

Palpebral Tumors: A Retrospective, Epidemiological, Clinical And Therapeutic Study: About 16 Cases

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Abstract

Original Research Article

The eyelid has the characteristic of containing tissues of very diverse origins in a small volume. All these tissues can degenerate in a malignant or benign way with a benign majority. The orbito-palpebral tumors are characterized by a histological diversity due to the architectural complexity of the orbito-palpebral region. Our study consists in an epidemiological, histological, therapeutic and evolutionary analysis of these carcinomas through a retrospective study extended over a period between April 2021 and March 2022, regrouping 16 patients with eyelid tumors operated in the department of Plastic, Reconstructive and Aesthetic Surgery, Center for Burned Patients, CHU Tangier-Tetouan-Al Hoceima. The age of our patients varies between 8 and 80 years with an average age of 62.37 years with a clear male predominance. The rural origin represented (68.75%) and the majority was exposed to the sun. All regions of the eyelid were involved with a concentration of lesions in the upper eyelid (75%). Basal cell carcinoma is the most frequent histological type (75%), followed by adenoid cystic carcinoma (18.75%). The macroscopic appearance of the carcinomas was ulcerated in the majority of cases (47.22%). Tumor excision was the therapeutic rule in all our patients, respecting a margin of safety adapted to the histological type and the tumor size. Exenteration has been performed on 13 patients. The repair procedure was adapted to the site and extent of the substance loss. Reconstruction involved locoregional flaps in 63% of cases. Adjuvant radiotherapy was required in 5 patients. The evolution was favorable with a spectacular regression of the clinical signs.

Keywords: Tumor, eyelids, epidemiology, exenteration, palpebral reconstruction.

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INTRODUCTION

The eyelid is a complex, mobile cutaneous-musculo-tarso-conjunctival blade covering the anterior part of the eyeball. The thinness of this organ means that any tumor lesion in the palpebral tissue causes its deformation. In addition to the dysfunction that a palpebral tumor can cause, it affects the aesthetics of the eyelid. It is therefore fundamental to take care of the aesthetic aspect during the palpebral reconstruction. Palpebral tumors account for 15% of facial malignancies and 5-10% of all skin tumors. The well-known risk factors classically include cumulative sun exposure and the presence of precancerous lesions. Its incidence increases regularly with age. The most frequent histological type is basal cell carcinoma. Surgery, radiotherapy and chemotherapy are the three

axes of treatment for these tumors. Surgery is the main step in the management of a palpebral tumor, especially for precancerous and cancerous lesions, as this treatment ensures a better prognosis.

MATERIALS AND METHODS

This study was carried out retrospectively on 16 patients with palpebral tumors in the the department of Plastic, Reconstructive and Aesthetic Surgery, Center for Burned Patients, CHU Tangier-Tetouan-Al Hoceima between April 2021 and March 2022.

All of our patients have undergone a complete clinical examination. The therapeutic means used were surgery and radiotherapy. Once the indication for surgery was established, the patients underwent a standard pre-anesthetic check-up. A cardiological

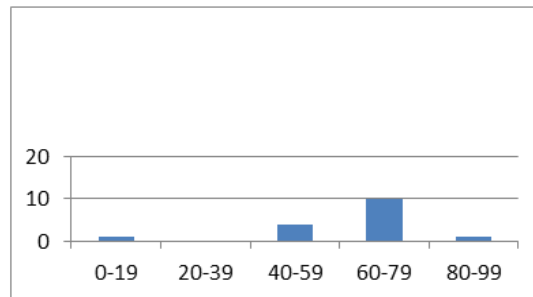
opinion with a possible heart echo is considered necessary for some patients. The patients are informed of the importance of the envisaged deficit and the possibility of performing an exenteration.

Clinical, radiological, histological and therapeutic data are collected for each patient from the medical records. Pre- and post-operative photographs of the tumor are systematically taken. The results were collated and analyzed using the EXCEL program with tables, frequencies, and percentages.

RESULTS

A total of 16 patients presented to the Department of Plastic, Reconstructive and Aesthetic Surgery, Center for Burned Patients, CHU Tangier-Tetouan-Al Hoceima during the period under study.

