



A COHORT STUDY TO SEE THE PREVALENCE OF REDNESS OF EYE IN A NORTH INDIAN POPULATION

Ophthalmology

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ABSTRACT

Introduction: Redness of eyes is one of the most prominent presenting complaints of eye OPD patients. Now a day due to change in our ecosystem and lifestyle their numbers have increased and their causes also changed. Many of times these symptoms presented to general physician, where they misdiagnosed. Some time they get converted into serious and vision threatening complications. **Material and Method:** All new patients presented to eye OPD for 1 year period were included in the study. Total 649 patients were enrolled and out of which 141 patients were presented with complaints of redness of eyes. History of present illness was recorded and eye examination was done. **Results:** 90 patient (63.83%) were having allergy. 13 patients 9.22% were having dry eye, infectious conjunctivitis was present in 10 patient (7.09%). Subconjunctival hemorrhage/Trauma was present in 6 patients (4.25%) of red eye patients. Acute iridocyclitis was present in 2.13% as red eye presentation. Pterigium was present in 1.42%. One patient (0.71%) each presented with pseudophakic bullous keratopathy, orbital cellulitis, glaucoma, hyperthyroidism, keratitis, corneal ulcer, eye lid sty and postoperative pseudophakic bullus keratopathy. **Conclusion:** Due to change in environment and lifestyle the causes of morden redness are change and one needs to thorough evaluate the new causes of redness.

KEYWORDS

Redeye, Pinkeye, Allergic eye, Conjectivitis

INTRODUCTION

Redness of eyes are the most worrying symptoms for the patient as the redness is clearly visible this causes a sense of uneasiness due to which mostly red eye patient present earlier than any other eye symptoms to the ophthalmologist or any primary health care provider.

All ophthalmologist has been faced with redness of eyes in a study redness of eye was reason for 2 to 3% visit to primary care physician^{1,3} this is equivalent to 4 to 10 patients every week² or about 16 to 40 patients a month. Mostly primary health care centers are without specialist doctors. Find it challenging to decide urgent of ophthalmologist referral^{1,2}. An Australian study shown that majority of redness of eye symptom was miss diagnose. In about 10% of these cases serious complications and sequelae are found, as most of the primary care doctor mis-diagnose redness of eye has conjunctivitis or eye flu⁴. We have seen that sometimes age also has an impact on changes, related to head and neck region and associated stuctures.⁵

We conducted the study to evaluate the prevalence of redness of eyes and their causes as that may help us to understand the seriousness of red eye symptoms.

MATERIAL AND METHOD

All new patients visited to the eye OPD with various eye symptoms were included in the study for a period of 1 month, total number of patients included in our study were 649 out of which patient with redness of eyes were 149.

Present history of all patients was taken. The patients were asked for the onset, duration, severity of symptoms, the degree of pain and extent unilateral/bilateral location, duration and course of the redness was recorded along with any accompanying symptoms such as lid retraction, burning of Eyes, dryness, discharge etc. were noted.

Diagnostic work up begins with assessing whether the redness eyes is an acute or chronic phenomena. Acute is mean duration of 7 days or less both eyes were examined as laterality of the red eyes. The patient presented with unilateral acute pain and redness of eye the presence of impacted foreign body or trauma was ruled out. If no foreign body detected, cornea was inspected more closely for the superficial corneal erosion or deeper defect or corneal ulcer. Intraocular pressure was measured, inflammation of sclera, uvea or iris was ruled out. Staining of cornea was done to all patients with contact lens wearing history. Fundus examination was done to all patients to evaluate the posterior segment pathology.

RESULTS

Table1 shows that 90 patient 63.83% were having allergy as a presenting feature of red Eye. 13 patients 9.22% were having dry eye as the differential diagnosis of red eye, bacterial and viral conjunctivitis that is infectious conjunctivitis was present in 10

patient (7.09%). Subconjunctival hemorrhage/Trauma was present in 6 patients that is 4.25% of red eye patients. Acute iridocyclitis was present in 2.13% as red eye presentation. Pterigium was present in 2 patents (1.42%). One patient (0.71%) each presented with pseudophakic bullous keratopathy, orbital cellulitis, glaucoma, hyperthyroidism, keratitis, corneal ulcer, eye lid sty and postoperative pseudophakic bullus keratopathy.

