|| ISSN(online): 2589-8698 || ISSN(print): 2589-868X ||
International Journal of Medical and Biomedical Studies
Available Online at www.ijmbs.info
PubMed (National Library of Medicine ID: 101738825)
Index Copernicus Value 2018: 75.71
Original Research Article
Volume 3, Issue 6; June: 2019; Page No. 01-03

CLINICAL PROFILE OF OCULAR SURFACE SQUAMOUS NEOPLASIA (OSSN).

Dr. Rishi Gupta, MS

Fellow, Sankara Nethralaya

Article Info: Received 14 April 2019; Accepted 01 June. 2019
DOI: https://doi.org/10.32553/ijmbs.v3i6.281
Address for Correspondence: Dr. Rishi Gupta, Sankara Nethralaya, Kolkata
Conflict of interest: No conflict of interest.

Abstract

Aim: To Study the Clinical profile of Ocular Surface Squamous Neoplasia (OSSN).

Design: Retrospective study.

Materials and Methods: We analysed 28 cases of OSSN who presented to the out-patient department of tertiary eye care centre Hospital, over a period of 1 year from January 2017 to January 2018.

Results: In patients, who presented with OSSN age ranged from 24 to 70 years, mean age being 44.80 years. Males were predominantly affected accounting for 64.28%. A nodule at the libus is the commonest presentation. About 25% of the patients were positive for HIV with mean age of presentation 32 years. Among HIV positive patients 5 cases had SCC.

Conclusion: OSSN was observed more common in males. Nodular type of lesion is the commonest variety. HIV positive individuals have an increased incidence of OSSN with invasive characteristics. Hence, ophthalmologists need to be aware of this association and a thorough workup is warranted for all patients presenting with OSSN, especially in the younger age group.

Keywords: Ocular surface squamous neoplasia, Carcinoma in-situ(CIS), Squamous cell carcinoma (SCC)

Introduction:

OSSN is an encompassing term for pre-cancerous and cancerous epithelial lesions of the conjunctiva and cornea. It includes the spectrum of Dysplasia, Carcinoma in-situ (CIS) and Invasive SCC [1-3]. CIS accounts for 39% of all premalignant and malignant lesions of the conjunctiva and incidence of invasive SCC varies from 0.02 to 3.5 per 1,00,000 population [4]. About 75% occur in men, 75% are diagnosed in older patients, 75% occur at the limbus [5,6]. OSSN is mostly unilateral and is seen in middle age and older patients. Rarely, it is bilateral in immunocompromised patients. Factors associated with the development of OSSN are exposure to sunlight, HPV type 16 infections and HIV infection [2,5]. A systemic association of the development of OSSN is Xeroderma Pigmentosum. Other factors associated are old age, heavy cigarette smoking, male sex and people of light complexion.

There are no consistent clinical criteria for distinguishing CIS from invasive SCC. The presence of feeder vessels, intrinsic vascularity and a nodular lesion raise suspicion of invasive SCC. OSSN usually presents either as a fleshy, gelatinous, elevated lesion or as a sessile, papillomatous lesion mostly in the interpalpebral region. Most often vision is not affected unless the lesion is encroaching onto the pupillary area. OSSN patients usually present with a swelling, redness and irritation and one can see large, dilated vessels (feeder vessels) surrounding the lesion [1,2,5,7,8]. Advanced cases can infiltrate the cornea and sclera [9] and rarely the tumour may extend into the orbit causing proptosis. Surgery has been the traditional treatment for primary OSSN, but now topical chemotherapy has been gaining increasing popularity among corneal specialists. This trend is evident in the most recent survey of the “standard of care” in the management of OSSN. In 2003, surgery alone was used for primary OSSN in 66% of corneal specialists, and in 2012 this dropped to 51%, with the other half now favoring medical therapy. Complete surgical excision with 2-4mm margin clearance without touching the tumour called the ‘no touch

technique' is the mainstay of surgical treatment. [1,10,11] A double freeze-thaw cycle of Cryotherapy is applied to the edges of the bulbar conjunctiva and if involvement is suspected, cryo is applied to the bare sclera as well [8]. Reported recurrence rate of OSSN is 15-52%. Lee and Herst reported a 17% recurrence after excision of conjunctival dysplasia, 40% after excision of CIS and 30% for SCC of conjunctiva [2]. The recurrence rate can be limited to less than 5% with the above technique. OSSN has a good prognosis. With the modern techniques the recurrence rate is about 5% and regional metastasis of 2%.[1,5,12,13]