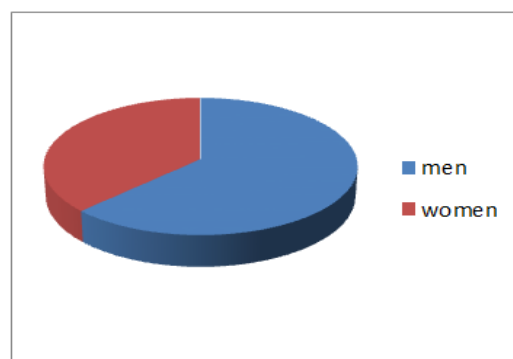
All patients combined, the mean age at tumor discovery was 62.37 years with extremes ranging from 8 to 80 years.



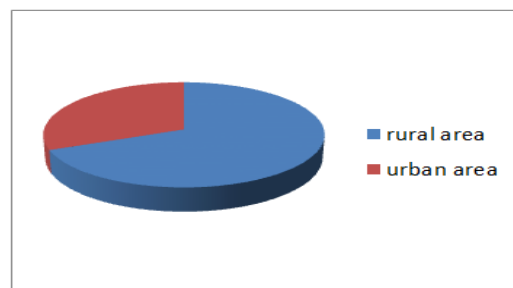
Graph 1: Distribution of patients according to age

For men, the average age is 65.3 years with extremes ranging from 40 to 80 years. In women, the average age is 57.5 years with extremes ranging from 08 to 78 years. 68.75% of the patients have an advanced

age of more than 60 years. Our series consists of 10 men (62.5%) and 6 women (37.5%). In our series, 68.75% were from rural areas.



Graph 2: Distribution by gender

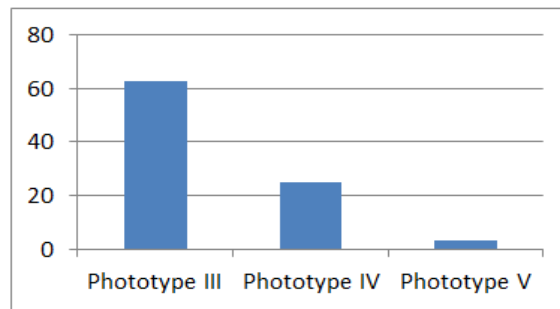


Graph 3: Geographical distribution

The delay between the appearance of the clinical symptoms and the consultation varied between 04 months and 03 years, it was on average 18 months, since the majority of our patients consulted only after 10 months of the appearance of the first clinical sign.

In our series, we report 3 cases of tumor recurrence.

Phototype III was the predominant phototype with 62.5% of cases, followed by phototype IV in 25% of cases and phototype V in 12.5% of cases.



Graph 4: Distribution by phototype

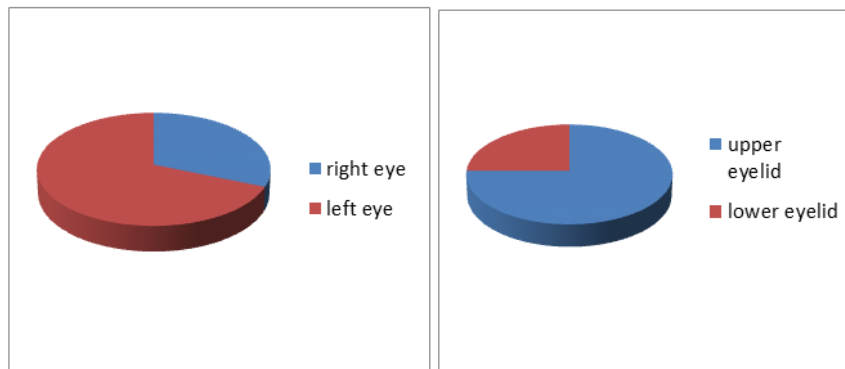
All our patients were exposed to the sun during their childhood and adolescence, without significant protection. Sun exposure was difficult to quantify, nevertheless, it was found to be significant in 63% of our patients in connection with an outdoor professional activity.

Chronic smoking was found in 4 patients, all of them males, the 4 cases of basal cell carcinoma.

The other antecedents are summarized in a diabetes treated by oral antidiabetics in 3 cases, 4 cases of arterial hypertension.

In our series, the left eye was affected in 11 cases (68.75%), the right eye in 5 cases (31.25%).

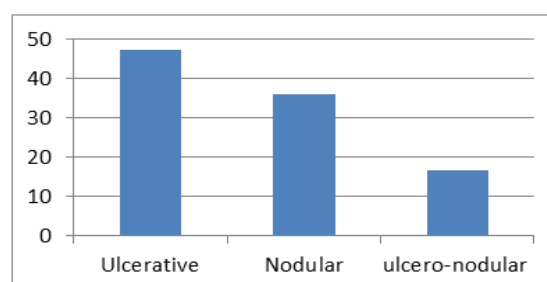
The upper eyelid was affected in 12 cases 75%, the lower eyelid in 4 cases 25%.



