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Management of Palpebral Carcinoma

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Abstract | **Original Research Article**

Palpebral carcinomas are the most frequent malignant tumors, dominated by basal cell carcinomas followed by squamous cell carcinomas with a prediction for the lower eyelid. We carried out a retrospective study in our maxillofacial surgery and stomatology department at the Mohammed V military hospital in Rabat. We collected 23 cases over a 3-year period from 2020 to 2023, including 16 men and 7 women, with an average age of 65 years. Palpebral carcinomas pose a management problem, given their proximity to the eyeball and the risk of infiltration, hence the importance of a meticulous clinical-radiological assessment and diagnostic biopsy prior to any therapeutic decision. The gold standard of treatment is surgery, with reconstruction to meet functional and morphological requirements. A number of techniques are described, and the choice depends on the degree of loss of substance and the surgeon's experience.

Keywords: palpebral carcinomas, malignant tumors, reconstruction, excision, basal cell carcinoma.

INTRODUCTION

Palpebral carcinomas are malignant skin tumours that affect the eyelids. Basal cell carcinomas account for around 90% of cases, followed by squamous cell carcinomas. They most often affect elderly patients with a history of sun exposure as the main risk factor. The prognosis depends on the histological type of tumour and the time taken to treat it, with a poor prognosis for aggressive and extensive tumours, which may require more invasive procedures.

Treatment is most often surgical, starting with carcinological excision with margins adapted to the histological type and subtype of the tumour. This phase is essential and must be carried out rigorously to avoid recurrence, which is more difficult to manage. The second stage is devoted to reconstructing the loss of substance using various reconstructive surgery techniques. This stage may be performed in a single operation or delayed depending on the technical resources available: extemporaneous examination or other available techniques. The choice of technique depends on the extent of the resection, whether or not it is transfixing, and the experience of the surgeon. Whatever technique is chosen, it must meet two objectives: the first is functional, essentially ensuring protection of the eyeball and cornea, and the second is morphological, trying to restore the normal appearance of the eyelid as far as possible.

In this article, we report on a series of 23 cases of palpebral carcinoma operated on in our department between June 2020 and June 2023 and discuss our results based on an updated literature review.

MATERIALS AND METHODS

We conducted a retrospective descriptive study over a period of 3 years between June 2020 and June 2023 on eyelid carcinomas operated on in the Maxillofacial Surgery and Stomatology Department of the Mohammed V Military Hospital in Rabat.

The study includes patients operated on for cutaneous carcinoma of the eyelids with usable medical records, excluding patients operated on for other malignant cutaneous tumours such as melanomas, as well as patients lost to follow-up or patients whose medical records are not usable.

A literature review was then carried out using medical databases: Pub Med, Science direct, Google Schoolar with the following key words: cutaneous carcinoma, eyelid, reconstruction.

RESULTS

Over a period of 3 years, we compiled the records of 23 patients operated on for palpebral carcinoma, including 16 men and 7 women with an average age of 56 years and extremes between 40 and 80 years.

The main risk factor found was the presence of prolonged exposure to the sun in all patients, linked to their profession and the absence of any use of sun protection. Light phototypes predominated: type III in 16 patients, type II in 5 patients and only two patients with phototype IV.

The delay between the appearance of lesions and the first consultation was between 3 months and 3 years, with an average of 7 months.

All patients received a dermatological consultation with a dermoscopic examination, except for patients with advanced tumours who were referred directly to a maxillofacial surgery consultation.

The predominant location was the lower eyelid in 16 cases (60.86%), followed by the medial canthus in 5 cases (21.73%), the lateral canthus and the upper eyelid in two cases each (8.7%).

The most common histological type was basal cell carcinoma in 18 patients (78.26%), the remainder being squamous cell carcinomas.

