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Research Article

Epidemio-Clinical Profile of Eye Tumors in Lubumbashi

Viviane Ngoie Maloba[1*], Nday Banza Kalumba F[2], Mwamba Ngoy B[2], Tambwe Ndumb H[3], Chenge Borasisi G[4], Katanga Mbuyu L[5], Shindano Sikujua[5]

[1]Ophthalmologist and Professor at the Faculty of Medicine at Unilu, Cliniques Universitaires de Lubumbashi, Democratic Republic of the Congo

[2]Specialist in Ophthalmology, Clinique Ophtalmologique Sainte Yvonne, Democratic Republic of the Congo

3Ophthalmologist and Head of Works at the Faculty of Medicine at Unilu, Cliniques Universitaires de Lubumbashi, Democratic Republic of the Congo

[4]Ophthalmologist and Full Professor at the Faculty of Medicine at Unilu, University clinics in Lubumbashi, Democratic Republic of the Congo

[5]General Practitioners, Ophtalmologique Sainte Yvonne, Democratic Republic of the Congo

[*]**Corresponding author:** Viviane Ngoie Maloba, Professor, Department of Ophthalmology, University Clinic of Lubumbashi, University of Lubumbashi, Route Kasapa, 1825 Lubumbashi, Democratic Republic of the Congo

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Abstract

Introduction: The aim of the study was to determine the epidemiological and clinical profile of eye tumors in Lubumbashi.

Method: This is a cross-sectional descriptive study with retrospective data collection. We compiled the medical files of the patients consulted at the Sainte Yvonne clinic from January 1, 2016 to April 30, 2018, i.e. 18 months. The study variables were: age and sex of patients, frequency of eye tumors, nature, clinical signs, histological and pathological type of tumors, therapeutic mode and outcome after treatment.

Results: The ocular tumor was diagnosed in 114 patients out of 37,767 patients consulted, i.e. a frequency of 0.03% of the cases, including 70 women and 44 men with a sex ratio of 1.6 women for a man. The average age of the patients was 26.5 ± 15.3 years with extremes ranging from 1 to 70 years and the age group most represented was that between 26 and 40 years. The tumor localization was conjunctival in 60.3%, in the iris and choroid 16.7%, in the palpebral level in 15.8%, in the retina in 2.6%, in the orbit in 1.7% and of the sac and lacrimal glands in 0.9%. The patient complaint was dominated by the presence of a tumor mass. Benign tumors were more common than malignant tumors: 93% versus 7% of cases. The nevus, cysts (dermoids and fluids) and papillomas dominated benign tumors while retinoblastoma was the most common malignant tumor type. Surgical treatment was associated in some cases with malignancy with chemotherapy, healing was observed in 75.4% of cases, recurrence was present in 1.8% of cases.

Conclusion: Eye tumors have a significant frequency in our environment. They require early diagnosis and adequate management in order to avoid the occurrence of complications which are responsible for blindness in some cases.

Keywords: Clinic; Epidemiology; Eye; Treatment; Tumor

Introduction

Eye tumors are multiple and very varied, they are either benign or malignant, congenital or acquired, developing at the expense of the various tissues of the eye and its annexes. The significant frequency of eye tumors worldwide is a real public health problem. Symptoms can be early or late, they manifest as an increase in the size of a tissue. Several techniques for the management of ocular tumors are available, including transpupillary thermotherapy, contact radiotherapy, chemotherapy, excision and enucleation. The

prognosis after treatment is often favorable but untreated certain eye tumors have a significant impact on the visual prognosis, they can lead to the death of the patient [1,2].

Several studies on the development of the epidemiological profile of eye tumors have been carried out worldwide. The French society of ophthalmology held a congress in 2010 on a retrospective study of 89 cases of ocular tumors collected between January 2005 and February 2005 and which concluded that the average age of diagnosis was 41 years, without predominance of sex; the circumstances of discovery are dominated by the presence of a tumor mass in 60% of the cases, exophthalmos was present in 28%, the tumors were malignant in 62% of the cases and the most frequent etiology was conjunctival tumors in 13 of the cases. The treatment consisted more in the removal of the mass and the progress was good in the majority of the cases but a mortality of 50% of the patients was recorded for retinoblastomas [3].