Graph 5: Distribution by tumor site

In our series, orbital infiltration of the palpebral tumor was found in 50% of cases with invasion of the optic nerve in only one case.

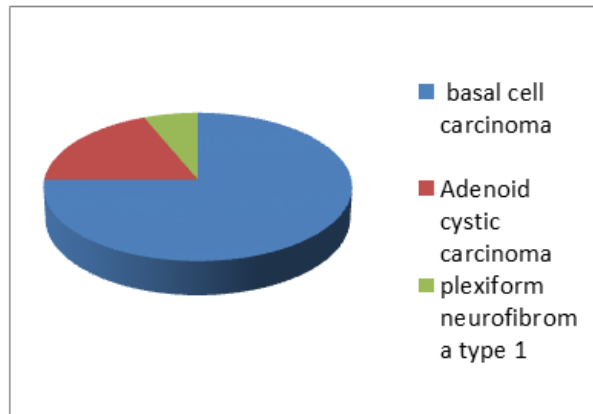
The macroscopic aspect was dominated by ulcerated lesions in 47.22% of cases, followed by nodular lesions in 36% and ulcerated-nodular lesions in 16.66%.



Graph 6: Distribution of carcinomas according to their macroscopic appearance

The otolaryngology examination was unremarkable in all our patients. The lymph nodes are free, notably no pre-tracheal or submandibular adenopathies. The rest of the clinical examination was unremarkable.

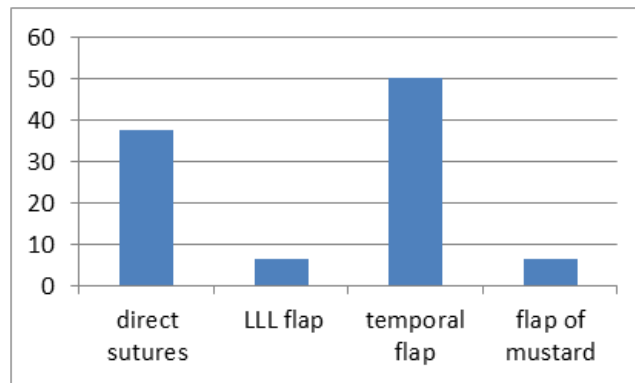
All patients in our series underwent diagnostic biopsy and the anatomopathological study revealed: 12 basal cell carcinomas, i.e. 75%, 3 adenoid cystic carcinomas, i.e. 18.75%, and 1 case of plexiform neurofibroma, i.e. 6.25%, which is part of a neurofibromatosis type 1.



Graph 7: Histological types

All our patients underwent surgical treatment, eight of which were exenteration cases, i.e. 50%. With

single-stage reconstruction in 1 case and 8 cases of reconstruction in a second stage.



Graph 8: Hedging Techniques

In our series, no patient underwent lymph node dissection.

External radiotherapy was used in addition to surgery in five cases. No chemotherapy was administered in our patients.

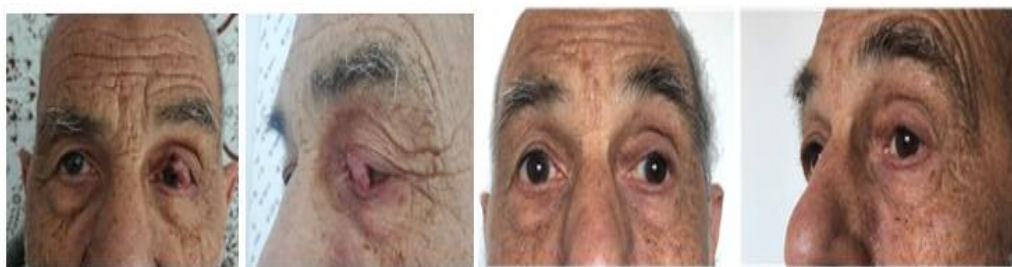


Figure 1: Exeresis and direct suture of a nodular hidradenoma



Figure 2: Reduction of a plexiform neurofibroma in a patient with neurofiromatosis type 1



Figure 3: A: Ulceration of almost the entire left eyelid. B: Placement of concual cartilage. C, D: Coverage by the mustard flap. E, F: 2 months after surgery



Figure 4: Basal cell carcinoma invading the ocular globe treated by exenteration and coverage by a temporal flap 2 months after the first operation

DISCUSSION

In our series the majority of patients were of advanced age, with 68.75% of cases being older than 60 years, which is consistent with the results of several studies. In Iceland, a study collated from the national cancer registry, reporting all cases of orbital-palpebral basal cell carcinoma observed over a period of 25 years, showed that the end of the sixth decade was the most affected [1]. The mean age of our series was 62.37 years, similarly, it was 60.6 years in the study of Echachoui [2], 60 years for Halimi [3] and 62.7 years for Messaoudi. It was slightly higher (64 years) in the study of Ducasse [4].