An extension work-up was requested when there were signs of deep infiltration of the tumour, especially in the eyeball, such as infiltration of the tumour, a reaction in or invasion of the conjunctiva, diplopia on ophthalmological examination, or reduced mobility of the eyeball. This assessment is carried out using MRI or CT scans of the facial mass.

All patients underwent an ophthalmological examination to assess visual acuity and eyeball mobility, and a fundus examination for patients at risk of retinal pathology to rule out retinal detachment, which may be aggravated by palpebral surgery and should be operated on first.

Patients with squamous cell carcinoma underwent a CT scan of the facial region combined with a cervico- thoraco-abdomino-pelvic CT scan (CTAP): no secondary locations were found.

Given the location of the disease and the complexity of its management, treatment was discussed on a case- by-case basis at a multidisciplinary consultation meeting.

Surgical treatment consisted of excision with margins adapted to the histological type, and was transfixing in 6 patients who required reconstruction using an epithelial-conjunctival graft for the tarso-conjunctival blade.

Exenteration was performed in 5 patients with locally advanced squamous cell carcinomas (figure *1*).

Figure *2*: exenteration with reconstruction using 2 flaps: temporal and jugal for infiltrating squamous cell carcinoma with invasion of the eyeball

Reconstruction was adapted to the extent of the excision and was performed in a single operation to ensure coverage of the eyeball after checking the excision margins by means of an extemporaneous anatomopathological examination.

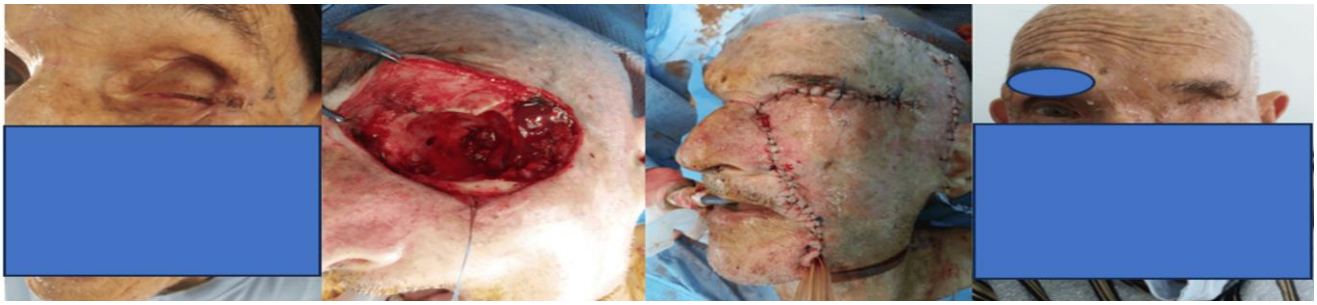

Figure 1: Exenteration with reconstruction using 2 flaps: temporal and jugal for infiltrating squamous cell carcinoma with invasion of the eyeball

The orbital exenteries were reconstructed using a temporal muscle flap with skin coverage using a Mustardé jugal flap (Figure *1*).

The different flaps used for skin coverage are summarised in Table *1*. They were dominated by the Tenzel flap (figure *2*), followed by the Mustardé flap and the fronto-glabellar flap (figure3)

Table 1: Different flap reconstruction

Reconstruction flap	Number of patients
Tenzel flap	6
Fronto-glabellar flap	5
MUSTARDE flap	4
Heteropalpebral flap	2
Exentrations	5
Suprafurcilar flap	1

