and superficial are usually less aggressive, morpheaform, infiltrating, basosquamous more aggressive with greater risk of recurrence and metastasis (5).

Though basal cell carcinoma has a low recurrence rate, few forms do present with high recurrence when their surgical margin removal are not complete and genetic factors. Most of the recurrences are seen in solid ulcerated tumors (3,9) and more seen in periorbital than other areas (4).

Successful treatment in basal cell carcinoma involves factors like age, size, location and histologic type, risk of recurrence (2,7) but the "gold standard " remains surgery following which a complete histologic analysis of specimen is done by the pathologist. This has shown to have low recurrence and better cosmesis. For smaller lesions curettage, cryotherapy or photo dynamic therapy (PDT) has been found to be useful but with poor cosmesis (7). Infiltrative and micronodular have the tendency to be excised incompletely so classified as high risk with a tendency to recur (2,9) whereas nodular has a low incidence of deep infiltration and recurrence (2).

Complete cure has been seen in basal cell carcinoma with complete excision, curettage, cryosurgery, or irradiation as its biological behavior is usually benign. Rarely they have local metastasis necessitating advanced treatment (4). Prognosis in basal cell carcinoma is very good as they develop slowly and rarely metastasize however early detection is a must (7).

### 4. Conclusion

The biologic behavior being unique in each tumor due to which their presentations are diverse as seen in our cases, its treatment is done accordingly keeping in mind that late diagnosis leads to more invasive surgery with functional and aesthetic effects.

It is important to insist that complete resection of the the tumor even if the tumor is small and has to be done without trying to keep structures involved mainly because tumors in the internal canthus have a 2.09% risk of orbital invasion in basal cell carcinoma of the eyelids. Early diagnosis not only makes surgery easy but gives promising post-operative results whereas extensive lesions require invasive surgery.

### 5. Future Scope

Early diagnosis and treatment gives a good functional and aesthetic effect avoiding invasive surgery.

### 6. Conflict of Interest

None

### 7. Financial Disclosure

None

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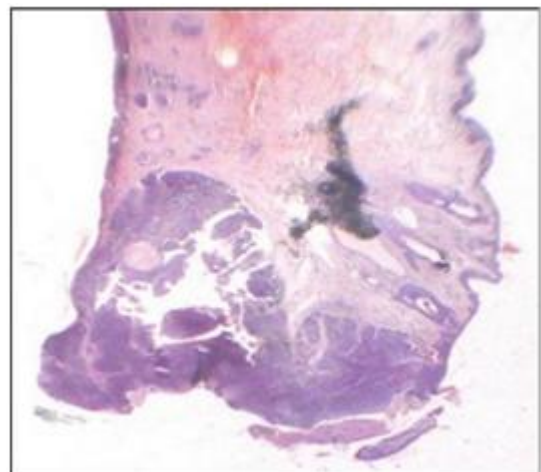


