



Original article

Clinical, epidemiological and anatomopathological aspects of palpebral-conjunctival tumours in the Ophthalmology department of the Amirou Boubacar Diallo National Hospital in Niamey

Aspects cliniques, épidémiologiques et anatomopathologiques des tumeurs palpébro-conjonctivales dans le service d'ophtalmologie de l'Hôpital National Amirou Boubacar Diallo de Niamey

A Nouhou Diori*¹, L Laminou², H Amadou Bouba Traoré³, AS Youssoufou Souley¹, A Mahamadou⁴, B Idrissa⁵, Y Abba Kaka⁵, A Amza¹

Résumé

Les tumeurs palpébro-conjonctivales sont d'une fréquence non négligeable, leur présentation clinique est ambiguë, leurs diagnostics reposent sur la détermination de la nature anatomopathologique par une biopsie.

L'objectif est d'étudier les aspects cliniques épidémiologiques et anatomopathologiques des tumeurs palpébro-conjonctivales dans le service d'Ophtalmologie de l'HNABD de Niamey.

Patients et méthodologie : il s'agissait d'une étude prospective descriptive et analytique, menée sur une période de 5 ans allant 01 janvier 2019 au 31 décembre 2023. Sont inclus les cas de tumeurs palpébro-conjonctivales reçus dans le service d'ophtalmologie de l'HNABD de Niamey pendant cette période.

Résultats : une fréquence générale de 1,33% était retrouvée. La tranche d'âge la plus représentée était celle de 0-9 ans avec une moyenne de 25,11 ± 24,45 ans dont les extrêmes étaient de 10 jours et 96 ans. Le sexe féminin était le plus touché avec 52,92%. Près du

quart des patients 31,02% étaient étudiants ou élèves. L'œil gauche était le plus atteint dans 51,76%. Les paupières supérieures étaient atteintes dans 48,60%. Les tumeurs étaient bénignes dans 80,28% contre 14,79% malignes, 4,58% indéterminées d'allure maligne et 0,35% précancéreuses. Les carcinomes épidermoïdes représentaient 33,33% des tumeurs malignes. Les chalazions représentaient 40% des tumeurs bénignes. Les tumeurs étaient palpébrales dans 86,97% et conjonctivales dans 13,03%.

Conclusion : Les tumeurs palpébro-conjonctivales sont relativement avec une histologique très variée dans notre contexte.

Mots-clés : tumeurs palpébraux-conjonctivales, Niger.

Abstract

Palpebro-conjunctival tumors are not negligible in frequency, their clinical presentation is ambiguous, and their diagnosis relies on determination of their anatomopathological nature by biopsy.

The aim was to study the clinical, epidemiological and anatomopathological aspects of palpebro-conjunctival tumours in the Ophthalmology Department of the Niamey HNABD.

Methodology: this was a prospective descriptive and analytical study, conducted over a 5-year period from 01 January 2019 to 31 December 2023. Cases of palpebro-conjunctival tumors received in the ophthalmology department of the Niamey HNABD during this period were included.

Results: The overall incidence was 1.33%. The most common age group was 0-9 years, with an average of 25.11 ± 24.45 years, and extremes of 10 days and 96 years. 52.92% of patients were female. Nearly a quarter of patients (31.02%) were students. The left eye was most affected in 51.76% of cases. The upper eyelids were affected in 48.60%. Tumours were benign in 80.28%, malignant in 14.79%, indeterminate malignant in 4.58% and precancerous in 0.35%. Squamous cell carcinomas accounted for 33.33% of malignant tumours. Chalazions accounted for 40% of benign tumours. The tumors were palpebral in 86.97% and conjunctival in 13.03%.

Conclusion: Palpebroconjunctival tumours are relatively common, with a wide variety of histological characteristics in our context.

Keywords: palpebral-conjunctival tumors, Niger.

Introduction

A circumscribed location of masses at the conjunctival or palpebral level is called a palpebral-conjunctival tumor [1]. These tumors are generally manifested by a non-specific and inconstant symptomatology made up of inflammatory signs, pain, palpable mass, budding and sometimes ulceration. Imaging confirms the existence of a tumor, specifies its location, its extension and the existence of any metastases. A biopsy combined with anatomical and cytopathological examination confirms the type and nature of the tumor [2]. Indeed, these tumors are diagnosed late because

of the traditional therapy almost always practiced before the hospital consultation [3]. In Europe, eyelid tumors account for 15% of malignant tumors of the face and 5-10% of all skin tumors [4]. In America, in a Canadian newspaper over a period of 10 years, Burnier et al in 2021 reported having collected 3004 cases of eyelid tumors [5]. In Japan in 2005, a study carried out by Hiroto Obata et al [6] counted 128 eyelid and conjunctival tumors over a period of 14 years.