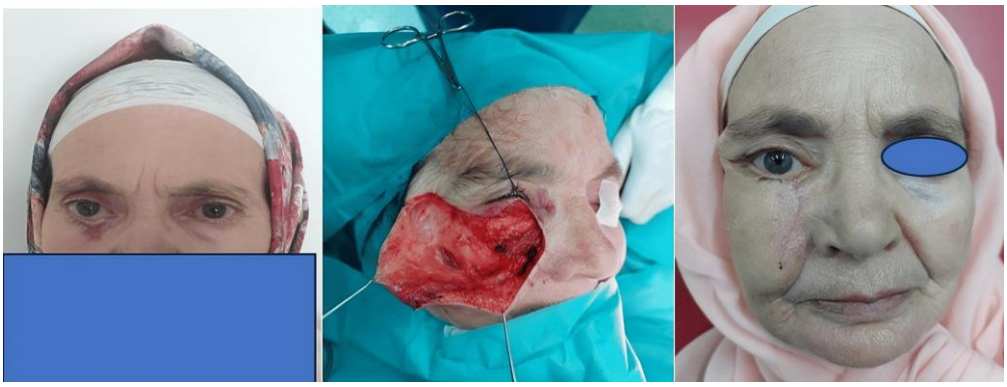

Figure 2: basal cell carcinoma of the lower eyelid excision and reconstruction with a Tenzel flap

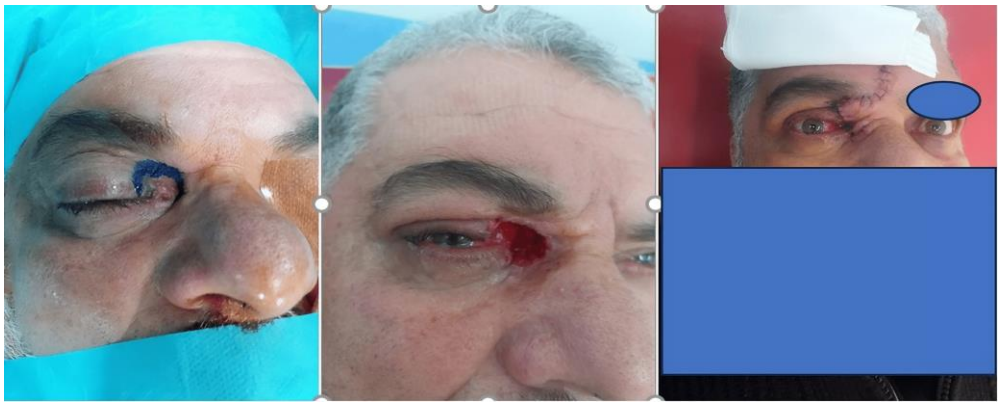

Figure 3: basal cell carcinoma of the medial canthus excision and reconstruction using a fronto-glabellar flap

Figure 4: Removal of a BCC of the lower eyelid: reconstruction using an epithelial-conjunctival graft and a bi-pediculated heteropalpebral flap

Given the retractile nature of skin grafts, which can lead to ectropions, none of our patients received a skin graft.

The evolution was marked by the occurrence of a recurrence in a patient operated for a squamous cell carcinoma of the lower eyelid with exenteration and the occurrence of an ectropion in only one patient with a good evolution after 3 months.

DISCUSSION

Palpebral carcinomas represent between 5 and 10% of all skin carcinomas [1] Geographical variations in sunlight, phototype and the average age of the population are determining factors in the type of skin tumours[1]. In Morocco, we do not have a national cancer register that allows us to carry out studies on larger populations over long periods, so we cannot talk about incidences. It is in these cases that the information

provided by studies carried out by specialist university centres is of most interest.

Prolonged exposure to the sun is the main risk factor, especially for fair-skinned people [1]. Other genetic risk factors have been found, such as in Gorlin syndrome or Xeroderma pigmentosum for basal cellcarcinoma[2]. Other common risk factors, such as immunosuppression and radiation exposure, should also be taken into account.

Clinical and dermoscopic examinations help to identify the histological type of tumour and guide management. Subsequent biopsy is used to confirm the diagnosis, determine the histological subtype and other histoprognostic factors [3].

Any sign of infiltration of the eyeball, such as exophthalmos, diplopia or reduced visual acuity, should be investigated [4].