Some studies cited a male predominance while others found no difference. In our study there was a male predominance with 62.5%. In Finland, the incidence of occurrence of orbito-palpebral tumors varies between 0.7 and 3.0 per 100,000 men/year and between 0.5 and 2.8 per 100,000 women/year [5]. Echachoui's study shows a female predominance of 39 women against 25 men [2]. This male predominance is

explained by the fact that men are more exposed to the sun due to the nature of their work and that the majority of them do not use any means of protection unlike women.

In our series, 68.75% came from rural areas. This distribution is due to the recruitment bias, to the rather difficult living conditions of the population concerned, accentuated by the lack of means to move around and a low level of education regarding pre-exposing lesions and sun exposure. Our data are consistent with those of M.Elhaouri: 60% of the patients lived in rural areas while 35% came from urban areas. For H. Boukind, the rural origin represented 54% [6] while Mernissi reported a rate of patients of rural origin of about 58% [7]. Our results are in line with the majority of other Moroccan, Maghrebian and African studies.

Chronic sun exposure is the most important risk factor: Cumulative sun exposure in light-skinned subjects greatly increases the likelihood of developing

orbital-palpebral cancer. The pigmented skinned subject is more protected against this risk. In our series, all patients reported sun exposure.

Light phototypes are considerably more prone to skin carcinomas according to the majority of studies. Thus Barro reports 65-75% of basal cell carcinomas of skin cancers found in whites and 3% of basal cell carcinomas of skin cancers found in blacks. Red or blond hair color, fair complexion, low tanning capacity and tendency to sunburn are risk factors for the occurrence of skin carcinomas. In a study performed at the Hassan II University Hospital by Mernissi, phototype III was the predominant phototype in 57% of cases, followed by phototype IV in 35% of cases [7], which is consistent with our results. In a study performed in Brazil, phototypes I and II were the predominant phototypes 77% of the cases, followed by phototypes III and IV in 23% of the cases, Samarasinghe and Madan found that 80.5% of their patients were Caucasian and finally the patients of Dumas et al were all Caucasian. This distribution is not the same internationally due to the difference in the predominant phototype in each country.

In our series, the history of the disease lasted on average 18 months for all histological types combined. The long duration of evolution before the consultation accounts for the advanced forms found in our series and the frequency of intra-orbital extension. It is longer when compared to the one reported by Howard which is 1 year. Delay in diagnosis is common: the tendency to trivialize these carcinomas which evolve slowly, and the low socio-intellectual level, explain the delay in consultation. M.El Haouri found in his series an average duration of evolution before consultation of a few months to 2 years (24 months) whereas a recent study by Alli hassan which reported an average duration of 3.3 years (39.9 months) for all histological types combined [8]. A study done in Dakar reported an average duration of 2.9 years (34 months), while Felix Boon Bin reported a shorter duration of 1.48 years (17.8 months) on average.

The globe was totally destroyed in 50% of the cases, with invasion of the optic nerve in only one case. Another case has been published reporting destruction of the globe by evolving basal cell carcinoma, which shows that basal cell carcinoma can be aggressive [9]. Howard reported 11 cases out of 440 patients 2.5%, and Wong reported that 1.6% of 619 cases had orbital invasion.

The lower eyelid and the medial canthus are the most common sites of orbital invasion [10], in our study the upper eyelid was the most common site (75%). In our series, the left eye was the most affected (68.75%). In Bonnay's series, the same finding was found, contrary to Ducasse, with a slight right-hand predominance at 50.25% [4].

Classically, the external part of the eyelids is drained to the preauricular nodes, and the internal part to the submandibular nodes [11]. The examination of the lymph nodes did not find any adenopathy, especially in the preauricular and submandibular nodes, which is also the case in our series. Basal cell carcinoma rarely leads to lymph node metastases.