There are very few studies on oculo-orbital tumour pathology in Africa [7]. In a study in Mali in 2018, 21.43% of eyelid tumors and 25% of conjunctival tumors were found [8]. Similarly, a 10-year study conducted at the Yaoundé University Hospital in Cameroon in 2014 on oculo-orbital tumors revealed that 23.2% of these tumors were located in the eyelid and 44% in the conjunctival [9]. A lack of studies on ocular tumors in general in Niger and palpebro-conjunctival tumors specifically motivated this study in its clinical, epidemiological and anatomy-pathological aspects in the Ophthalmology Department of the Aminou Boubacar Diallo National Hospital in Niamey.

Methodology

This was a descriptive and analytical prospective study, conducted over a period of 5 years from January 1, 2019 to December 31, 2023 in the Ophthalmology Department of the HNABD in Niamey. The target population was patients of all ages and genders, admitted to the Ophthalmology Department of the HNABD in Niamey for palpebral-conjunctival tumors. The data were collected using a pre-established survey sheet, including the interview, the clinical examination, the results of anatomical pathology, and the therapeutic indications. The statistical analyses carried out in this document

were descriptive in nature on the one hand and analytical in nature on the other hand in a univariate and bivariate manner. They were carried out using Epi-Info version 7.2.6 statistical analysis software. The means calculated for the quantitative variables were accompanied by the standard deviation. The association between two variables verified using the Chi-square test and the Fisher test. For the different associations, the significance threshold was 5% (p). This study was carried out in accordance with the ethical and deontological aspects according to the Declaration of Helsinki.

Results

We had collected 274 cases of palpebral-conjunctival tumors received in the Ophthalmology Department of the HNABD in Niamey, an average of 54.8 tumor cases per year with a peak of 102 tumors found during the year 2022, i.e. a frequency of 1.33% in relation to all pathologies. The most represented age group was 0-9 years old with 33.94% or n=93. The mean age was 25.11 years \pm 24.45 years with extremes of 10 days and 96 years (Table I). More than half of the patients (52.92% or n=145) were female with a sex ratio (M/F) =0.88. More than a quarter of patients (37.22% or n=102) had consulted in 2022 (Figure 1). Nearly a third of the patients (31.02% or n=85) were students or pupils. More than half of the patients in the study (52.55% or n=144) were of Djerma-Sonrai ethnicity. Less than one-tenth of the patients (8.76% or n=24) had a family history of eyelid tumor. The personal history (6.20% or n=17) was palpebral tumors. (76.64% or n=180) of patients had a time to symptomatology of less than one month (Table II). More than two-thirds of the patients (73.00% or n=200) had a preserved general condition (Table III). Less than one-tenth of patients (9.85% or n=27) had received prior traditional treatment. More than half of the tumors (58.39% or n=160) were of regular contours (Table IV). The left eye was the most

affected in 51.76% of cases, i.e. n=147. The upper eyelids were affected in 48.60% i.e. n=138 (Table V). Tumors were benign in nature (80.28% or n=228); Malignant (14.79% or n= 42); precancerous (0.35% or n=1) and indeterminate in (4.58% or n=13). More than one-third of malignant neoplasms (33.33% or n=14) were squamous cell carcinomas (Table VI). More than a quarter of benign tumors (40% or n=91) were chalazia (Table VII). The majority of tumors were palpebral in (86.97% of cases or n=247) and conjunctival in (13.03% or n=37). Nearly one-third of conjunctival tumors (27.03% or n=10) were nevus. More than a quarter of patients (39.80% or n=39) who underwent surgery had undergone a biopsy-excision. The majority of affected eyes (70.42% or n=200) had a favorable outcome.

There was a statistically significant relationship between the nature of the tumor and age in the 0 to 9 years age group: 91.40%, i.e. n=85 (p=0.000) was found. However, there was no statistically significant relationship between the nature of the tumor and sex (82.67% or n=124) (p=0.1752). There was a statistically significant association between the nature of the tumor and the profession (students and pupils, 85.88% or n=73) (p=0.003). There was also a statistically significant link between the nature of the tumor and the favorable evolution (86.50% or n=173) (p=0.000). There was a statistically significant association between the nature of the tumor and the presence of cervical lymphadenopathy (cervical lymphadenopathy in 93.75% n=30) (p=0.000). See appendix for some iconographies.