Orbital MRI is the examination of choice for studying invasion of extra- and intra- conical fat, the conjunctiva and the eyeball [4]. CT scans are mainly used to look for bone invasion and distant metastases using C-TAP scans, which are only indicated for tumours with the potential to metastasise at a distance, such as squamous cell carcinoma [5].

The most frequent locations found in the various published series are in the lower eyelid, followed by the inner can thus, then the upper eyelid and finally the outer canthus [6,1], which is consistent with our results.

After a full ophthalmological assessment, the disease is managed surgically in the absence of secondary localization. This surgery may be preceded by neoadjuvant chemotherapy to reduce the size of the tumour in the case of locally advanced squamous cell carcinomas.

Surgery is currently the most effective treatment in terms of recurrence at 5 years, and consists of total removal of the tumour with macroscopic margins for lateral removal depending on the histological type [7]. In depth, tumour removal must reach a healthy anatomical barrier; this condition poses a problem for carcinomas of the free edge, which require transfixing removal [3].

Exenteration is still indicated for advanced tumours, which are less and less frequently encountered. In our series, 5 patients underwent exenteration for squamous cell carcinomas [8], this high rate is probably explained by the low socio-economic level and by the period of the study just after the COVID-19 pandemic with its restrictions, which led to a delay in diagnosis.

The margins of excision constitute a prognostic factor in cutaneous carcinological surgery [7]. These margins must be checked before any reconstruction either by a classic extemporaneous examination as in our case, or by Mohs' micrographic surgical technique and its variants which require training in anatomopathology and a room with a microscope in the operating theatre. This technique is more widely used in cutaneous surgery in America [9]. If these two options are not available, reconstruction surgery will be performed at a later stage.

Reconstruction of loss of palpebral substance has a dual purpose: functional and morphological. It must protect the eyeball and prevent complications. Several techniques are possible, depending on the size and depth of the loss of substance. These techniques vary, ranging from exeresis-suture to reconstruction using more complex procedures [10][11]. In order of importance, the globe must be protected by a complete and mobile upper eyelid, the lower eyelid must be well attached to the globe and flush with the limbus, and the two functional lamellae must be reconstituted: the posterior lamella with a tarsus and conjunctiva attached to the retractors, and the anterior lamella with sufficient skin and orbicular muscle function to ensure occlusion [12]. Indications depend on the location, extent and depth of the loss of substance, as well as the experience of each surgeon.

Non-surgical treatments are indicated from the outset in patients who cannot be operated on or who refuse surgery. Topical treatments are available to treat superficial basal cell carcinomas up to 1 mm thick. These include imiquimod, photodynamic therapy (PTD) with methylaminolevulinate, or 5-fluorouracil (5-FU). In the absence of pathology control, the indications for local treatments are restricted to small or superficial tumours with a low risk profile [13]. Chemotherapy is also possible for metastatic basal cell carcinomas [2]. For squamous cell carcinomas, in addition to radiotherapy and chemotherapy, the recent development of genomic profiling of squamous cell carcinomas offers a new opportunity to propose a tailor-made treatment using a targeted therapy based on the clinically relevant genomic alterations found for each tumour [14].

CONCLUSIONS

Palpebral carcinomas are fairly common, with an uneven geographical distribution in terms of incidence and predominant histological type. This difference can be explained by variations in sun exposure and phototype: in Sub-Saharan Africa, squamous cell carcinoma is more common than basal cell carcinoma, which is the opposite in North Africa and Europe.

These tumours pose a management problem due to their proximity to the eyeball, which requires a meticulous clinical examination, a radiological assessment in the event of the slightest sign of invasion of the eyeball, followed by complete surgical removal

and appropriate reconstruction to preserve the functions of the eyelid and prevent complications, particularly exposure keratitis.

In our series, we observed a high number of exenterations, which is linked firstly to the socio-economic level of the population concerned and the difficulties in accessing care, but also to the study period directly after the lifting of restrictions linked to the COVID 19 pandemic.