Other studies in different cities in African countries report a significant frequency of eye tumors. Vonor, et al. recorded 45 cases of eye tumors over a period of three months in a study conducted in Lomé [4], Mendimi, et al. reported 95 cases in Yaoundé, the average age of diagnosis varied between 28.18 ± 20.35 years [5]. In Nigeria (in Benin city) l AKPE, et al described the average age of diagnosis of ocular tumors 30.9 ± 15.9 years with extremes of 2 years and 64 years, the most frequent localization was conjunctival and the tumors were malignant in 49.5% of cases [6]. Poso, et al. Found 164 cases of malignant tumors with a mean age of 24.6 ± 21.4 years at the time of diagnosis, the sex ratio being 1.5 men per woman [7]. The lack of data available in Lubumbashi motivated this research. The general objective of this study was therefore to determine the epidemiological and clinical profile of ocular tumors in our environment.

Methodology

This descriptive and transversal study with retrospective data collection concerned 114 complete medical files of the patients in whom a diagnosis of ocular tumor was retained; over a period from January 2016 to April 2018, i.e. 28 months. Our research was carried out at the Sainte Yvonne Ophthalmological Clinic in the city of Lubumbashi. This clinic welcomes patients with eye problems from the seven communes of the city of Lubumbashi and those from surrounding villages. The variables of our study were the age, the sex, the circumstances of discovery, the side reached, the site of the tumor, the paraclinical examinations carried out, the nature and the histological type of the tumor, the type of treatment and the evolution after treatment. The statistical tests used were: the percentage, the mean, the sex ratio, the standard deviation for the interpretation of the results.

Results

Sociodemographic Data

Frequency of Tumor Compared to Other Ocular Pathologies

At the end of our study, we retained 114 medical files of the patients in whom the diagnosis of ocular tumor was retained out of the 37,767 patients consulted, i.e. a prevalence of 0.3% of cases.

Patient Gender

Among the 114 patients we noticed that the majority of subjects were women, 70 cases out of 114 or 57.9% and the remaining 44 or 42.1% were men with a sex ratio of 1.59 women for a man (Figure 1).

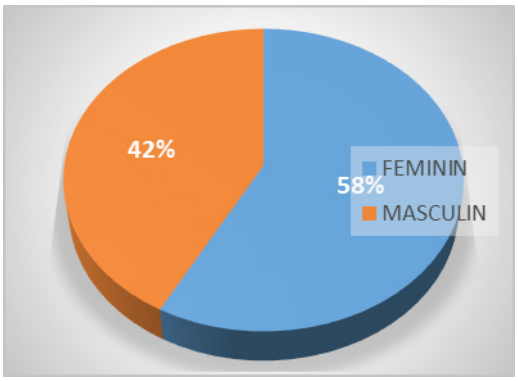

Figure 1: Distribution of patients by sex.

Age of Patients

The most represented age group in our sample was between 26 and 40 years old, 41.2% of cases followed by that between 10 and 25 years' old which represented 26.3% of cases. The mean age was 26.5 ± 15.31 years, the oldest patient was 1-year-old and the oldest patient was 70 years old (Table 1).

Age (Year)	Frequency	Percent
<10	20	17,5
10 - 25	30	26,3
26 - 40	47	41,2
41 - 55	13	11,4
> 55	4	3,5

Table 1: Distribution of patients according to age groups.

Clinical Data

Circumstances of Discovery

(Table 2) shows that 72.9% of patients had a mass in the eye as their main complaint; 24.6% of patients complained of a blemish in the eye.

Discovery Circumstance	Frequency	Percentage
Asymptomatic	2	1,8
Mass or growth	82	72,9
Pain	20	17,5
Redness	18	15,8
Spot in the eye	28	24,6
TOTAL		100

Table 2: Distribution of patients according to the circumstances of discovery.