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## Figures with Legends

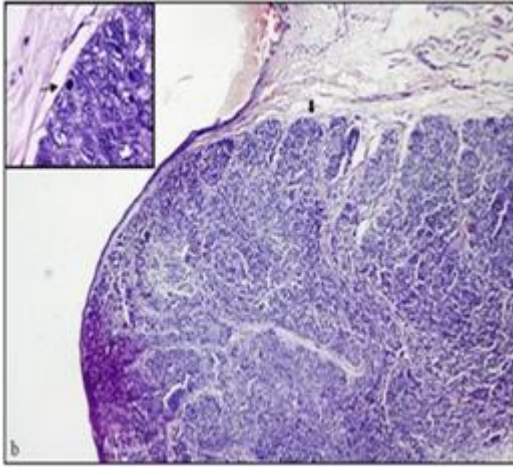


**Figure 1:** Case 1: Small BCC solid tumour

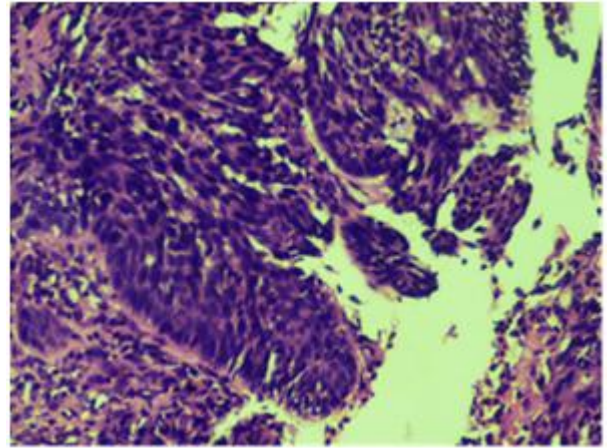


**Figure 2:** Case 1: Whole mount tissue section showing tumour at the junction of skin and the palpebral conjunctiva





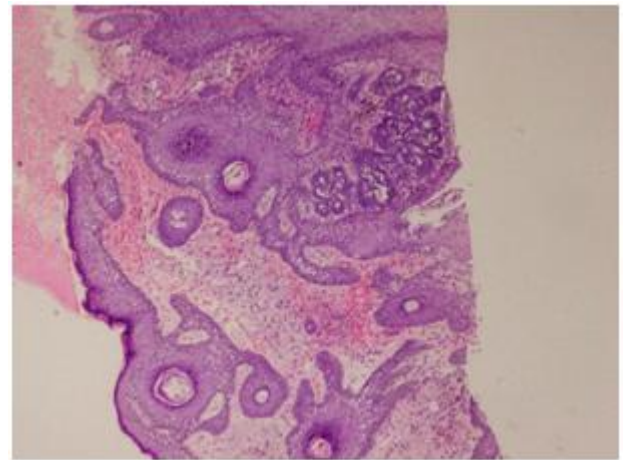
**Figure 3:** Case 1: Section showing infiltrating tumour nests with peripheral palisading of cells. Inset-showing basaloid cells with hyperchromatic nuclei and an atypical mitotic figure



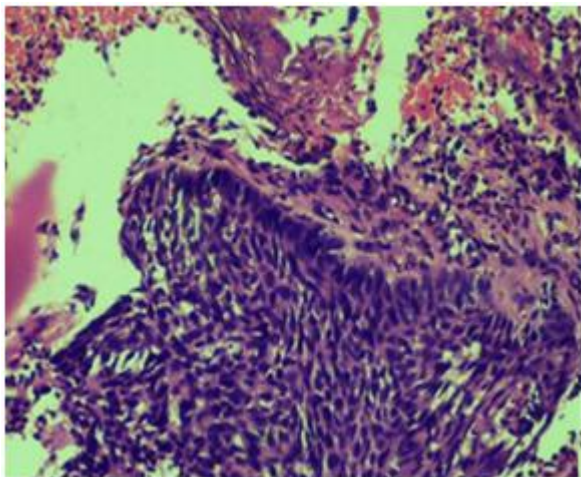
**Figure 6:** Case 2: Basaloid and squamoid cells arranged in nests and whorls



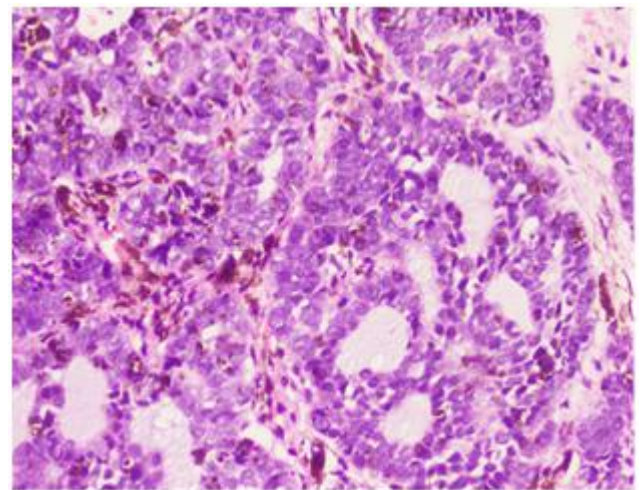
**Figure 4:** Case 2: Nodulo-ulcerative lesion (rodent ulcer)



**Figure 7:** Case 3: Scanner view of tumor showing eyelid with focal ulceration, the deeper layer shows tumor composed of basaloid cells arranged in a nested and glandular pattern



**Figure 5:** Case 2: Spindle cells show keratinized cytoplasm, with vesicular nuclei and conspicuous nucleoli with few pigmented macrophages and neutrophilic aggregates



**Figure 8:** Case 3: Cells with high N:C ratio, arranged in a glandular and cribriform pattern with vesicular nuclei with occasional mitosis. Cytoplasm is scanty to absent with indistinct cell borders. Adjacent areas show pigment deposition.