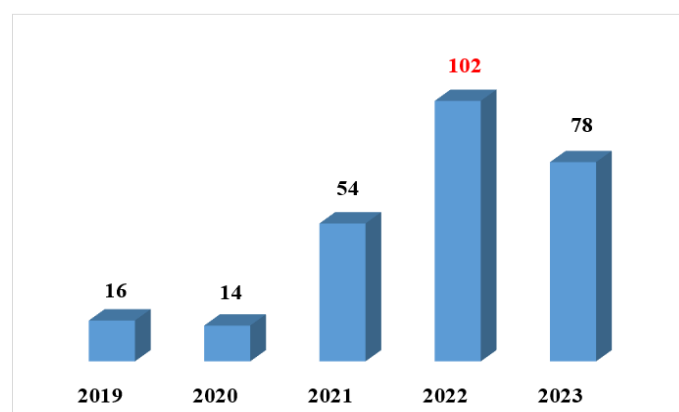


Fig. 1: Distribution of patients by year of consultation

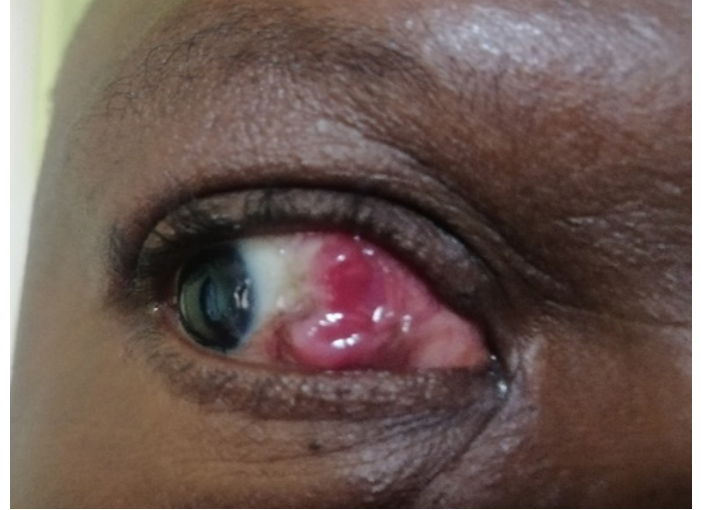
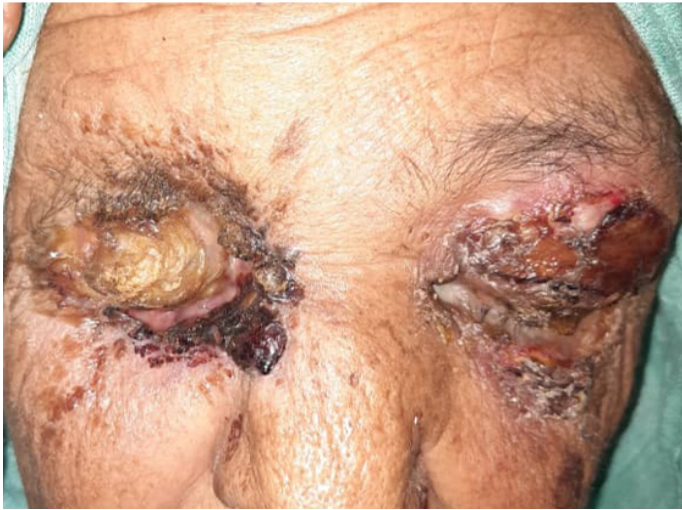


Figure 2: Bilateral carcinobasal cell an 80-year-old woman

Figure 3: Conjunctival tumor in an 18-year-old girl



Figure 4: Advanced conjunctival squamous cell carcinoma After partial exenteration in a 61-year-old woman



Figure 5: Advanced squamous cell carcinoma in a 5-year-old child after exenteration



Figure 6: Conjunctival tumor in an 11-year-old girl



Figure 7: An advanced myofibroblastic tumor in a 55-year-old woman

Table I : Distribution of patients by age group

Age range (years)	Actual	%
[0-9[	94	34,31
[10-19[	37	13,50
[20-29[	43	15,69
[30-39[	34	12,41
[40-49]	27	9,85
[50-59[	11	4,01
[60-69[	6	2,19
[70-79[	10	3,65
[80-89[	7	2,5
[90-99[	5	1,82
Total	274	100,0

Table II : Distribution of patients according to the duration of evolution of the symptomatology

Onset of symptoms	Actual	%
[0-1 year [	180	76,64
[1 year-10 years [	50	18,25
[10 years-20 years]	10	3,65
>20 years	4	1,46
Total	274	100,0

76.64% (i.e. n=180) of patients had a time to symptomatology of less than one month.