Side of the Affected Eye

It is clear from (Table 3) that the difference in the side reached between the right eye and the left eye was not too significant but with a slight predominance on the right side. 6.1% of cases had both eyes.

Side of the Affected Eye	Frequency	Percentage
Right eye	54	47,4
Left eye	51	44,7
Right eye and left eye	7	6,1
Undetermined	2	1,8
TOTAL	114	100

Table 3: Distribution of patients according to the side of the affected eye.

Tumor Site

The most frequent site of ocular tumors in our series was the conjunctiva and the limbus with 60.5% of the cases, followed by the eyelids 16.7%, then the retina 2.6%, the orbit 1.8% and finally and the lacrimal gland 0.9% (Table 4).

Seat of the Tumor	Frequency	Percentage
Conjunctiva / Limbe	69	60,5
Iris / Choroid / Ciliary body (uvea)	19	16,7
Eyelid	18	15,8
Retina	3	2,6
Orbit	2	1,8
Lacrimal glands	1	0,9
Undetermined	2	1,8
TOTAL	114	100

Table 4: Distribution of patients according to the site of the tumor.

Histological Type

The most frequent histological nature was the nevus, it represented 25.44% followed by cysts, more than half of which were dermoid cysts 11.40% and 10.53% were liquid cysts, then we had Papillomas 10.53 % and finally the Retinoblastomas which represented only 3.51% (Table 5).

Histological Type	Frequency	Percentage
birthmark	29	25,4
Dermoid cyst	13	11,4
Fluid cyst	12	10,5
papilloma	12	10,5
retinoblastoma	4	3,5
Undetermined	44	38,6
TOTAL	114	100

Table 5: Distribution of patients according to histological type

Nature of Tumor

(Table 6) shows that benign tumors were the most frequent and represented 93% and 7% were malignant tumors.

Nature of tumor	Frequency	Percentage
Benign tumor	106	93
Malignant tumor	8	7
TOTAL	114	100

Table 6: Distribution of patients according to the nature of the tumor.

Histological Type and Nature of Nature

The most common histological types of benign tumors were nevus followed by fluid and dermoid cysts. Malignant tumors were represented by retinoblastomas which occupied 50% and the remaining 50% were undetermined (Table 7).

Type Hist.	Dermoid Cyst	Fluid Cyst	Naevus	Papilloma	Retinob lastoma	Undetermined	Total
benign	13	12	29	12	0	40	106
malignant	0	0	0	0	4	4	8
total	13	12	29	12	4	44	114

Table 7: Distribution of the nature of the tumor in relation to their histological type.

Histological Type and Age

In the age group of less than 10 years all histological types of tumors were represented and among them 100% of retinoblastomas. In the 10 to 25-year-old group we had more nevus and cysts, in the 26 to 45-year group we had more papillomas. In the group of 46 to 55 years most of the tumors had not been identified but the remainder were represented by the nevus and finally in the section of more than 55 years the cysts and the nevus were met (Table 8).

Type Hist. Age (Year)	Dermoid Cyst	Fluid Cyst	Naevus	Papilloma	Retinoblastoma	Undetermined
< 10	4	3	8	0	4	1
25-Oct	6	4	8	2	0	10
26 - 45	2	5	9	10	0	25
46 - 55	0	0	3	0	0	6
>55	1	0	1	0	0	2

Table 8: Distribution of histological types according to age groups.

Histological Type and Sex

Among the tumors that have been identified in men, the most common tumor is the cyst and in women it is the nevus (Table 9).

Type Hist. Sex	Dermoid Cyst	Fluid Cyst	Naevus	Papilloma	Retinoblastoma	Undetermined	Total
Female	6	7	20	7	1	25	66
Male	7	5	9	5	3	19	48
TOTAL	13	12	29	12	4	44	114

Table 9: Distribution of histological types according to sex.

Treatment and Evolution of Patients

Simple excision was performed for cases of benign tumors. Note that chemotherapy was started before removing the malignant tumor, mainly retinoblastoma. All benign tumors had progressed well after surgical treatment. With the exception of one case of retinoblastoma recurring in one patient, the course of malignant tumors was indeterminate because the patients were transferred to the oncology center of university clinics for the continuation of chemotherapy and they were no longer returned to control.

