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Clinical and histological profile of orbito-ocular masses in Ekiti

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Abstract

Purpose: To review the clinical and histological profile of patients with orbito-ocular masses in order to plan preventive strategies for ocular deformity and loss of life from these lesions.

Methods: The clinic and theatre records of all patients managed for orbito-ocular masses from January 2010- December 2015(a 6year period) were retrieved to obtain the following information: demographic characteristics, duration of symptoms before presentation, laterality, presenting visual acuity, clinical and histological diagnosis, management and postoperative outcome.

Results: A total of eighty nine patients with orbito-ocular masses were seen over the 6years period of study this constituted 0.57%. There were 43 males (48.3%) and 46 females (51.7%) with M:F ratio of 1:1.1. Majority 77(86.5%) of the patients were younger than 50years of age. Fifty eight patients had histologically proven diagnoses. Forty two (47.2%), 35(39.3%) and 7(7.9%) were benign, pre-malignant and malignant respectively. Majority 70(78.7%) presented after 4weeks of onset of symptoms. There was no significant difference in the delayed presentation among malignant and benign cases.

Conclusion: The general incidence of orbito-ocular masses was low. Most patients presented late irrespective of whether lesions were benign or malignant. We advocate early presentation to eye care facility for prompt and appropriate intervention to prevent both potential visual loss and ocular morbidity and consequent loss of life.

Keywords: Benign, Histology, Malignant, Orbito-ocular masses, Profile

Introduction

A wide variety of processes can produce space-occupying lesions in and around the orbit. These include benign and malignant neoplasms, vascular lesions, inflammatory disease, congenital lesions, and infections, among others.[(1)] Orbito-ocular tumors are a common cause of morbidity and mortality, often presenting as unsightly fungating orbital masses.[(2-6)] A delay in diagnosis, can lead to vision loss and deformity irrespective of whether it is benign or malignant.[(7)] Cases left untreated do not only constitute threat to vision, but life as well. Prompt diagnosis and appropriate intervention modalities are mandatory if life and vision are to be saved.[(8)]

Good clinical suspicion coupled with accurate clinical history and characteristic imaging features are vital tools in narrowing down the differential diagnoses. This is further confirmed with ophthalmic pathology.[(7)] Since the initial clinical diagnosis does not always correlate with the histological diagnosis,[(9)] clinicians should therefore be aware of the signs of intraocular and orbital neoplasm6 in order to avoid unnecessary delay in commencing appropriate modalities of management.

This study was conducted to review the demographic characteristics of patients with orbito-ocular masses in Ekiti as well as their types and presentation pattern. The findings from this study will serve as a guide in the planning of preventive strategies for ocular deformity and loss of life from these lesions.

Materials and Methods

This study was carried out in line with the ethical standards according to the Helsinki Declaration of 1975 as revised in 1983. The clinic and theatre records of all patients managed for orbito-ocular masses over a 6-year period (January 2010- December 2015) were retrieved. Information obtained include: demographic characteristics, duration of symptoms before presentation, laterality, presenting visual acuity, clinical and histological diagnosis, management and postoperative outcome. WHO guideline was used to grade the visual acuity with ≥6/18 as normal, <6/18 to >3/60 as visual impairment and <3/60 as blindness. Infants were classified as either blind or believed not to be blind. Clinical records with incomplete data were excluded. Data obtained were recorded and analyzed using Statistical Package for social sciences (SPPS) version 20.

Results

A total of eighty nine patients with orbito-ocular masses were seen over the 6years period of study this constituted 0.57% of a total number of 15698 new patients seen. There were 43 males (48.3%) and 46 females(51.7%) with M:F ratio of 1:1.1. The ages ranged from 2months to 80 years with mean age of 26.90±19.12 years. A total of 82 (92.1%) cases were unilateral while only 7(7.9%) cases were bilateral.

