



Conjunctival Lesions: A Study of Histopathological Pattern in an Ophthalmology Tertiary Care Centre

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Received: January 19, 2024

Published: March 11, 2024

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Abstract

Background: Conjunctival lesions may look similar clinically, but the histopathological examination always reveal variety of diagnoses. While more than 90% of conjunctival lesions are benign, the remaining malignant lesions would carry a threat to vision and may be life if left untreated [1].

Between the two ends of the spectrum lie pre-malignant conditions which are still a source of concern for the ophthalmologist and the patients [2]. Early diagnosis and a high index of suspicion would save more and more eyes.

Objective: To determine the histopathological features of conjunctival lesions in Sudan.

Participants: Patients presented with conjunctival lesion and underwent surgical biopsy in the study period.

Methods: This is a retrospective, descriptive analytical study.

Results: The total of the study population was 101 patients. 64 (63.4%) of them were males and 37 were females. The oldest patient was 90 years old while the youngest was only 4 years old. From the 101 patients, 36 (35.6%) were diagnosed as conjunctival intra-epithelial neoplasia (CIN). 28 (27.7%) patients were diagnosed with squamous cell carcinoma. 11 (10.9%) patients were diagnosed with pterygium, one of them had pterygium with severe dysplasia. 5 (4.9%) patients were diagnosed with nevus, one of them was severe dysplastic junctional nevus.

From the 101 patients, 10 (9.9%) patients needed enucleation of their eyes due to their conjunctival lesion.

Keywords: Conjunctival Lesions; Basal Cell Carcinoma

Abbreviations

BCC: Basal Cell Carcinoma; OSSN: Ocular Surface Squamous Neoplasia SCC Squamous Cell Carcinoma

Introduction

Conjunctival lesions represent a wide scope of clinical conditions that might range from simple and benign lesion to malignant and aggressive tumour. Clinical experience of the ophthalmologist could help in primary diagnosis of a conjunctival tumour, but the histopathological analysis of the lesion is the only definite way to confirm the diagnosis [3].

Conjunctiva is the mucous membrane that covers the eye so the lesions grows in the conjunctiva may arise from either the epithelium or the stromal tissue. The proper diagnosis of a conjunctival lesion may save the patient's sight or in some occasions the patient's life as some malignant tumours may cost the patient on of the eyes and threat his/her life by invasion or spread [4].

OSSN (Ocular Surface Squamous Neoplasia)

This general term represents a spectrum of malignant lesions that originates from the conjunctival epithelium. OSSN ranges from dysplastic changes to locally spreading intra-epithelial neoplasia (confined to the basement membrane to the aggressive invading squamous cell carcinoma).

OSSN typically occurs in old white males exposed to out-doors activities as reported in USA. In Africa, it occurs at younger ages and without sex predilection. Clinically it appears as a white fleshy mass with feeder vessels with or without leucoplakia. Infiltration of the adjacent corneal epithelium may occur. The lesion may be yellowish or pinkish in the USA or Europe while in Africa pigmentation with melanin is common [5].

Regarding OSSN, predisposing conditions include:

- Chronic solar radiation.
- Immune deficiency (HIV), organ transplant, autoimmune conditions
- Xeroderma pigmentosum
- Chronic exposure to cigarette smoke.
- Male sex.
- People of light complexion [5].

Methods and Materials

This is a retrospective, descriptive study, conducted at Makkah Eye Complex Khartoum -Sudan, on the period from 2016-2018. The patient’s data was acquired from histopathology and clinical report. All patients underwent surgical biopsy for a conjunctival lesion were included. Data extraction sheets were filled by the researcher and filled with required information.