Table III: Distribution of patients according to clinical signs

Clinical signs	Actual	%
Ocular functional signs		
Conjunctival redness	46	16,79
Pain	39	14,23
Itch	26	9,49
Visual abnormality	25	9,12
Absent	138	50,36
General signs		
Asthenia	26	9,49
Fever	26	9,49
Headache	25	9,12
Anorexia	10	3,65
Emaciation	7	2,55
Physical signs		
Swelling	179	62,33
General condition		
Preserved	200	73,00
Good	50	18,25
Bad	24	8,75
Total	274	100,0

Table IV: Distribution of patients according to tumor characteristics

Tumour characteristics	Actual	%
Touch		
Hard	179	65,33
Soft	95	34,67
Tumor outline		
Regular	160	58,39
Irregular	114	41,61
Mobility in relation to the deep plane		
No	113	41,24
Yes	99	36,13
Not specified	62	22,63
Cervical lymphadenopathy		
No	247	90,15
Yes	27	9,85
Total	274	100,0

Table V: Distribution of eyes by site

Seat	Actual	%
Upper eyelid	138	48,60
Lower eyelid	109	38,38
Bulbar conjunctiva	18	6,34
Tarsal conjunctiva	14	4,93
Bulbotarsal conjunctiva	5	1,76
Total	284	100,0

Table VI: Distribution of malignant neoplasms

Malignant	Actual	%
Squamous cell carcinoma	14	33,33
Basal cell carcinoma	13	30,95
Rhabdomyosarcoma	5	11,90
Kaposi's sarcoma	5	11,90
Malignant melanoma	3	7,14
Intraepithelial neoplasia	2	4,76
Total	42	100,0

Table VII: Distribution of benign tumours

Benign tumors	Actual	%
Chalazion	91	40,00
Cyst	75	32,8
Stye	25	10,96
Abscess	14	6,14
Nevus	12	5,26
Boil	3	1,31
Pterygium	2	0,88
Preseptal cellulitis	1	0,44
Limbic dermolipoma	2	0,88
Molluscum	1	0,44
Conjunctival papilloma	1	0,44
Capillary angioma	1	0,44
Total	228	100,0

Discussion

During the study period, we collected 274 patients with palpepro-conjunctival tumors with 86.97% of palpebral tumors and 13.03% of conjunctival tumors. The average was 54.8 cases per year with a frequency of 1.33% in relation to all pathologies. Our results are similar to those of Mi Jung Chi et al in South Korea in 2006 who had listed over 2 years 70% of palpebral tumors and 30% of conjunctival tumors [10]. On the other hand, our results are different from those of Bra' Eyatcha Bimingo N. et al. in Cameroon in 2022, whose conjunctival tumors were 88.5%, and palpebral and orbital tumors were 4.3% [11]. This difference could be explained by the fact that we included palpebral inflammatory tumors, in addition to the higher exposure to ultraviolet radiation of the population of Niger due to the tropical climate. In our study, 80.28% of the tumors were benign and 14.79% malignant, which shows the predominance of benign tumors also reported by Scat et al in 1996 who found that benign tumors were twice as numerous as malignant tumors [12].

The average age in our study was 25.11 ± 24.45 years. The female sex was the most represented with a frequency of 52.92% and a sex ratio (M/F) = 0.88. Bra' Eyatcha Bimingo in Cameroon had found an average age of 32 years with a predominance of the male sex 54.3% contrary to ours [11]. Mi Jung Chi et al in South Korea in 2006 had regained a female predominance in 55.62% of cases respectively. However, our results differ from the results of Mi Jung Chi et al in South Korea in 2006 which reported an average age of 42.3 years, this could be explained by the aging of the Korean population [10].

Of the 274 patients, 144 were of Djerma-Sonrai ethnicity with a percentage of 52.55%, so they were the most represented, followed by Hausa and Tuareg, with 26.28% respectively; 8.76%, 2.19%, In a study on the epidemiology of cancers in Niger between 1992 and 2009 published in the cancer bulletin in 2013 found the majority of patients were Djerma-Sonrai with 3,843 cases (54.66%), the Hausa and

Tuareg followed with 2154 cases (30.64%) and 420 cases (5.97%) respectively [13].