Discussion

At the end of our study, we retained that ocular tumors represented 0.3% of 100% of the patients who came for consultation during the study period. This percentage may be representative of the city of Lubumbashi because the Sainte-Yvonne clinic welcomes patients from all the municipalities of the city and is one of the largest reference ophthalmic centers in Lubumbashi.

Socio-Demographic Aspects

Patient Age and Gender

In our study, the average age of the patients was 26.5 ± 13.31 years with extremes from 1 to 70 years. The most represented age group was that of 26 to 40 years (41.2%). In our study, women were more represented than men, 57.9% against 42.1% with an F / M sex ratio of 1.59 / 1.

Our results can be compared to those found by: Vonor, et al. in Togo [4] who had found an average age of 30.9 ± 15 years with the extremes of 2-64 years, Mendimi, et al. in Cameroon [5] with an average age of 28.18 to 20.35 years with a predominance of those under 10 years. AKPE, et al. in Nigeria [6] published an average age of 30.9 ± 15.9 years with the extremes of 2 to 64 years. The study by Poso, et al. in Kinshasa [7] published an average age of 24.6 years ± 21.4%, a predominance of the female sex with a sex ratio of 1.5 / 1. Levecq, et al. [8] found 50.9% of women against 49.1% of men, a sex ratio of 1.04 in favor of women, the average age at diagnosis being 52 years Traore, et al. [9] meanwhile found a male predominance with a sex ratio of 1.6 in a study conducted in Mali. Maimouna in Nigeria (thesis) in his study had found an average age of 32.19 ± 22.83 years with extremes of 2 months and 89 years and the most represented class was that of patients over 50 years who occupied 22, 2%, the sex ratio was 1.5 in favor of men.

The results of this study showed that eye tumors are present at all ages, but they are more common in adults than in children. The variation of the most represented age range can be justified by the different criteria used for the preparation of the sample. The literature does not report any predominance of eye tumors in favor of a given sex for other studies such as Vonor, et al. in Togo [4] and Mendimi, et al. in Cameroon [5] which also found results without predominance of sex.

Clinical Aspects

Symptomatology

In our study, we noticed that 50.88% of the patients had consulted for presence of a tumor mass in the eye, 16.7% of the cases for presence of a spot in the eye and 1.8% of case for exophthalmos. Other symptoms such as pain, redness and blurring of vision could be associated with this symptom. Our results join those of Vonor, et al. in Togo [4], those of Mendimi, et al. in Cameroon [5] where the circumstances of the discoveries were dominated by the presence of a tumor mass. The symptomatology

depends on the types of tumors, their location and their severity which could explain the divergence of the results with those of other studies.

Side of the Eye Reached and Seat of the Tumor

Like other authors [5,6], we noticed that the difference in the involvement between the two eyes was not too significant: 47.37% of the right eye against 44.74% for the eye left. 6.14% had presented bilateral involvement. The literature does not report any preferential location of the tumors. Results vary from study to study. But from the point of view of the low rate of bilateral involvement, our results are in agreement with those of the Maimouna study in Nigeria (thesis). In our series, the conjunctiva and the limbus were the most frequent site of eye tumors: 68 cases out of 114 cases or 59.6% followed by the uvea 19 cases out of 114 that is 16.7%, of the eyelid 18 cases either 15.8%, of the retina 4 cases out of 114, that is 3.5%, and finally, the lacrimal gland 1 case out of 114 that is 0.9%.