Results

Distribution of patients according to age

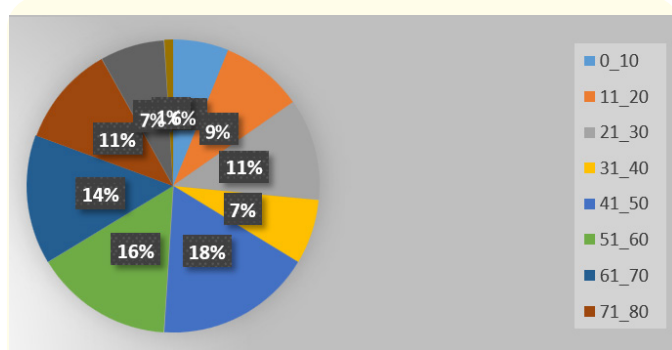


Figure 1

Distribution of patients according to gender

gender	freq.	%
male	64	63.4
female	37	36.7

Figure 2

Distribution according to histopathology

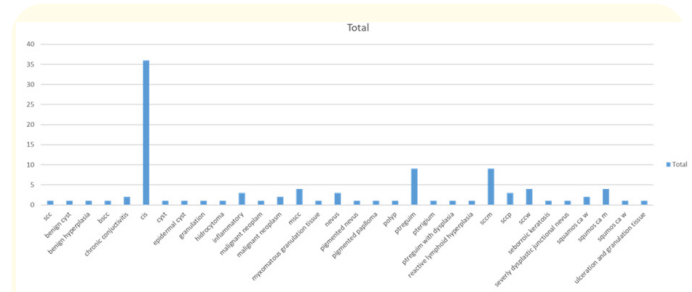


Figure 3

Distribution of benign and malignant lesions

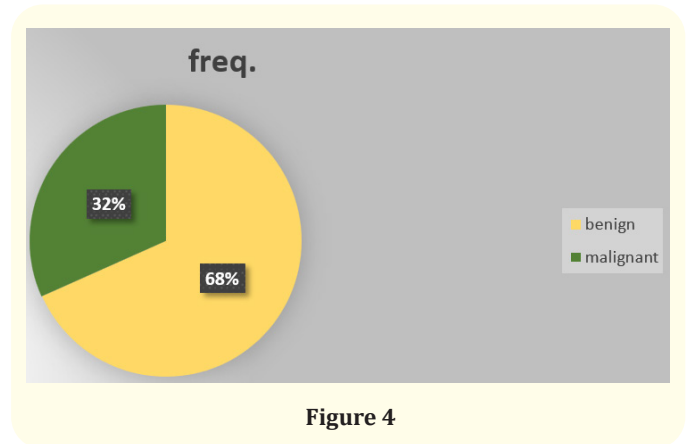


Figure 4

Distribution of malignant tumours

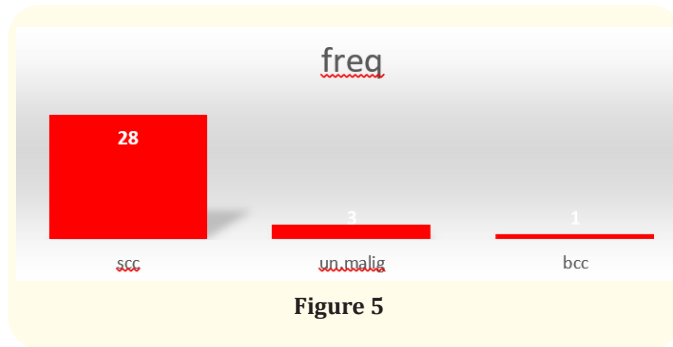


Figure 5

SCC: squamous cell carcinoma Un. malignancy: undifferentiated malignancy BCC: Basal cell carcinoma

Distribution of benign tumours

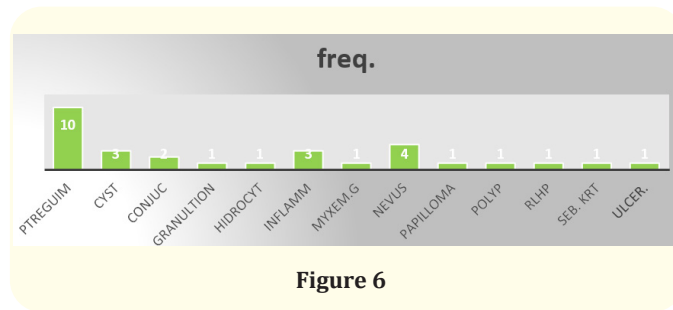


Figure 6

Patients ended up with enucleation

From the 101 patients, 10 (9.9%) patients needed enucleation of their eyes due to their conjunctival lesion.

Discussion

In our study, 36 (35.6%) were diagnosed as conjunctival intra-epithelial neoplasia (CIN). 28 (27.7%) patients were diagnosed with squamous cell carcinoma.

In the large case series by Shields, *et al.* (2017) a number of 5002 cases of conjunctival tumours was investigated. 52% of the cases were found benign conditions, 18% were premalignant and 30% were malignant. The most common condition in this series was nevus followed by OSSN, PAM, melanoma and lymphoid tumours. The most common malignant tumour found was melanoma, followed by SCC, Kaposi sarcoma and metastatic tumours [5].

In the study by Mondal and colleagues (2012), degenera-

tive lesions were the most common histopathological diagnosis (31.66%), followed by pre-malignant and malignant lesions. The least histopathological groups in this study were melanocytic (8.33%) and lymphoid lesions (5.83%). Of the degenerative lesions, pteregium was the most common lesion. Regarding malignant lesions, SCC was the commonest representing 7.5% of the lesions. Malignant melanoma was found in 1.6% [3].

Dalvin, *et al.* (2018) found OSSN in only 21 cases of his case series of 504 patients. Only 6% of the lesions were found malignant; 30 patients six of them were melanoma [1].

Gebremariam and colleagues (2018) confirmed that most of the clinically suspected OSSN lesions were proved to be so after histopathology. Most of their patients were young males, exposed to sun but HIV- negative [6].

In our study, the relatively large percentage of OSSN could result from the tropical climate and prolonged sun exposure that was considered a predisposing factor for getting OSSN. 10% of the patients with conjunctival lesions ended up with enucleation or exenteration were diagnosed as SCC, in comparison to Dalvin’s series where melanoma was the causes beyond enucleation or exenteration [1].

Conclusion

Most of the participants were males. A considerable percentage of the patients were found to have conjunctival intra-epithelial neoplasia which is a direct threat to vision if not treated properly and followed closely. The percentage of squamous cell carcinoma is more than expected may be because Sudan is considered a tropical country. The number of patients requiring enucleation for a conjunctival lesion is alarming and connotes national guidelines for proper management of conjunctival lesions so as not end up in enucleation of the eye.

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