Journal of Research in Medical and Dental Science
2021, Volume 9, Issue 7, Page No: 289-291

Available Online at: www.jrmds.in
eISSN No.2347-2367: pISSN No.2347-2545

Clinical Study on Dry Eye Syndrome

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ABSTRACT

The dry eye syndrome is clinical syndrome that generally causes dryness of eye. Of the 70consecutivepatientsstudiedinthisgroup, the incidence was more in the 40 - 70-year age group. 31weremales and 39 were females. 30 had Sjogren's syndrome, which is the most common associated systemic disease in dry eye disease. Of the 30 patients 13 (43%) patients had Primary Sjogren's syndrome and 17 (57% patients had secondary Sjogren' s syndrome. The increased incidence of secondary Sjogren' s compared to primary Sjogren' sinour study can be explained by the fact that Rheumatoid arthritis of SLE patients is sent for Ophthalmic evaluation to our hospital and so increased incidence. Results shows a strong association of menopause with keratoconjunctivitis sicca. 15 patients had developed punctual occlusion. The objective improvement was83%testifyingfheneedandimportance of tear preservation by means of punctual occlusion.

Key words: Tear gland, Dry eye, Sjogren's

HOW TO CITE THIS ARTICLE: Arun Subhash Reddy P, Clinical Study on Dry Eye Syndrome, J Res Med Dent Sci, 2021, 9(7): 289-291

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Received: 7/07/2021
Accepted: 22/07/2021

INTRODUCTION

Dry eye syndrome which is a chronic disease which may even lead to blindness if untreated. It causes irritation, burning and it also decreases tear secretions in eyes by increasing the evaporation of tear film. Tear film covers the cornea and conjunctiva. It is the outermost superficial layer of the tear film made of cho9lesterol and cholesterol esters that are basically derived from meibomian glands. The deep mucmous layer is composed mainly of glycoproteins (mucin) secreted by the conjunctiva! goblet cells reduces the surface tension and allows uniform spread of the aqueous layer over the corneal surface. It is very essential for maintaining tear film stability. A well knowledge of this syndrome is needed to ascertain issue which would help the clinicians to treat the patients. This study aims to evaluate the dry eye status in patients selected for the study also assess the risk factors and criteria for early diagnosis [1-5].

MATERIALS AND METHODS

Study design

This study wasdonefromDecember2012to September 2014 in patients who attended Sree Balaji Medical College and Hospital, Chennai.

Inclusion criteria

Patients with symptoms suggestive of dry eye and clinically proved cases were taken up for the study.

Exclusion criteria

Patients whose symptoms suggestive of dry eye, but if found to be cases of allergic conjunctivitis were excluded from the study.

At the outset, the patients were asked about the symptoms suggestive of dry eye and their personal history with relevance to the symptoms was obtained. General examination was done essentially to look for associated systemic diseases like Xerostomia, Rheumatoid arthritis, Psoriasis, Icthyosis, Pemphigoid and Steven Johnson syndrome.

Patients with symptoms of dry eye and clinically proved cases were involved in the study and the following tests were performed.

- Schirmer's test I.
- Basal secretion test.
- 2% Fluorescein staining.

Schimmer test was performed by inserting a 5mm thick Whatman no 41 papers at the ciliary margin at the junction of medial and lateral thirds of the patient's eye cilia. The amount of wetting of the paper is measured in millimetres after 5 min. This will quantify both the basal and reflex secretion. Tear flow in the eye is also measure by instillation of fluorescein into the conjunctiva and the speed with which its diluted is measured.

RESULTS

Based on Schirmer's test I the patients were graded as severe, moderate and the rest graded as mild (Table1) to the classification of J. Daniel Nelson M.D., (current practice of ophthalmology, page 60. People with age group of 40 to 70 were reported more Figure 1. The results also revealed that steven Johnson syndrome became the major cause occlusion of all the four puncta when we examined the lacrimal system.

Table 1: Patient's grade.

Severe	Moderate	Mild
17	22	31

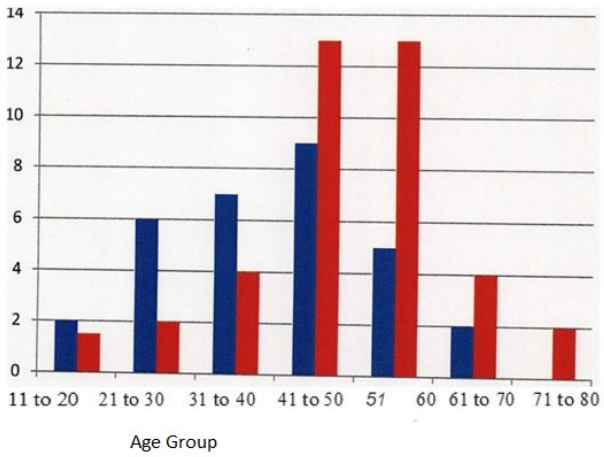

Figure 1: Patient's grade according to age.

Observation of clinical tests

The following results were obtained.

Schirmer's test I

- <l0mm - 65 (93%).
- <6m- 45 (64%).
- <Imm-17 (24%).

Rose Bengal staining test were positive in 62of 85 patients. It also produces intense stinging pain on instillation into the eyes in patients with dry eye syndrome.

DISCUSSION

From the study it was observed that the incident of the disease was common among the age group of 40 to 60 years and more among females. Out of the 70 patients studied in the group ,30had sjogren syndrome which is the most common associated disease of dry eye syndrome. Analysis of clinical tests showed 17 patients had less than 1 mm of Schirmer's test I belonging to severe category, 22 had 1- 5 mm of Schirmer's test I belonging to moderate category and 26 had less than 10 mm of Schirmer's test I of mild category. 5 patients who showed more than 10 mm of Schirmer's test I subsequently showed on Basal secretion test less than 10 mm, and they belonged to the mild category. Tear Break Up Time 1s less than 1 second in 11 patients and less than 3 seconds belonging to severe category and less than 5 seconds in 13 patients of moderate category and the rest had 5 to 10 seconds. To grade patients according to the severity of the disease Schirmer's test I proves to be sufficient for the severe and moderate group patients, but not valuable in assessing patients with mild cases. And it is to detect these patients it becomes essential to perform break up time and Rose Bengal dye test [6-9].

CONCLUSION

Females are commonly affected. This study also showed the risk factors for Dry eye, these are chronic exposure to sun light, long term computer usage, menopausal woman and associated systemic diseases like Rheumatoid arthritis, Sjogren's disease, Keratoconjunctivitis sicca. Among the dry eye patients, Keratoconjunctivitis sicca is the most common ocular cause and Sjogren's Syndrome is the most common systemic cause. Rheumatoid arthritis is the commonly associated autoimmune disease. Secondary Sjogren's syndrome is highly prevalent in females. There is no correlation between the duration of the systemic disease and ocular manifestation of dry eye syndrome.

FUNDING

No funding sources.

ETHICAL APPROVAL

The study was approved by the Institutional Ethics Committee.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

ACKNOWLEDGMENTS

The encouragement and support from Bharath Institute of Higher Education and Research, Chennai, is gratefully acknowledged. For provided the laboratory facilities to carry out the research work.

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