

## Eyelid Basal Cell Carcinoma: A Retrospective Study

Imane Chabbar\*, Abdallah Elhassan, Amina Berrafo

Ophthalmology B service, Hospital of specialties CHU Ibn Sina Rabat Morocco

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\*Corresponding author: Imane Chabbar

### Abstract

### Original Research Article

**Aim:** To study epidemiological, clinical and therapeutic characteristics of eyelid basal cell carcinomas and to emphasize the interest of early diagnosis and appropriate management of this pathology. **Methods:** We report a retrospective study of 30 cases of eyelid basal cell carcinoma, collected between 2009 and 2019. All our patients underwent a complete ophthalmological examination, a general examination (with search for preauricular or submandibular lymphadenopathy) and a biopsy-excision of the tumor. Orbito-cerebral CT scan was requested in tumors with locoregional extension. **Results:** The average age was 59 years with sex ratio equal to 1. The notion of smoking was found in 48% of cases and Xeroderma Pigmentosum in 10% of cases. The tumor was located in the lower eyelid in 2/3 of the cases. Surgical treatment involved 28 cases, or 94%. Eyelid reconstruction was required in 24 cases. We noted two cases of recurrence requiring additional resection. **Conclusion:** Basal cell carcinoma is the most frequent malignant tumor of the eyelids. The treatment is mainly surgical. Radiotherapy is indicated for incomplete excision, neural invasion or recurrence. The prognosis essentially depends on the risk of recurrence.

**Keywords:** basal cell carcinoma, eyelid, surgery, eyelid reconstruction, radiotherapy, recurrence.

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## INTRODUCTION

Basal cell carcinoma is the most common eyelid malignant tumor. It represents 80% of malignant tumors of the eyelids. His favorite location is the lower eyelid. It most often affects subjects of fair skin and over 60 years [1]. Clinical diagnosis is easy except in advanced forms. Treatment is based on surgery and / or radiotherapy. The prognosis essentially depends on the risk of recurrence.

The aim of this study is to present the diagnostic and therapeutic elements of eyelid basal cell carcinomas and to emphasize the interest of early diagnosis and appropriate management of this pathology.

## METHODS

We report a retrospective study of 30 cases of eyelid basal cell carcinomas, collected between 2009 and 2019. We specified age, sex, ophthalmological and general history, risk factors (notion of exposure to rays

ultraviolet, pesticides, irradiation, etc.), functional signs and consultation delays. All our patients underwent a full ophthalmological examination in order to specify the clinical characteristics of this palpebral tumor: size, site, anatomic-clinical aspect (pearly, pigmented, ulcerated ...), and locoregional extension. Our patients benefited from surgical excision and periodic post-operative follow-up.

## RESULTS

The average age of our patients was 59 years old. Both sexes were affected equally. 32% of cases were urban and 68% were of rural origin. The notion of smoking was found in 48% of cases. UV exposure was noted in the majority of patients. Xeroderma Pigmentosum was noted in 10% of cases (Figure-1). The average diagnostic time was 19.5 months. The tumor was located in the lower eyelid in 2/3 of cases (20 patients), in the upper eyelid in 4 cases and in the medial canthus in 6 cases.



**Fig-1: Photo showing a basal cell carcinoma of the lower left eyelid with nodular form**

An ulcerated form was noted in 54% of basal cell carcinomas, nodular form in 36% of cases (Figure-2) and pigmented form in 10% of cases (Figure-3).

Surgical treatment involved 94% of the cases. Two patients refused surgery. All patients underwent tumor excision with a 4mm safety margin.



**Fig-2: Photo showing a basal cell carcinoma of the right medial canthus with nodular form**



**Fig-3: Photo showing a basal cell carcinoma of the lower left eyelid with pigmented and localized form**

We practiced direct suturing technique in 4 cases. Eyelid reconstruction was necessary in 24 cases (80%). It was done either in one or two steps and depended on the extent of substance loss in height, width and depth.

The substance losses after carcinological excision were treated either by: a free-skin graft for superficial substance losses, a pentagonal resection with edge-to-edge approximation for eyelid defects <1/4 of eyelid surface. When the tumors were extensive: reconstruction was done by rotational flaps or by tarsomarginal grafts (Hubner's grafts). Radiotherapy has been indicated as a first-line treatment, either for curative purpose in order to reduce tumor size and make it accessible to surgical treatment, or for palliative purposes. Adjuvant radiotherapy has been indicated in addition to incomplete resection or after tumor recurrence.

## DISCUSSION

Basal cell carcinoma is the most common eyelid tumor. It represents 80% of malignant tumors of the eyelids [1]. Basal cell carcinoma seems to occur de novo, without primitive lesion, but a transformation of solar keratosis into basal cell carcinoma remains possible [2]. The ozone layer thinning and the cumulative sun exposure are important risk factors [3]. In our series, UV exposure was found in the majority of cases. Basal cell carcinomas are the prerogative of the elderly, however, they can occur in young people. In the literature, no predominance of sex has been noted for the occurrence of basal cell carcinomas [1, 4]. Our results were comparable to those of the literature. According to some authors [5, 6], active smoking has been significantly incriminated in the occurrence of eyelid basal cell carcinoma. In our series, smoking was noted in 48% of cases, especially in male patients. Congenital diseases such as albinism, basal cell nevomatosis and xeroderma pigmentosum lead to a high risk of skin carcinomas occurring at an earlier age [7]. Carcinoma associated with xeroderma pigmentosum is more aggressive and recurrent [8]. In our series, we reported 10% of cases.

In the literature, basal cell carcinoma is preferentially located in the lower eyelid. Wang *et al.*, [4] reported a 44.3% rate of basal cell carcinomas in the lower eyelid. In our series, 2/3 of the cases were located in the lower eyelid.

In tumor extension evaluation, it is necessary to look for: conjunctival, orbital, ganglionic (preauricular and sub-mandibular) and lacrimal ducts extension. Suspicion of a deep or locoregional invasion may justify the indication of additional imaging explorations: ocular and orbital ultrasound, orbito-cerebral CT scan and / or orbito-cerebral magnetic resonance imaging.

The surgical technique is decided according to tumor parameters. The recommended safety margin is usually 3 to 4 mm. Gooding *et al.*, [9] found 35% clinical recurrence when excision is histologically incomplete. In our series, the average safety margins were 4 mm. It therefore seems that the extemporaneous examination is an additional safety procedure to guarantee carcinological tumor excision. The main indications for extemporaneous examination are represented by atypical basal cell carcinomas by their sizes and their locations.

The prognosis of basal cell carcinomas depends mainly on the risk of recurrence. In the literature, the medial canthus and lower eyelid locations are associated with a high risk of tumor recurrence [10]. According to Rodriguez *et al.*, [11], basal cell carcinomas located in the medial canthus were 1.5 times more invasive than other eyelids locations. An inverse correlation between the size of the tumor and the definitive cure rate after surgical excision has been noted by different authors. Thus, for basal cell carcinoma, a tumor size greater than 1 cm is associated with a high risk of recurrence.

## CONCLUSION

Basal cell carcinoma is a malignant tumor with an exclusively local extension. If its treatment is delayed or insufficient, it can become threatening with a real potential for recurrence and deep extension. Therapeutic management must be multidisciplinary with cooperation between the ophthalmologist, the anatomopathologist and the radiotherapist.

**Conflicts of Interest:** The authors declare no conflicts of interest.

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