Original Article

ORBITO-OCULAR TUMORS IN A TERTIARY HOSPITAL IN LAGOS

[1]Adenekan AO, [1]Ilo OT, [2]Betiku AO, [1]Mayaki F, [1]Akinsola FB

[1]Department of Ophthalmology, Lagos University Teaching Hospital, Lagos. Nigeria, [2]Department of Surgery , Babcock University Teaching Hospital, Ilisan, Ogun, Nigeria

ABSTRACT

Aim: A 10 year retrospective review of the orbito-ocular tumor cases presenting at the tertiary hospital with focus on their clinical patterns and their site, age and sex distribution.

Methodology: This study is a retrospective review of the clinical notes of patients with orbito-ocular tumors that presented between 2010 and 2019. Bio-data, clinical presentation, laterality, duration, clinical diagnosis were extracted. Surgical interventions and histopathology confirmation, where available, were also recorded. Orbito-ocular tumors were classified according to anatomical site. Data obtained were analysed using the Statistical Package for Social Sciences (SPSS), version 22.

Results: A total of 91 cases were recruited with 51 (56%) males and 40(44%) females. The intraocular, orbital, conjunctival, and eye lid tumours accounted for 65(71.4%), 10(11.0%), 8(8.8%) and 8(8.8%) cases respectively. The ages ranged from 9 days to 68 years with a mean age of 8.15 ± 14.54 years. 75(82.4%) of all orbito-ocular tumours were seen in children of ages 16 years and below. Squamous cell carcinoma was the commonest orbito-ocular tumor 4(25%), followed by papilloma 3(18.8%) occurring in adults. The leading malignancy in children was Retinoblastoma in 64(85.3%), followed by dermoid cyst 4(5.3%). Two third 54(59.3%) presented within 6 months of onset. More subjects, 40(44.0%) presented with uniocular Right eye tumor while 39(42.8%) presented with uniocular Left eye tumor and 12(13.2%) presented with bilateral tumors. Leucocoria (44%), mass (27.5%) and proptosis (17.6%) were the commonest presenting complaints. About three-quarter (76.9%) of the reviewed cases had surgical intervention. Most of the clinical diagnoses (80.8%) correlated with the histopathology findings.

Conclusion: Retinoblastoma remains the commonest orbito-ocular tumor in childhood while squamous cell carcinoma the commonest in adults. Although our study revealed early presentations of most cases, some proportions of patients still decline surgical interventions. This study also observed that clinical diagnosis at presentation highly correlates with subsequent histological diagnosis. There is still need for counselling and continuous education of patients and their relatives on early presentation and treatment acceptance.

Keywords: Orbito-ocular tumors, Histopathology, Sociodemographic, Clinical profile

CORRESPONDING AUTHOR
Dr. Adenekan Adetunji Olusesan
Department of Ophthalmology,
Lagos University Teaching Hospital,
Lagos. Nigeria.
Email Address: tnelkon@yahoo.com
Tel- 0803 335 0540

INTRODUCTION

Orbito-ocular tumors broadly refers to various types of tumors found within or around the eyes and orbit. They are broadly

classified into primary or secondary, the latter been as a result of metastasis from other parts of the body. Orbito-ocular tumors are common causes of morbidity and mortality globally.[1,2] These tumors are not rare[3], although the incidence may be low.[4,5] In some African countries, the average annual incidence rate of orbito-ocular tumors range from 0.5 to 1.4 per 100,000 population.[1] Advances in diagnostic techniques have increased the incidence rates of these tumors.[3] Tumors can develop from any tissue in the orbit or eye, and can be benign or malignant.[6] Orbito-ocular tumors are more common in adults. The paediatric age group have specific presentations such as leucocoria.[6,7] The trend line of orbito-ocular tumors has significantly increased over the years, and has been attributed to carcinogens exposure[3] and population explosion as a result of increase life expectancy.[8] A study in the united State of America showed that there is higher incidence rate among Whites compared to African Americans with a rate of 1.47.[3] A retrospective study in Nigeria on 438 cases of orbito-ocular tumors however found an overwhelming preponderance of malignant tumors (79.9%) when compared with the benign cases.[11] Similar finding was also reported in a 10 year retrospective study in Benin.[12] Poor health seeking attitude of patients with benign tumors in this part of the world were assumed to be the reason for the higher preponderance of malignant tumors when compared with benign tumors.[11]