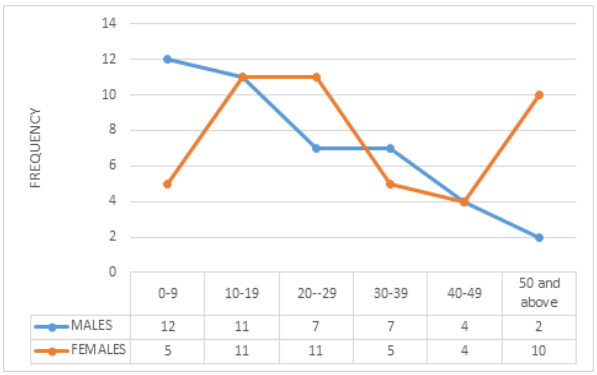


Fig. 1: Age and sex distribution

Males consistently outnumber the females across all age group except the age group 20-29years and those above 50years. Out of those aged 50years and above, over four-fifth (83.3%) were females p=0.028.

Table 1: Presenting visual acuity, sex and age group versus duration of presentation

Variables	Duration of presentation		
	<4 Weeks	≥4 Weeks	Total
	N(%)	N(%)	
Presenting VA			
Normal (≥6/18)	19(22.9)	64(77.1)	83
VI(<6/18)	0(0)	6(100)	66
Sex			
Male	13(30.2)	30(69.8)	43
Female	6(13.0)	40(87.0)	46
Education			
Non-Literate	2(12.5)	14(87.5)	16
Literate	17(23.3)	56(76.7)	73
Age Group (Years)			
<50	17(22.4)	59(77.6)	76
≥50	2(15.4)	11(84.6)	13
Diagnosis			
Benign	19(23.2)	63(76.8)	82
Malignant	0(0)	7(100)	7

VA-Visual Acuity VI- VisuaL Impairment

A total of 19 (22.9%) patients with normal VA presented within 4weeks of disease manifestation. All patients 6(100%) with impaired visual acuity presented after 4weeks of disease. Thirteen (30.2%) males presented within 4weeks of disease as compared with 6(13.0%) females (P=0.042 OR 1.596, CI 1.062-2.401). Seventy three (82.7%) patients were literates while 16(18.0%) were non literates. Patients below 50years of age constituted 77(86.5%) of all. Out of the patients with lesion that presented after 4weeks, 83.3% were older than 50years while 77.9% were less than 50 years age group. All patients with malignant lesion presented after 4weeks of disease. Majority of cases 82/89 (92.1%) were benign.

Table 2: Clinico-histological diagnosis

Clinical/ Histological Diagnosis	Frequency (%)
*OSSN	35(39.3)
Chalazion	23(25.8)
Retinoblastoma	7(7.9)
Conjunctival Granuloma	7(7.9)
Cyst of Moll	5(9.0)
Conjunctival Naevus	4(4.5)
Lid Papilloma	3(3.4)
Orbital Mucocoele	2(2.2)
Conjunctival Melanoma	1(1.1)
Dermoid Cyst	1(1.1)
Neurofibroma	1(1.1)
Total	89(100.0)

*Ocular Surface Squamous Neoplasia

1. **Histopathological Diagnosis:** Fifty eight patients had histologically proven diagnoses. This is presented in Table 2. Forty two (47.2%), 35 (39.3%) and 7(7.9%) were benign, pre-malignant and malignant respectively. Retinoblastoma accounted for all malignant lesions seen during the period of review. Twenty three cases of first occurrence of chalazion were diagnosed clinically, thus, they did not have histology done.
2. **Management:** Surgical excision with Alcohol Kerato-epitheliectomy (AKET) was done for cases of OSSN. Chalazion cases had incision and curettage while the other benign lesions had excisional biopsy and sample sent for final histological diagnoses. All Retinblastoma cases had enucleation with orbital implant after a cycle of Chemotherapy. Patients with OSSN lesions were screened for HIV but none was found positive.

Table 3: Lesion site versus age group

Lesion Site	Age Group		
	>50 Years	≥50 Years	Total
	n(%)	n(%)	
Conjunctiva	35(74.5)	12(25.5)	47(52.8)
Lid	33(100.0)	0(0)	33(37.1)
Intraocular	7(100.0)	0(0)	7(7.9)
Orbit	2(100.0)	0(0)	2(2.2)
Total	77(86.5)	12(13.5)	89(100.0)

Lesion site: A total of 47(52.8%) arose from the conjunctiva, 37.1% from the lid and 7.9% from the retina. All lesions found after 50years of age arose from the conjunctiva.