Table 1 Number and percentage of patients presenting with redness of eye

Causes of Eye Redness	No. of cases	Percentage
Eye Allergies	90	63.83%
Dry eye	13	9.22%
Infective conjunctivitis	10	7.09%
Subconjunctival hemorrhage/Trauma	06	4.25%
Episcleritis	5	3.55%
Iridocyclitis	03	2.13%
Pterigium	02	1.42%
Pseudophakic bullous keratopathy	01	0.7%
Off and on redness	01	0.7%
Orbital cellulitis	01	0.7%
Glaucoma	01	0.7%
Hyperthyroid	01	0.7%
Lid sty	01	0.7%
Mebomitis	01	0.7%
Postoperative pseudophakia	01	0.7%
Central hereditary retinopathy	01	0.7%
Total	141	100%

Table 2 Gender distribution in red eyes patients, Red eye is more prevalent in males.

Gender	No. Of red eye cases	Percentage
Male	97	65.2 %
Female	52	44.8%

Table 3 Age wise distribution for red eye presenting patients. Red eye is most prevalent between 41 to 60 years of age group.

Age group	No. Of cases	Percentage
0 - 10 yrs	9	6.04%
11-20 yrs	1	0.67%
21-30 yrs	9	6.04 %
31-40 yrs	13	8.72%
41-50 yrs	49	32.89%
51-60 yrs	49	32.89%
> 60 yrs	19	12.75%
Total	149	100%

DISCUSSION

Classical causes of redness of eyes were karatitis, conjunctivitis,

iritidocyclitis and glaucoma with the change in environment and life style the modern causes of redness in eye are significantly changed. Now the redness causes are allergy, conjunctivitis subconjunctival hemorrhage trauma hydrocyclitis and glaucoma. Less significant causes are pseudopeic keratopathy hyperthyroidism lead style post operative pseudophakia etc.

In about 63.8% patients' allergic conjunctivitis was cause of redness. In a northern Iran study irritation, watering from eyes, eyelid swelling, edema and foreign body sensation was most frequently associated with redness of eyes.^{6,8} Nowadays due to pollution and construction allergic disease are growing. Being noninfectious factor, it is due to external agent like smoke dust etc. This leads to reduced tear fluid, eyelid mal position with mechanical irritation and uncorrected refractive errors. Many of times allergic conjunctivitis is also associated with it and watering. The best way to manage to avoid and eye wash with clean and cold water. Anti-allergy and lubricant eye drops are also beneficial. In 7.09% infectious conjunctivitis was the cause of redness being infectious in nature they may be viral or bacterial etiology. Viral conjunctivitis is associated with water discharge pain and discomfort whereas bacterial conjunctivitis has morning thickness of island yellowish or purulent discharge along with pain and watering.⁶⁻⁹ Management for viral conjunctivitis is usually symptomatic where as for bacterial conjunctivitis antibiotic eye drops are beneficial.

9.22% patients have dry eye as a cause of red eyes. Dry eye becoming very common in our digital life⁶. Due to digital era many of us are continuously exposed to digital screens which may cause dryness of eyes. Digital eye dry are managed by refractive error correction, frequent use of lubricating eye drops. Blue ray cut glasses are also helpful in digital dry eye syndrome treatment.⁹

4.25% have subconjunctival hemorrhage and trauma as a cause of red eyes. Most patients with history of high blood pressure and trauma. Control of blood pressure and lubricating eye drop for 3 to 4 weeks are usually sufficient for management of subconjunctival hemorrhage, the usual resolution time is 3 to 4 weeks.⁷

3.55% patients have episcleritis as the cause of redness. Episcleritis is either nodular or diffuse type, topical loteprednol eye drop four times a day for about 3 weeks period is sufficient. 2.13% have acute Iridocyclitis as cause of red eye. These patients were managed with topical steroid, cycloplegic eye drops and oral steroid as per recommendations.¹⁰

Along with we have also observed that about 0.7% red eyes were associated with each side of a bullous keratopathy, off and on redness syndrome, orbital cellulitis, glaucoma, hyperthyroidism, keratitis, lid style, meibomitis, Central hereditary retinopathy and post operative pseudophakia.

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