The left eye was the most affected in 51.76% and 44.72% on the right side. Bilaterality was found in only 10 patients. In the literature, it is found that the majority of eyelid tumors are unilateral, reported by Jakobiec et al. in California in 2000 [14]. Bilaterality of signs is found only exceptionally in eyelid tumors secondary to a general pathology such as sarcoidosis, lymphomas, xanthelasma lesions (a histiocytic disease) and diabetes [15]. However, three cases of bilaterality encountered in our study were one in the field of HIV immunosuppression and the other two due to diabetes.

The upper eyelids were affected in 48.60% followed by the lower eyelids in 38.38% of the eyes, i.e. n=109. This predominance is also found by Mi Jung Chi et al in South Korea in 2006 who found a majority of upper eyelid involvement in 60% and 51.8% of cases [10]. Our results differ from that of Biro in France in 1996, who found in 53% of cases of upper eyelid involvement [16],

In our study, the majority of tumors were benign (80.28%). This trend is also found in the WHO classification in Geneva in 1980, which found that the eyelids are mainly the target of various inflammatory diseases dominated by blepharitis and chalazia [17]. This high frequency is observed in the West where Scat in 1996 found that benign tumors were twice as common as malignant tumors [12].

As for benign tumors, we found that they occur most often in children; Among patients aged 0 to 9 years, 91.40% had a benign tumor. This could be explained by the use of mascara, traditionally in our regions, which can clog the pores of the eyelid and therefore promote the appearance of styes, and by the congenital nature of the cysts.

The majority of patients with benign tumors were women with a rate of 82.67% ($p=0.1752$). Benign tumors were chalazions in 40%; Then we find cysts which occupy second place with 32.8%. Our results are similar to those of Mendimi Nkodo et al in Cameroon in 2014, who found a predominance of inflammatory

pseudotumors, i.e. 37.9% of benign tumors [9]. Our results are also similar to those of Scat in the West in 1996, which found cysts in second place with a rate of 28.2% [12].

In our series, malignant tumors were found in 14.79% of cases. Most of the malignant tumors were found in people aged 50 years and over in 43.18% ($p=0.000$); we find that this is similar to the national rate, all cancer categories combined, which, thanks to the analysis of data from the Niger National Cancer Registry in 2021, found that the age group most affected by malignant tumors was 20-65 years old [18]. This similarity is found with Scat, which found that the majority of subjects with carcinomas were between the ages of 60 and 80 [12].

In this study, the male sex predominates in 17.16% and 12.67% female sex for malignant tumors. Squamous cell carcinoma (squamous cell carcinoma) (33.33%), was the most common histological type, followed by basal cell carcinomas in 30.95%. In a study carried out at the National Hospital of Niamey in 2015, carcinomas accounted for 71.42% of malignancies [19], which is similar to our study. The high frequency of carcinomas can be explained by the role of sunlight and dust, among others, which characterize the Sahelian climate. In our study, the other palpebroconjunctival malignancies were: rhabdomyosarcoma, kaposi's sarcoma, malignant melanoma and intraepithelial neoplasia with respectively a percentage of 11.90%; 11,90% ; 7.14% and 4.76%.

Conclusion

Palpebroconjunctival tumors are a significant frequency within the Ophthalmology Department of the HNABD in Niamey. The diagnosis of the majority of benign tumors is essentially clinical. Benign tumors are mainly found in young subjects, while malignant and precancerous tumors are found in elderly subjects. We note a fairly wide variety of benign tumors, mainly represented by chalazions; followed by cysts, most of which are congenital in

children. Malignancies were mainly squamous cell carcinomas (squamous cell carcinomas), basal cell carcinomas. These tumors are seen early with good local treatment by radiotherapy or complete surgical excision, the cure is complete, however in advanced forms palliative chemotherapy is the only recourse.