Clinically, the carcinomas evolved in several forms [12]. The ulcerated aspect was the most frequent in our series. This agrees with the clinical findings of Echachoui (43.73%) [2], while the Benaatiya and M.el haouri study reported a lower rate [13].

In our series, diagnostic biopsy showed the predominance of basal cell carcinoma in 12 patients (75% of cases), followed by 3 adenoid cystic carcinomas (18.75%) and 1 case of plexiform neurofibroma as part of a neurofibromatosis type 1 (6.25%) Basal cell carcinoma is the most frequent malignant tumor of the palpebral skin in the Maghreb countries. Our series is in line with the Maghreb results, basal cell carcinoma is the most frequent and represents 66.66% of cases. This tumor is rare in black African countries. Basal cell carcinoma represents only 1/10th of the orbito-palpebral carcinomas in Africans because it is protected by a strong melanin pigmentation [14]. In France, an epidemiological study covering a period of 70 years from 1925 to 1995 and involving 1705 cases of tumors of the eye and its adnexa revealed 488 cases of basal cell carcinoma (i.e. 28.62%) [15]. A Polish study of 303 cases of basal cell carcinoma showed that the orbito-palpebral location occupied the second place with 16.6% of all patients.

Direct marginal suture is used for full-thickness substance losses of less than or equal to 25%, or even 30% if there is horizontal palpebral hyperlaxity, in order to obtain the best possible aesthetic result, the palpebral resection must be pentagonal and full-thickness and the vertical edges of the resection must be perpendicular to the free edge [16]. In our study, 36% of cases benefited from a direct suture.

Orbital exenteration is the treatment of choice for almost all malignant tumors extending to the orbit as reported in the literature [17]. In our series 08 cases benefited from exenteration, i.e. 50% (After their signed agreement). The results of khtibari had reported a high rate of 48%, Ali Hassan also reported a high rate of 54.4% [8]. While Benaatiya, L.Kani and Echachoui had reported a lower rate compared to our study [2, 13].

Reconstruction after tumor removal aims to restore as much of the anatomy and function of the reconstructed area as possible. This repair must be as aesthetic as possible. In our series, the technique of extemporaneous examination was never used and for this reason the reconstruction was done in a deferred

way in the majority of our patients after the result of the classical histology.

Some schools advocate immediate reconstruction, others the opposite. Immediate flap reconstruction provides a better immediate appearance and postoperative radiation is possible. In our series, only one patient benefited from immediate coverage. In fact, the methods of immediate reconstruction were hampered by the fact that they could mask a possible recurrence.

The most common technique used in the literature for filling the orbital cavity is the temporalis muscle flap, which was used in half of the cases that underwent reconstruction, i.e. 50% [18]. The results of B. Langlois reported a lower rate of 17%, while S. Benazzou used this flap in 10 cases (66.6%) and Echachoui reported a lower rate (1.56) [2]. We also used the Mustard flap for the repair of the lower eyelid substance loss in only one patient in our series, while Benaatiya reported a rate of use of 5.88% and Echachoui reported a high rate of use (31.25%) [2].

The different teams present two radiotherapy techniques used in orbito-palpebral tumors: external radiotherapy and the linear particle gas pedal. In general, radiotherapy gives satisfactory results, both in terms of carcinology and aesthetics and function. Especially in cases of basal cell carcinoma which is known to be radiosensitive. In our series radiotherapy was performed for 31.25% of our patients (5 cases) which is close to the results of Khtibari with a rate of 20% and Benaatiya used radiotherapy for a lower rate of patients (4%) [13].

Systemic therapy is used in exceptional metastatic forms. It can also be also find its indication in very advanced forms imposing an excessively damaging procedure on a noble organ, it sometimes allows remissions or size reductions before another treatment.

CONCLUSION

Finally, the most important thing to remember is that palpebral tumors constitute a frequent reason for consultation with rich and varied pictures. Basal cell carcinomas are predominant. There are many methods of reconstruction. And it is the extent of the tissue loss that most often determines the treatment. This makes early management essential, thus allowing a better prognosis with less aggressive surgery. One of the essential goals of research, in particular epidemiology through the identification of factors that promote skin cancers, is to avoid their occurrence. Hence the primordial role of prevention in this type of cancer. This prevention must aim at eliminating the causes of the appearance of a skin cancer and will represent a benefit, not only in human lives, but also economically and socially and must be articulated globally around 3 components: avoidance, early detection and finally the

functional rehabilitation and social reintegration of patients.

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