Finally, it should be emphasised that the first step in the treatment of cutaneous carcinomas in general, and those of the eyelids in particular, is primary prevention through sun avoidance and the use of protective measures from an early age.

REFERENCES

1. A. Echchaoui *et al.,*: Management of eyelid carcinomas: Retrospective bicentric study of 64 cases and review of the literature, J. Fr. Ophtalmol., vol. 39, no. 2. 187:194. 10.1016/j.jfo.2015.05.011
2. C. Renaud-Vilmer and N: Basset-Seguin, "Carcinomes basocellulaires,". Rev. du Prat., vol. 64, no. 1, pp. 37-44. 2014, 1016:0246-0319.
3. J. Lasudry, F: Mouriaux, P. Robert, and J. Adenis, "Tumeurs palpébrales : aspects cliniques , diagnostiques et thérapeutiques Palpebral tumours : Clinical , diagnostic and therapeutic aspects," vol. 37, no. 20, pp. 1-31. 2024, 1016:0246-0343. 10.1234/revprat.2024.03720.001
4. F: Héran, "Imagerie des masses orbitaires,". Neurochirurgie, vol. 56, no. 2-3, pp. 89-120, Apr. 2010, 10.1016/J.NEUCHI.2010.02.031
5. Z. Khtibari, M. El Belhadji, L. Benhmidoune, S. Berrada, S. Rqibate, and A: Amraoui, "Squamous cell carcinoma of the eyelids. Review of 7 years of experience of the adult ophthalmology service of the Casablanca university medical center,". J. Fr. Ophtalmol., vol. 38, no. 2, pp. 134-140. 2015, 10.1016/j.jfo.2014.09.012
6. "No Title," Older JJ, Quickert MH, Beard C: Surg. Remov. basal cell carcinoma eyelids Util. frozen Sect. Control. Trans Sect Ophthalmol Am Acad Ophthalmol Otolaryngol. 197579658631189162. https://pubmed.ncbi.nlm.nih.gov/1216220/?utm_source.
7. J. Sei: Marges d ' exérèse carcinologique en chirurgie dermatologique,. vol. 8, no. 13, pp. 1-9. 2014,1016:0246-0319.
8. A. Martel *et al.,*: Orbital exenteration: an updated review with perspectives, . Surv. Ophthalmol., vol. 5:856-876. 10.1016/j.survophthal.2021.01.008
9. F. Habib, A. Ly, and P.-E. Stoebner: Chirurgies micrographiques,. Ann. Dermatologie Vénéréologie - FMC, vol. 3, no. 3. pp.:167-180. 10.1016/j.fander.2023.01.002
10. J. B: Holds, "Lower Eyelid Reconstruction," Facial Plast. Surg. Clin. North Am., vol. 24, no. 2. 183:191. 10.1016/j.fsc.2016.01.001
11. G. M. Espinoza and A: M. Prost, "Upper Eyelid Reconstruction," Facial Plast . Surg. Clin. North Am., vol. 24, no. 2, pp. 173-182. 2016, 10.1016/j.fsc.2015.12.007
12. J: Lasudry, "Management of eyelid tumors: General considerations," . J. Fr. Ophtalmol., vol. 34, no. 10, pp. 741-754. 2011, 10.1016/j.jfo.2011.07.010
13. M. H. Roozeboom *et al.,*: Tumor thickness and adnexal extension of superficial basal cell carcinoma (sBCC) as determinants of treatment failure for methylaminolevulinate (MAL)-photodynamic therapy (PDT), imiquimod, and 5-fluorouracil (FU).,. J. Am. Acad. Dermatol., vol. 73, no. 1, pp. 93-98, Jul. 2015, 10.1016/j.jaad.2015.03.048
14. "Immunothérapie par anti-PD1 et carcinomes épidermoïdes cutanés localement avancés : un futur proche ? - EM consulte." Accessed: Feb. 24. 2024, 1180923:1.