

CONJUNCTIVAL SQUAMOUS CELL CARCINOMA IN ONITSHA, NIGERIA

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ABSTRACT

Objectives: To describe the incidence and pattern of conjunctival squamous cell carcinoma at the Guinness Eye Center Onitsha, Nigeria.

Materials and Methods: The case files of all patients with ocular and adnexal tumors at the Guinness Eye Center Onitsha between 2005 and 2017 were reviewed. Those with histological diagnosis of conjunctival squamous cell carcinoma were selected and analyzed. Information obtained included age, sex, disease duration, diagnosis and co-morbidity.

Results: There were 30 patients (0.03% of all new patients and 31.8% of all ocular and adnexal cancers); age range was 25 - 70 years; median - 33 years; 17 males, 13 females. Twenty eight out of the 30 (93.3%) patients were HIV-positive. All were unilateral. Four (13.3%) patients presented with orbital metastasis; 2 (6.6%) intraocular invasion and 1(3.3%) had recurrence after surgical excision. Seventeen (56.7%) patients presented with acuity \geq 6/18 while 6 (20.0%) were blind in the affected eyes.

Conclusions: The incidence of conjunctival squamous cell carcinoma in our hospital was at least 0.03%. It occurred commonly in young adults most of who were also HIV positive. Nearly half of the affected eyes presented with impaired vision, with 20.0% blindness rate.

Key words: Conjunctiva, Cancer, Squamous cell, HIV

INTRODUCTION

The squamous cell carcinoma of the conjunctiva is part of the disease condition referred to as ocular surface squamous neoplasia (OSSN). Ocular surface squamous neoplasia constitutes a spectrum of ocular surface disorders which could be benign or malignant.^{1,2} Clinically the various stages are not distinguishable. However, histologically they are categorized into benign, pre-invasive and invasive lesions.^{1,2}

The benign type includes papilloma, pseudo-epitheliomatous hyperplasia and benign hereditary intra-epithelial dyskeratosis.¹ The pre-invasive OSSN is called conjunctival intra-epithelial neoplasia; it has 3 stages depending on the depth of conjunctival epithelial involvement.² The mild form, also known as mild dysplasia, extends into the basal one-third of the epithelium. The moderate dysplasia involves up to two-thirds of the epithelium while in the severe dysplasia the superficial epithelium is also affected.^{1,2} Full thickness dysplasia is also known as carcinoma-in-situ. In the invasive squamous cell carcinoma of the conjunctiva, there is tumor involvement of both the conjunctival epithelium and stroma.^{1,3}

Several studies from different parts of Nigeria described the pattern and incidence of orbito-ocular tumors in Nigeria.⁴⁻⁶ However, only few studies focused on conjunctival squamous cell carcinoma.^{7,8} This article is a 12-year review of histology-proven cases of conjunctival squamous cell carcinoma at the Guinness Eye Center Onitsha, Nigeria.

MATERIALS AND METHODS

The case files of new patients with ocular and adnexal tumors at the Guinness Eye Center Onitsha between January 2005 and December 2017 were reviewed. Those with histological diagnosis of conjunctival squamous cell carcinoma were selected and analyzed. Information obtained included age, gender, diagnosis, co-morbidity and presenting visual acuity. The study was approved by the institutional review board of our hospital.

RESULTS

During the 12 year period, 99,437 new patients were seen out of which 85 (0.09%) had orbito-ocular cancers. Of the 85 orbito-ocular cancers, 30 (31.8%) had squamous cell carcinoma of the conjunctiva. Conjunctival squamous cell carcinoma thus constituted 0.03% of all new patients and 31.8% of ocular and adnexal cancers.

The age range was 25 - 70 years; median - 33 years; 21 (70%) patients were aged <50 years. There were 13 (43.3%) females and 17 (67.7%) males. Table 1 shows the age and sex distribution of the patients. The disease duration before presentation at our hospital was 3 months - 4 years; median 9 months. Twenty eight out of 30 (93.3%) patients were HIV-positive.