These results are similar to those found by other studies which had found a predominance of the location of the tumors at the level of the appendices and the conjunctiva. This conjunctival location was found by Vonor in Togo [4] in 75% of the cases, by Mendimi, et al. in Cameroon [5] in 44.4% of the cases, by Traore, et al. [9] in 36.15% followed by the orbit 22.31%, eyelids 19.22% and retina 16, 15% and finally the cornea 6.16%. Poso in Kinshasa [7] found in its study a conjunctival predominance followed by the iris and the ciliary body. In contrast, Levecq, et al. [8] found a predominance of intraocular tumors in 69% of cases

Nature of the Tumor

Out of 114 cases selected for our study, 106 cases were benign tumors or 93% and 8 cases malignant tumors or 7%. These results are close to those found by other authors such as Vonor and Mendimi [4,5] who report 70% and 61% of cases of benign tumors respectively. But the predominance of malignant tumors is reported by Maimouna (thesis) in 58.7% of cases against 41.3% of benign tumors; and Poso [7] found 49.5% of malignant tumors.

Histological Type of Tumors

Among 106 cases of benign tumors, 29 cases were nevus (27.35%), 25 cases were cysts including (52%) dermoid cysts and 48% of liquid cysts (48%), 12 cases of papillomas (11,32%). For malignant tumors, 8 cases out of 114 cases, 50% of the cases or 4 cases out of 8 were retinoblastomas. Of all the tumors 38.60% or 44 cases out of 114 had not benefited from histological precision due to lack of financial means. The literature reports that benign eye tumors are more common than malignant tumors and are more commonly represented by epithelial tumors. The most frequent malignant tumors are melanomas in adults and retinoblastoma in children, which agrees with our results [1,4,5].

Treatment and Evolution

Simple excision was performed for cases of benign tumors. Note that chemotherapy was started before removing the malignant tumor, mainly retinoblastoma. All benign tumors had progressed well after surgical treatment. Except for a case of recurrence of retinoblastoma observed in a patient, the evolution of malignant tumors was indeterminate because the patients were transferred to the oncology center of the university clinics for the continuation of the chemotherapy. The work carried out by Vonor and Mendimi [4,5] all concluded in a predominantly surgical treatment: excision of the mass.

Conclusion

As eye tumors are many and varied, they can occur in any part of the eye. They are present at all ages and of a varied nature in adults, on the other hand dominated by retinoblastoma in children. They are benign in the majority of cases and their clinical manifestation depends on their size and their location. In our series, it was difficult to determine the etiological diagnosis of all tumors because not all patients could cover the costs of the pathology examination.

Conflict of Interest

None.

References

1. Saraux H, Biais B, Rossaza C (1998) Précis d'ophtalmologie. Masson and Paris (Editors).
2. Offer G, Hague C (1971) Tumors of the eye and of the eye appendages, Paris, Masson et Cie.
3. Zimmerman LE, Sobin, Leslie H and World Health Organization (1980) Histological types of eye tumors and their annexes.
4. Vonor K, Banla M, Darre T, Ayena KD, Amegbor K, et al. (2015) Ocular tumors in Togo: epidemiological, clinical, and histopathological features observed at the Lomé Teaching Hospital of Sylvanus Olympio. Med Sante Trop 25: 105-106.
5. Nkodo JMM, Kagmeni G, Nassourou OH, Okono CAK, Epee E, et al. (2014) Morphoepidemiological aspects of oculo-orbital tumors in Cameroon Morpho-Epidemiological Aspects of Oculo-Orbital Tumors at the CHU of Yaoundé-Cameroon. Health Sci. Say 15.
6. Akpe B A, Afekhide EO, Efearure T (2009) Histoptahology of ocular tumor specimens in Benin city Nigeria. J of Ophthalmic and Vision research 4: 232-237.
7. Poso M Y, Mwanza JCK, Kayembe DL (2000) Malignant tumors of the eye and its annexes in Congo-Knshasa. J Fr Ophtalmol 23: 327-332.
8. Levecq L, De Potter P, Guagnini AP (2005) Epidemiology of ocular and orbital lesions referred to an ocular oncology center. French Journal of Ophthalmology 28: 840-844.
9. Traore L, Traore J, Kansaya A, Ducousso F, Schemann JF (2002) Orbito-ocular tumors at the African Tropical Eye Institute (IOTA) about 130 cases. French Journal of Ophthalmology (abstract of communications) 25: 70.