MATERIAL AND METHOD

In this retrospective study, we analysed 28 cases of OSSN who presented to the out-patient department of tertiary eye care centre Hospital, over a period of 1 year from January 2017 to January 2018. We analysed 28 cases of OSSN that were diagnosed clinically and confirmed by impression cytology or histopathology. A detailed history including demographic data of Age, Sex, Occupation, HIV status of all the patients was obtained. Clinical features regarding the type of lesion, location, involvement of cornea were evaluated. Routine investigations like Hb%, CT, BT and HIV test were done after obtaining informed consent of the subjects.

RESULT

The age range of the patients in this study is 24 to 70 years. In our study, 64.28% of those affected were males. Mean age was 50.80 years [Table 1]. In our study 25% of the patients were positive for HIV and 75% tested negative [Table 1]. Of those who tested positive 2 out of 7 (28.57%) were found to have HIV after they presented with OSSN. Mean age among HIV positive individuals was 32 years. Statistical analysis showed a significant association between a young patient with OSSN and HIV status (p-value=0.0051) This necessitates testing for the presence of HIV in any young patient presenting with OSSN. The most common clinical variety noted was the Nodular type in 57.14%(16 cases) followed by Leukoplakic in 25%(7 cases) and diffuse in 17.8%(5 cases) [Table 1]. In our study, 16 patients had nasal lesions accounting for 53.57% and 13 patients had temporal lesions accounting for 46.42% [Table 1]. In our study, Histopathological examination showed SCC in 10 patients (35.71%), Carcinoma in-situ in 6 cases(21.4%) and Mild to severe dysplasia in 12 cases.(42.85%)

Table 1: Clinical characteristics

Parmeters	**No.**
Mean age	50.80
Male : Female	1.8:1
Site	
Nasal	16
Temporal	13
Pathology	
Non invasive	18
Invasive	10
HIV status	
Positive	7
Negative	21
Type	
Nodular	16
Leukoplakic	7
Diffuse	5

DISCUSSION

The age range of the patients in this study is 24 to 70 years and the mean age was 50.80 years. Mean age among HIV positive individuals was 32 years which necessitates testing for the presence of HIV in any young patient presenting with OSSN. In our study, 6.28% of those affected were Males. This observation is also mentioned in other studies where males outnumbered females. Male gender may be a risk factor for higher preponderance as they are more commonly employed in professions involving outdoor work thereby leading to increased exposure to UV-B rays which is a known risk factor for development of OSSN. In a similar study done by Rohit Bang et al. the nodular variant was reported to be as high as 48% [14]. In this study 53.57% of the lesions are on the nasal side. According to a study done at Bascom Palmer Eye Institute 54% presented with nasal lesions [15]. In our study, 25% of the patients were positive for HIV and 75% tested negative. Mean age among HIV positive individuals was 32 years. Statistical analysis showed a significant association between a young patient with OSSN and HIV status.(p-value=0. 0.0051) Out of 7 HIV positive cases 71.42% had SCC thereby indicating that HIV patients have a more aggressive form of OSSN compared to HIV negative patients. [16,17] In a study done by Tanuja G et al.,

the mean age in HIV positive OSSN patients was 36 years and 29% of the patients with OSSN were HIV positive and OSSN was the only detectable manifestation of Underlying HIV infection [18]. In another study conducted in Malawi by Spitzer MS et al., which looked at the prevalence of HIV in patients with OSSN and found invasive disease In HIV positive cases [19].