Age(years)	Male	Female	Total	%
21-30	1	5	6	20.0
31-40	6	5	11	36.7
41-50	5	2	7	23.3
51-60	4	-	4	13.3
61-70	1	1	2	6.7
Total	17	13	30	100.0

Table 1: Age and sex distribution

The 2 non-HIV infected patients were aged 69 and 70 years. All were unilateral. Four (13.3%) patients presented with orbital metastasis and 2 (6.7%) patients had intraocular tumor invasion; 1(3.3%) had recurrence after surgical excision. The histologic pattern is the subject of another report. Table 2

Acuity (Snellen)	No.	%
6/6-6/18	17	56.7
6/24-3/60	7	23.3
<3/60-LP	4	13.3
NPL	2	6.7
Total	30	100.0

Table 2: Presenting visual acuity

shows the presenting (unaided) visual acuity in the affected eyes. Seventeen (56.7%) patients had visual acuity $\geq 6/18$ in the affected eye; 6 (20.0%) patients were blind in the affected eye (acuity $< 3/60$) and 2 of these 6 patients (with intraocular invasion of the tumor) had acuity of no perception of light (NPL).

DISCUSSION

With an incidence of 0.03%, conjunctival squamous cell carcinoma could be considered rare in our hospital. This is even as it constituted a third of orbito-ocular cancers, which in itself is not common in our healthcare facility.⁶ However, with the afflicted having a median age of 33 years, there is a predominance of this cancer among young adults in our environment. This is where our study differed from earlier reports.^{4,5} Previously, conjunctival squamous cell carcinoma was observed more frequently in the elderly. But our experience suggests the contrary.

Most of our patients (93.3%) were HIV positive. The earlier studies of orbito-ocular cancers did not record this association.^{4,5} The HIV/AIDS pandemic has led to a recent increase in cases of conjunctival squamous cell carcinoma. Up to the 1990s, conjunctival squamous cell carcinoma were considered so rare that single cases were reported.⁹ A review of ophthalmic features of HIV/AIDS in our hospital showed that squamous cell carcinoma occurred in 2.2% of HIV/AIDS patients.¹⁰ Recent reports from different parts of Africa including Nigeria suggest that the tumor is becoming more common, aggressive, occurs more in younger age group and also commoner in women, especially those infected with HIV.^{7,8,11} The high incidence (93.3%) of squamous cell carcinoma among HIV-positive patients is similar to the findings of Ogun et al in Ibadan, Osahon et al in Benin-City, and Ateanyi-Agaba in Uganda.^{7,8,12} With the emergence of HIV/AIDS, what is being witnessed now is a shift in the epidemiology of conjunctival squamous cell carcinoma. Currently there is a trend towards an increasing incidence, greater occurrence in the younger age group and a relatively more aggressive natural history.

Clinically, conjunctival squamous cell carcinoma especially in the early stages may mimic other ocular surface lesions such as pinguecula and pterygia.² However, a high index of suspicion is

required and relevant investigations requested for accurate diagnosis and appropriate treatment in order to salvage sight and life. Apart from HIV, the roles of other predisposing factors including human papilloma virus (HPV) and ultraviolet-B (UVB) irradiation need be explored in a prospective study.

In the early stage of the tumor, visual acuity is relatively preserved but deteriorates with tumor spread. Although 56.7% had useful vision (acuity $\geq 6/18$) in the affected eyes, the 20.0% blindness rate, albeit uniocular, is high and worrisome (table 2).

The late presentation of the patients greatly accounted for the dismal acuity. Squamous cell carcinoma threatens both sight and life but its disastrous effects could be mitigated when treated early. The need to sensitize the public to seek early medical care for any ocular surface abnormality cannot be over-emphasized.

Almost all our patients presented late thus making palliative care the only practical management approach. This experience has been reported in previous studies of ocular cancers in Nigeria.^{13,14} Social, cultural and economic factors affect health-seeking behavior of patients. Ignorance and prejudice largely determined by religious practice and socio-cultural orientation in great measure determine patronage of orthodox health care services in our environment.¹⁵ Awareness of ocular cancers and the possible symptoms and signs is poor among Nigerians as documented in a study by Ayanniyi et al.¹⁶ The lack of awareness of ocular cancers and their manifestations may contribute greatly to the late presentation of many patients.

Treatment modalities for conjunctival squamous cell carcinoma include surgical excision, chemotherapy and radiotherapy or a combination of these modes of care.^{13,17} In our hospital, surgical excision and chemotherapy are administered, as facilities for irradiation are lacking. But because of late presentation, many patients only received palliative therapy. There is also need to create awareness through public health education on the occurrence, features and known associations of conjunctival squamous cell carcinoma.

In conclusion, although conjunctival squamous cell carcinoma has a relatively low incidence in our practice environment, the importance lies in

the fact that the young economically active group is mostly affected and who for several reasons present late in hospital. It runs an aggressive course jeopardizing sight and life. Its strong association with HIV/AIDS means that preventive measures should, among others, also be aligned with those designed for HIV/AIDS prevention.

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