Late presentation, lack of follow up and inability to receive surgical nor adjunctive interventions have been the problems encountered among patients with these sight and live threatening clinical conditions, and has been attributed to financial constraints[7] and sociocultural beliefs.[1] Aside these challenges, diagnostic difficulty is also a dilemma because of limited equipment and lack of pathohistological assessment.[8] To save lives and possibly vision, early presentation, high index of suspicion and appropriate clinical interventions are necessary.[1,4] Histopathology diagnoses play an important role in patients' care. Therefore, all ophthalmic tumors should undergo histopathology in order to establish a concise diagnosis for further clinical management.[9,10] Some studies on patterns of presentation of orbito-ocular tumors in different parts of our country reviewed only cases with histopathology reports.[1,7,10-12] This current study included all orbito-ocular tumor cases that presented between the duration that was reviewed with the aim of describing the types, mode and duration of symptoms presentation and surgical or adjunctive interventions in the tertiary hospital, especially from the Ophthalmology point of view as this would provide a holistic review of these clinical conditions as regard their management in the hospital.

METHODOLOGY

This study was a retrospective review of the clinical notes of all patients with orbito-ocular tumors that presented at Guinness Eye Centre, Lagos University Teaching Hospital, between January 2010 and December 2019. Bio-data, clinical presentation, laterality, duration, clinical diagnosis was extracted. Surgical interventions and histopathology confirmation, where available were recorded.

Orbito-ocular tumors were classified with reference to anatomical site of tumor and clinical diagnosis. Clinical diagnoses were correlated with the histopathology assessment.

Definitions: Adult - an individual who is 16years and above in age.

Child- an individual who is less than 16years of age.

Ethical approval was obtained from Ethical and Research Committee of the Lagos University Teaching Hospital.

Data obtained were analysed using the Statistical Package for Social Sciences (SPSS) version 22 (IBM Corp, Armonk, NY). Data were presented in tables and charts.

RESULTS

A total of 91 cases were recruited with 51(56%) males and 40(44%) females (Table 1). The ages ranged from 9 days to 68 years with a mean age of 8.15 ± 14.54 years. The intraocular, orbital, conjunctival, and eye lid tumours accounted for 65(71.4%), 10(11.0%), 8(8.8%) and 8(8.8%) cases respectively (Figure 1). 75 (82.4%) of all orbito-ocular tumours were seen in children of less than age 16 years as shown in (Table 2). Squamous cell carcinoma was the commonest orbito-ocular tumor 4(25%), followed by papilloma 3(18.8%) occurring in adults. The leading malignancy in children was Retinoblastoma which was seen in 64(85.3%) of all orbito-ocular malignancies in children. The duration between onset and presentation to the clinic is shown in (Figure 2), revealing that two-third of cases 54(59.3%) presented to the hospital within 6 months of onset of symptoms. A majority (86.8%) presented with uniocular tumors with a higher frequency in the Right Eye 40 (44%). Leucocoria (44%), mass (27.5%) and proptosis (17.6%) were the commonest presenting complaints among others (Table 3). About three-quarter (76.9%) of the reviewed cases had surgical intervention. Most of the clinical diagnoses made (80.8%) correlate with the histopathology findings.

Table 1: Socio-demographics distribution

Characteristic	Frequency N=91	Percentage 100%
Sex		
Male	51	56
Female	40	44
Age group	**Frequency N=91**	**Percentage 100%**
<16	75	82.4
16-30	5	5.5
31-45	7	7.7
46-60	3	3.3
>60	1	1.1

Table 2: Clinical patterns

Symptoms	Frequency N=91	Percentage 100%
White reflex /Leukocoria	45	49.5
Eyelid mass	25	27.5
Proptosis	16	17.6
Poor vision	3	3.3
Redness	2	2.2
Type of surgical procedure	**Frequency N=91**	**Percentage 100%**
Enucleation	52	57.1
Exicisional Biopsy	4	4.4
Exenteration	14	15.4
Nil	21	23.1