CONCLUSION

Increased incidence of OSSN was observed in males and people with outdoor occupations. Nodular type of lesion is the commonest variety. HIV positive individuals have an increased incidence of OSSN with invasive characteristics.

References

1. Shields CL, Shields JA. Tumours of the conjunctiva and cornea. *Surv Ophthalmol*. 2004; 49:3-24.
2. Lee GA, Hirst LW. Ocular surface squamous neoplasia. *Surv Ophthalmol*. 1995;39:429-50.
3. Pe'er J. Ocular surface squamous neoplasia. *Ophthalmol Clin North Am.* 2005;18:1-13.
4. Lee GA, Hirst LW. Retrospective study of OSSN. *Aust NZJ Ophthalmol.* 1997;25:269.
5. Shields JA, Shields CL. Eyelid, Conjunctival and Orbital Tumours. An Atlas and Textbook. 2nd ed. Philadelphia, PA: Lippincott Williams and Wilkins; 2008. pp. 250-445.
6. Shields CL, Demirci H, Karatza E, Shields JA. Clinical survey of 1643 melanocytic and nonmelanocytic conjunctival tumours. *Ophthalmology*. 2004;111:1747-54.
7. Farah S, Baum TD, Conton MR. Tumours of cornea and conjunctiva. In: Albert DM, Jakobiec FA, editors. Principles and Practice of Ophthalmology. 2nd ed. Philadelphia: WB Saunders; 2000. pp. 1002-19.
8. Honavar SG, Manjandavida FP. Tumours of the ocular surface: A review. *Indian J Ophthalmol*. 2015;63:187-203.
9. Nicholson DH, Herschler J. Intraocular extension of squamous cell carcinoma of the conjunctiva. *Arch Ophthalmol*. 1977;95:843-46.
10. Mauriello JA, Napolitano J, McLean I. Actinic keratosis and dysplasia of the [10] conjunctiva: A clinicopathological study of 45 cases. *Can J Ophthalmol.* 1995;30:312-16.
11. Shields JA, Shields CL, De Potter P. Surgical management of conjunctival tumours. The 1994 Lynn B. McMahan Lecture. *Arch Ophthalmol*. 1997;115:808-15.
12. Cervantes G, Rodríguez AA, Leal AG. Squamous cell carcinoma of the conjunctiva: Clinicopathological features in 287 cases. *Can J Ophthalmol.* 2002;37:14-19.
13. Shields CL, Fasiuddin AF, Mashayekhi A, Shields JA. Conjunctival nevi: Clinical features and natural course in 410 consecutive patients. *Arch Ophthalmol*. 2004;122:167-75.
14. Bang R, Jadhav M, Verma S. 70[14] th AIOC proceedings, Cochin 2012.
15. Kao AA, Galor A, Karp CL, et al. Clinicopathological correlation of ocular surface squamous neoplasms at Bascom Palmer Eye Institute 2001 to 2010. *Ophthalmology.* 2012;119(9):1773-76.
16. Mittal R, Rath S, Vemuganti GK. Ocular surface squamous neoplasia- Review of etiopathogenesis and an update on clinic-pathological diagnosis. *Saudi J Ophthalmol*. 2013;27(3):177-86.
17. Kabra RC, Khaitan IA. Comparative analysis of clinical factors associated with ocular surface squamous neoplasia in HIV infected and Non HIV patients. *J Clin Diadn Res*. 2015;9(5):NC01-3.
18. Thanuja, Babu S, Mala B, Guruprasad BS, Durgappa R, Nagaraju GG R, 69th AIOC proceedings, Ahmedabad 2011.
19. Spitzer MS, Batumba NH, Chirambo T, et al., Ocular surface squamous neoplasia as the first apparent manifestation of HIV infection in Malawi. *Clin Experiment Ophthalmol*. 2008;36: 422-25