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Original Research Article

Clinical profile of patients attending ophthalmic clinic during peaks of covid pandemic: A descriptive study during peaks of covid pandemic at tertiary institute in south India

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ABSTRACT

Background: In Covid pandemic of India, the first peak occurred during September to December 2020. During this period, the patients avoided coming to OPD unless an emergency. It is not known, if there was any change in clinical spectrum of patients presenting to outpatient clinic, so this study gives an overview of the patients presenting to OPD in the pandemic.

Objectives: This study aims to enumerate various ocular symptoms of patients presenting to Ophthalmology outpatient clinic during covid pandemic period, evaluate their demographic profile and to identify any ocular manifestations of corona virus amongst these patients.

Materials and Methods: This is a prospective study done between September 2020 and December 2020 after obtaining approval from Institutional Ethics Committee board. Inclusive criteria-All adult patients of both genders, attending Ophthalmology OPD during study period. Exclusive criteria-Paediatric age group patients, patients having long standing ocular ailments before pandemic. Ocular examination was done by Torch light and Slit lamp bio microscopy. P value was calculated by chi-square test.

Results: There were a total of 374 patients during the study period, male-268(71.65%), female 106(28.34%). The common age group (146 patients out of total 374 patients) was between 20 to 40 years. The chief presenting complaints were- itching (186, males 27.61%, females 61.32% P value-0.004), redness-112 (males-74, females 38, P value-0.117) Foreign body sensation-84 (males-51, females 33, P value-0.011). Defective vision due to cataract -34 (male-18, females-16, P value-0.01109). The diagnosis related to ocular ailments were refractive errors-112(29.94%), ocular adnexa diseases-24(6.41%), conjunctiva diseases-147(39.30%), cornea diseases-12, (3.20%), lenticular disease-34, (9.09%), glaucoma diseases-16(4.27%). Medical treatment was given to most patients (312 patients, 83.42%).

Conclusion: In our study, majority of patients presented with itching, foreign body sensation and diagnosed mostly as conjunctivitis, predominantly viral. Most of the patients are males and in working age group.

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1. Introduction

Covid pandemic effected millions of people, causing significant mortality and deterred the economy of nations. In India, the present pandemic had reached its peak during

September to December 2020, when the nation is stricken by first wave. Since the lifting of lockdown in June 2020 in India, there is an unprecedented surge in Covid cases. The tragedy of undergoing Covid pandemic is, quiet a number of patients are asymptomatic and they spread the disease unknowingly. The early whistle blower doctor for Covid pandemic is Dr Li Wen Liang from Wuhan city, Hubei province China, who is an ophthalmologist and who himself

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had contacted the virus while treating an asymptomatic glaucoma patient.^{1,2} He latter succumbed to virus. During this peak of Covid pandemic, it is not known, if there is any change in clinical spectrum of patients presenting to ophthalmology out patient department; so, this paper presents the same.

2. Aims and Objectives

The study aims to enumerate various ocular complaints of patients presenting to Ophthalmology OPD during covid pandemic period and evaluate their demographic profile and to identify any early ocular manifestations of corona virus amongst these patients.

3. Materials and Methods

This is a prospective study done over a period of 4 months, i.e., from September 2020 to December 2020 after obtaining approval from institutional ethics committee board of our Institute (AIIMS/MG/IEC/20-21/62). Clearance from Institutional Ethics Committee Board was taken after duly submitting the detailed project by following declaration of Helsinki protocols. Random sampling method was followed. Sample size was calculated based on Open-Epi software and it is 374. All adult patients presenting to ophthalmology OPD were included in the study and patients who had long standing eye ailments before Covid pandemic and those referred patients from other departments for screening diabetic retinopathy, ocular trauma, ocular foreign body and paediatric age group patients were excluded from the study. Ocular examination was done by Slit lamp biomicroscopy. P value less than 0.05 was considered statistically significant. P value was calculated by chi square test based on Open Epi software 2x2 table.

4. Results

There were a total of 374 patients during the study period, Male-268 (71.65%), Female 106 (28.34%) (Table 1). The common age group was between 20 to 40 years, followed by 40 to 60 years, (Table 2). The chief presenting complaints were- itching followed by foreign body sensation (Table 3). The diagnosis related to ocular ailments were detailed in Table 4. Treatment given was medical, spectacles and laser procedures (Table 5). Most of the patients had undergone medical treatment only. Out of 147(39.30%) conjunctival disease patients, conjunctivitis was identified in 114 patients and were further advised to undergo RT-PCR test. Forty-three patients had undergone RT-PCR test, and remaining patients refused. Eleven patients (25.5% of patients tested) turned to be Covid positive, others turned to be negative.

Table 1: Gender distribution

Total number of patients	Males	Females
374	268(71.65%)	106(28.34%)

Table 2: Age group distribution

Serial number	Age group	Number of patients
1	20-40 years	146(39.03%)
2	40-60 years	112(29.94%)
3	60 years and above	16(4.27%)

5. Discussion

Other than effecting various organ systems, Corona virus effects even eyes also.³ The Angiotensin converting Enzyme-2 protein is also expressed in epithelium/outer layer of tissues in intestine/eyes/kidneys, although in smaller concentrations in conjunctiva and cornea of eye.so, when spike proteins in SARS-COV 2 Virus bind to ACE receptors in eyes, it causes inflammation of conjunctiva and other eye disorders.

