

Evaluation of Dryness of Eyes after Cataract Surgery

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Abstract: Aim: - To investigate the changes referring to dry eye in post operative cataract patients and to analyze these factors pre operatively. Method: - Study of 68 patients with senile cataract admitted and have undergone cataract surgery with IOL implantation. Divided Initially- Group A- Patients with pre operative dry eye. Group B- Patients without symptoms of dry eye. After Surgery- Conjunctival and corneal Fluorescein staining, TBUT, Schirmer's test were recorded. Results: Parameters were analyzed at three days pre operative and at 1 week post operative. Pre operative and post operative values of the parameters were compared. Patients had significantly worse values. In cases of dry eye patients than normal patients post operation Fluorescein stain ($P < 0.01$) TBUT ($P < 0.05$) Conclusion: - Dry eye symptoms affect the visual outcome and visual recovery time negatively. Thus; all cataract patients should be treated for dry eye in pre operative as well as post operative period.

Keywords: Dry eyes, cataract surgery, Schirmer's test, TBUT

1. Introduction

Dry eye is a multifactorial disease of the tears and ocular surface. Ocular symptoms such as pain, irritation and poor vision can result from dry eye. Severe dry eye affects the patient's ocular and general health, well-being and quality of life. The dry eye syndrome is common worldwide. Numerous epidemiologic studies have reported that aging, connective tissue disease, history of allergy or diabetes and use of antihistamines and refractive surgery are risk factors for the development of dry eye syndrome.

Many patients who have undergone cataract surgery, the most common procedure performed in ophthalmic units, have complained of dry eye and symptoms of irritation postoperatively. Complications such as dry eye syndrome can occur after an extracapsular cataract extraction because a large incision is created in the eye during the procedure that sometimes damages the cornea.

Phacoemulsification is also commonly performed worldwide; a smaller incision is created and ultrasonic-driven oscillating tips are used to emulsify or fragment the crystalline lens. Few reports of dry eye syndrome have focused on patients who had undergone phacoemulsification and subsequently developed dry eye.

In the current study, we used various measurements to assess the incidence and severity pattern of dry eye syndrome among patients who have undergone cataract surgery.

2. Aim

To evaluate the incidence and severity pattern of dry eye after Cataract Surgery.

3. Material and Methods

This Prospective Observational study included consecutive 68 eyes. The information on the date of the surgery, the post-operative duration and the eye which was operated on, were obtained. The symptoms which were relevant to the dry eyes were noted. Slit lamp examination, marginal tear strip height, Schirmer's test-I and tear film break-up time were evaluated in this order. The data was graded, based on the guidelines of the 2007 Report of The International Dry Eye Workshop (DEWS)

Inclusion criteria: The patients who came for follow up after an uneventful cataract surgery were included in the study.

Exclusion Criteria: The patients with surgical complications, pre-existing dry eyes, Sjogren's syndrome, rheumatoid arthritis and other autoimmune disorders and patients with pre-existing ocular diseases like glaucoma, uveitis, disorders of the lid or the nasolacrimal pathway, ocular allergies, pterygium and previous ocular surgeries were excluded.

Dry eye severity level	1	2	3	4
Discomfort, severity & frequency	Mild and/or episodic; occurs under environmental stress	Moderate episodic or chronic, stress or no stress	Severe frequent or constant without stress	Severe and/or disabling and constant
Tear film break-up time (s)	Variable	≤10	≤5	Immediate
Schirmer score (mm/5 min)	Variable	≤10	≤5	≤2

4. Results

The comprehensive grading of the dryness showed that of the 68 patients, 45 (66.2%) patients had dry eyes and that 23 (33.8%) patients did not have any dry eyes.

Table 1: Grading of Dryness of eyes among patients

Grading	Number of patients	Percentage
Mild	24	53.33%
Moderate	12	26.66%
Severe	9	20%
Total	45	100%

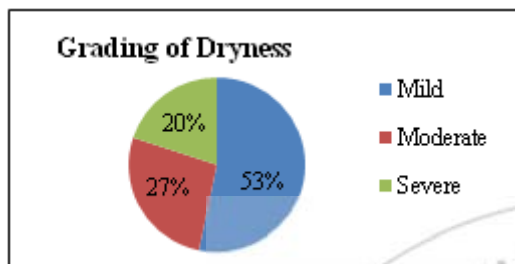


Table 2: Schirmer's test analysis

Schirmer's test I value	Number of patients	Percentage
>15mm	57	83.82%
<10mm	5	7.35%
<5mm	5	7.35%
<2mm	1	1.47%

Table 3: Tear film break-up time analysis

Tear film break-up time value	Number of patients	Percentage
>15s	21	30.9%
<10s	5	7.4%
<5s	31	45.6%
Immediate	11	16.2%

Table 4: Comparison of dryness of eyes based on post-operative duration

Grading	Number of Patients	
	Early post operative period	Late post operative period
Absent	16(40%)	7 (25%)
Mild	15(37.5%)	9 (32.1%)
Moderate	7(17.5%)	5 (17.9%)
Severe	2(5%)	7 (25%)
Total	40(100%)	28 (100%)

5. Conclusion

After cataract surgeries, there were signs of dryness of the eyes in more number of patients. Majority of them had mild grade of dry eyes. Thus, all the cataract patients should be treated for dry eye in pre operative and post operative period as a precautionary measure.

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