Figure 1: Anatomical sites and frequency of orbito-ocular tumors

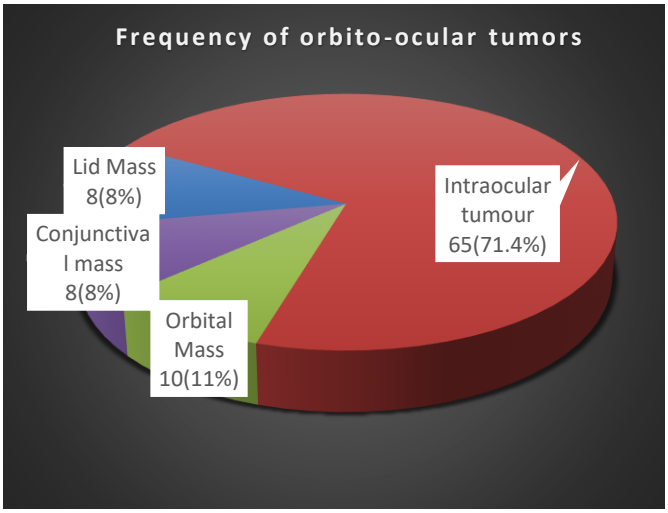

Figure 2: Bar Chart showing duration of symptoms at presentation

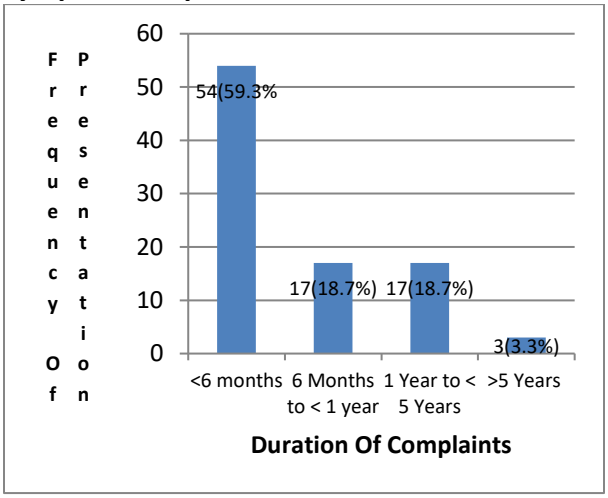

Table 3: Distribution of orbito-ocular tumors among adults

Type of tumors	Frequency n = 16	Percentage (%)
Malignant		
Squamous cell carcinoma	4	25.0
Lacrimal gland adenoma	1	6.3
Lymphangioma	1	6.3
Uveal melanoma	1	6.3
Meningioma	1	6.3
Lymphoma	1	6.3
Benign		
Papilloma	3	18.8
Dermoid	1	6.3
Mucocoele	1	6.3
Haemangioma	1	6.3
Lipoma	1	6.3

Table 4: Distribution of orbito-ocular tumors among children

Types of tumor	Frequency n = 75	Percentage (%)
Malignant		
Retinoblastoma	64	85.3
Capillary haemangioma	1	1.3
Lymphangioma	1	1.3
Rhabdomyosarcoma	2	2.7
Benign		
Dermoid cyst	4	5.3
Epidermoid	3	4.0

DISCUSSION

Orbito-ocular tumor cases present late to the clinic, often as a last resort after patient/ relatives have gone everywhere else for solution and resort into the clinic as a last option.[5,7] However, in our study we recruited a total of 91 subjects within the 10year interval. Male gender was more represented in this current study which is similar to the finding obtained by Anunobi et al[16], though their study also entailed other orbito-ocular lesions such as panophthalmitis. Some studies in other parts of the country also showed male preponderance[1,5,10,19,21] and some observed female preponderance[2,4,18] while some had equal sex distribution.[15,22] This study found no significant difference in the side of presenting eye, which was also similar to the findings by Ngoie et al.[6] This may be due to the fact that there is no eye preference of orbito-ocular tumors.[6]

The findings by Habib et al[1] on patients' common clinical features were quite similar to that of this current study despite the fact that their study was a prospective study unlike this our retrospective study. Other findings in this study on anatomical sites and their commonest tumors were in keeping with that reported by some studies in different parts of the country[10,16] and in Africa[6,23]. In this current study, retinoblastoma and squamous cell carcinoma still remain the most common orbito-ocular tumors in childhood and adults respectively which is in tandem with the findings in a

previous study[16] in same institution almost a decade earlier. This study also revealed that most patients had enucleation unlike that reported in the Northern part of the country by Abah et al[5] which showed that majority of their patients had exenteration due to majority presenting with unsightly fungating tumors at their centre. Poor acceptance of surgery and financial constraint may however be responsible for the proportion of patients who did not have surgical intervention as seen in this study and also in other related studies.[1,4,5] Correlation between clinical diagnoses and histopathology results found in this current study was similar to that found in Kano, Nigeria by Habib et al.[2]

In conclusion, orbito-ocular tumor is not a rare presentation. Retinoblastoma remains the commonest orbito-ocular tumor in childhood while squamous cell carcinoma the commonest in adults. Although our study revealed early presentations of most cases, some proportions of patients still decline surgical interventions. This study also observed that clinical diagnosis at presentation highly correlates with subsequent histological diagnosis. There is still need for counseling and continuous education of patients and their relatives on early presentation and treatment acceptance.

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