During the peak period of pandemic in 2020, in India during which the study was conducted (September to December), most of the people who attended the OP clinic, with ocular ailments were young adult males (20 to 40) years. The reason maybe they are the main workforce in the society and they have to come out of the house for their daily requirements. This report of our study was closely similar to Sen et al study,⁴ where the mean age is 45 +15.3 years, median is 46.9 years. As explained above may be these age group people are main workforce of society. Mostly during pandemic era, these age group people either present to the hospital as patients or act as asymptomatic carriers, by spreading the infection to aged people in the house.

In our study during heights of pandemic last year 2020, when the country is facing the first wave, there is alarming raise of presenting complaints. 1) Itching of both eyes (186 patients, 49.73%, P value 0.004). 2) Foreign body sensations (84 patients, i.e, 22.45%, P value 0.0114) were noticed. It accounted to almost half of presenting complaint of the patients, during that tenure. The diagnosis was allergic conjunctivitis.

It was clear that all patients who attended ophthalmology outpatient clinic are not covid patients and all of them were routinely screened for fever, cold, cough, body aches and other covid symptoms before entering outpatient clinic. We have our own constraints to do RT-PCR test for all patients with conjunctivitis. Only 43 out of 114 patients advised, had undergone RT-PCR test, of whom eleven (25.5%) turned out to be positive. In the studies done by Sen et al,⁴ Ahuja et al,⁵ Cheema et al⁶ significant priority is given to conjunctivitis as presenting sign of Covid. In several studies unilateral conjunctivitis occurred as first presenting sign of Corona

Table 3: Chief presenting complaints

S.No.	Chief presenting complaint	Total number of patients	Males	Females	Pvalue
1	Itching	186(49.73%)	121(45.14%)	65(61.32%)	0.004
2	Redness	112(29.94%)	74(27.61%)	38(35.84%)	0.117
3	Foreign body sensation	84(22.45%)	51(19.02%)	33(31.13%)	0.0114
4	Watering	64(17.11%)	41(15.29%)	23(21.69%)	0.1387
5	Defective vision due to cataract	34(9.09%)	18(6.71%)	16(15.09%)	0.01109
6	Defective vision due to Refractive error	97(25.93%)	68(25.37%)	29(27.35%)	0.693
7	Diabetic Retinopathy	14(3.74%)	11(4.104%)	3(2.83%)	0.529

Table 4: Ocular ailments

S.No.	Ocular ailments	Total number of patients
1	Refractive errors	112(29.94%)
2	Ocular adnexa diseases	24(6.41%)
3	Conjunctiva diseases	147(39.30%)
4	Cornea diseases	12(3.20%)
5	Lenticular diseases	34(9.09%)
6	Glaucoma diseases	16(4.27%)
7	Uvea diseases	6(1.60%)
8	Vitreous diseases	1(0.26%)
9	Retina/Macular diseases	18(4.81%)
10	Neuro ophthalmology diseases	4(1.069%)

Table 5: Management patterns

S.No.	Treatment	Number of patients
1	Medical Treatment	312(83.42%)
2	Spectacles	88(23.52%)
3	Laser procedures	4(1.06%)

virus disease.⁷⁻⁹ Henceforth with this Research data in mind, when we noticed nearly 50% of patients presented with Conjunctivitis, redness of eyes, foreign body sensation, with significant P values, we advised the patients to undergo RT-PCR test.

Out of 374 patients, 34 patients (9.09%) have decrease in vision due to cataract (P value 0.01109). This can be attributed to the lockdown and stricter Covid regulations, which deterred the patients to attend their regular eye check-ups, thereby causing progression of lenticular diseases and also Diabetic Retinopathy, which significantly caused Ocular morbidity. Very small number of ailments pertaining to Glaucoma diseases (4.27%), Uvea diseases (1.60%), vitreous diseases (0.26%) are noted during this period. This may be due to fear of Covid pandemic, the patients didn't turn up to hospital, unless urgency to decrease in vision is present.

During the period, medical treatment was given to 312 patients. Spectacles were given to 88 patients. As Tele-Ophthalmology was also in place, vaccination to corona virus was not done during that time, we avoided all elective surgeries. Laser procedure for Diabetic Retinopathy

was done for 4 patients. During pandemic period, it is not advisable for patient and doctor to perform active surgeries unless needed. Several study recommended only emergency ocular surgeries and postponement of elective surgeries.¹⁰ Tele-ophthalmic consultation was adopted in most of the institutions.¹¹

6. Conclusion

In our study, majority of patients presented with Itching, Foreign body sensation and diagnosed mostly as Conjunctivitis, predominantly Allergic and viral. Most of the patients are males and in working age group. As asymptomatic patients occupy major role in spreading pandemic, we advised all the patients presenting to us with Conjunctivitis to undergo RT-PCR test, as it could be early sign of COVID, and 25.5% of conjunctivitis patients who were tested turned out to be positive.

7. Source of Funding

None.

8. Conflict of Interest

There are no conflicts of interest.

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