*Correspondence

Adam Nouhou Diori

adamslalou@gmail.com

Available online : February 28, 2025

- 1 : Amirou Boubacar Diallo National Hospital
- 2 : Zinder National Hospital
- 3 : Maradi Regional Hospital Center
- 4 : National Cancer Center
- 5 : National Hospital of Niamey

© Journal of African Clinical Cases and Reviews 2025

Conflict interest : None

References

- [1] Galatoire O, Levy-Gabriel C, Zmuda M. Tumeurs des paupières et de la conjonctive. Atlas photographique; Collection librairie médicale Théa.
- [2] Ducasse A. Tumeurs de l'orbite de l'adulte : des signes cliniques au traitement. EM-Consulte. 2015;12(2):21-650-A.
- [3] Moussala M, Mbakop A, Mekongo M, Ndombe P. Diagnostic tardif des tumeurs oculo-orbitaires et médecine traditionnelle au Cameroun à propos de 2 cas. Médecine d'Afrique Noire 1998;45.
- [4] Adenis JP, Sabatier A, Robert PY. Les tumeurs des paupières des personnes âgées. J Fr Ophthalmol 2006;29:687-693.
- [5] Burnier JV, Bergeron S, Delfraro Carmo TJ, Romero

- Braga JP, Ito H, Burnier Jr MN. Histopathologie des tumeurs bénignes et prémaligènes des paupières: une analyse s'échelonnant sur 10 ans. *Can J Pathol* 2021;13.
- [6] Obata H, Aoki Y, Kubota S, Kanai N, Tsuru T. Incidence of benign and malignant lesions of eyelid and conjunctival tumors. *Nippon Ganka Gakkai Zasshi* 2005;109:573–579.
- [7] Discamps G, Doury JC, Chovet M. Contribution à l'étude statistique des cancers oculo-orbitaires en Afrique. A propos de 460 observations. *Med Trop* 1972;32:385-401.
- [8] Guirou N, Della Rocca D, Thera J, Dembélé J, Dougnon A, Napo A. La Chirurgie Oculoplastique Au CHU-Iota Au Mali. *Mali Med* 2018;33.
- [9] Mendimi Nkodo JM, Kagmeni G, Kabeyene Okono AC, Epée E, Ebana Mvogo C, Essame Oyono JL. Aspects morpho-épidémiologiques des tumeurs oculo-orbitaires au CHU de Yaoundé – Cameroun. *Health Sci Dis* 2014;15(1):1-6.
- [10] Chi MJ, Baek SH. Clinical analysis of benign eyelid and conjunctival tumors. *Ophthalmologica* 2006;220(1):43-51.
- [11] Eyatcha Bimingo B, Dohvoma VA, Njoya Mare J, Bella AL, Ebana Mvogo C. Aspects cliniques et thérapeutiques des tumeurs de l'œil et de ses annexes au nord du Cameroun: à propos de 70 cas. *Health Sci Dis* 2022;23(2) Suppl 1:73-76.
- [12] Scat Y, Liotet S, Carre F. Etude épidémiologique des tumeurs bénignes et des pseudo-tumeurs inflammatoires de l'œil et de ses annexes. *J Fr Ophthalmol* 1996;19:514-519.
- [13] Garba SM, Zaki HM, Arfaoui A, Hami H, Soulaymani A, Nouhou H, Quyou A. Épidémiologie des cancers au Niger, 1992 à 2009. *Bull Cancer* 2013;100:127-133.
- [14] Jakobiec J, et al. In: Principles and practice of ophthalmology. Benign epithelial tumors. Managing Editor, Californie, 2000:1713-1717.
- [15] Risse J, Heid E, Saint Blancat P. Pathologie du revêtement cutanéomuqueux, chapitre 18. In: Flament J, Storck D, et al. Œil et pathologie générale. Paris: Masson; 1997:733-737.
- [16] Biro L, Price E. Dermatologic management of eyelid tumors. In: Hornblass A, editor. Tumors of adnexa and orbit. St Louis: CV Mosby Company; 1979:66-67.
- [17] Zimmerman LE, Sobin LH. Tumeurs de la paupière. Types histologiques des tumeurs de l'œil et de ses annexes. Classification histologique internationale des tumeurs. Genève: OMS; 1980:17-23.
- [18] Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin* 2021 Feb 4. doi: 10.3322/caac.21660. Epub ahead of print. PMID: 33538338.
- [19] Abba kaka HY. Profil épidémiologique et anatomo-clinique des tumeurs orbito-oculaires de l'adulte à l'HNN. *Ann Med Trop* 1986;46(262-265).

To cite this article :

A Nouhou Diori, L Laminou, H Amadou Bouba Traoré, AS Youssoufou Souley, A Mahamadou, B Idrissa et al. Clinical, epidemiological and anatomopathological aspects of palpebral-conjunctival tumours in the Ophthalmology department of the Amirou Boubacar Diallo National Hospital in Niamey. *Jaccr Africa* 2025; 9(1): 147-156

<https://doi.org/10.70065/2591.jaccrAfri.008L012802>