Clinical picture of orbital mucocoele

Image 1: Histopathological features of ocular surface squamous cell neoplasia (OSSN)

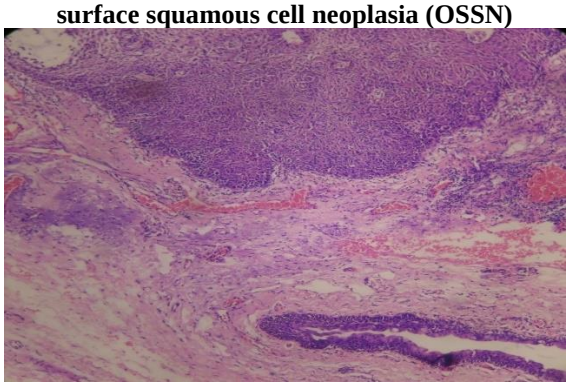
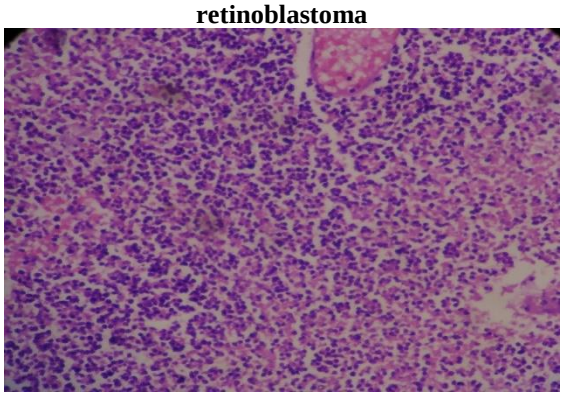


Image 2: Histopathological features of retinoblastoma



Small, round blue cells in retinoblastoma

Discussion

In this study there were 89 cases of orbito-ocular pathological lesions which constituted (0.57%) of all eye cases seen. This is lower than 0.8% found in a similar study on spectrum of orbito-ocular tumors in Ilorin Nigeria.[10] Of all the cases only 7 (7.9%) were malignant, 35(39.3%) pre-malignant and while 42(47.2%) were benign lesions. Contrary to various existing data of orbito-ocular tumours in Nigeria,[11-13] the commonest lesion were pre-malignant lesion of the conjunctiva - ocular surface squamous neoplasm (OSSN). OSSN is reported to be a relatively common neoplasia of the ocular surface, particularly in areas with high ultraviolet light B rays exposure.[14] HIV status which is a known risk factor was explored in all our patients but none was found to be positive contrary to a study done in Northern part of the country where many of their patients had HIV.[15] These patients with pre-malignant lesions were on regular follow up for close monitoring. The malignant lesion found was Retinoblastoma this in 7.9 % of the orbito-ocular masses in this study. Retinoblastoma is the most common malignant intraocular tumour in children. Our finding was similar to reports from other studies in Nigeria[15] (Table 2).

The most common benign lesion in this study was Chalazion of the eyelid (Table 2). This is a chronic lipo-granulomatous inflammatory lesion which can occur at any age. It is reported that patients with a non-life threatening benign lesion delay in seeking eye care.[16] Only 22.5% of patients with orbito-ocular lesions presented within 4weeks of onset of disease(Table 1). It was more worrisome to find out that all patients with malignant lesion presented after 4weeks of onset of disease. This might be due to ignorance of the sinister nature of the condition. Early presentation will cause early detection which thus help to preserve life and useful vision. Every effort should be geared towards educating the community to present early to an eye facility for prompt and appropriate intervention. All patients with impaired visual acuity and with histologically proven malignancy presented after 4weeks of onset of disease. It would have been expected that such patients would have presented early to seek medical attention. Reasons for delayed presentation were not explored. However, males were found to present earlier to the facility than women(Table 1) This might be due to the well-known fact that males have a higher socioeconomic and cultural status compared to females.[17] Conjunctival lesions were the commonest ophthalmic tumors in this study Table 3 which is consistent with reports from other parts of Africa.[12,18-19]

Conclusion

Although, there was a low incidence of orbito-ocular masses, patients with malignant lesions and impaired vison presented after 4weeks of onset of disease in this study. To prevent both potential visual loss and ocular morbidity and consequent loss of life, community awareness campaign should be embarked to facilitate early presentation to an eye facility for prompt and appropriate intervention.

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