



OCULAR MORBIDITY AMONG COVID PATIENTS AT A TERTIARY CARE RURAL HOSPITAL

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ABSTRACT

Purpose: The aim of this study was to assess the ocular morbidity among the patients post SARS-CoV-2 infection.

Methods: This is a prospective observational study conducted on patients post SARS-CoV-2 infection, at a dedicated tertiary COVID-19 hospital in South India from June, 2020 to August, 2021. A thorough history regarding the onset, duration, progression, nature of symptoms and its associated factors, medication history, treatment history were elicited and documented. Ocular examination was performed by an ophthalmologist with proper care. Further investigations including imaging were sought for, depending on clinical indications. **Results:** A total of 60 patients were examined. Of them, 41 (68.3%) were males and 19 (31.7%) were females, the age group ranged from 12 years to 62 years. On clinical examination, 45 (75%) developed ocular manifestations, of which 22 (48.8%) had features suggestive of Bilateral viral conjunctivitis solely, 20 (44.4%) had features suggestive of viral retinitis and 2 (4.4%) had combined features of conjunctivitis and viral retinitis. 1 (2.2%) patient had developed Mucor mycosis. **Conclusion:** In our study, Viral retinitis was most common ocular morbidity among the covid patients. This pandemic has changed our lives in many ways and various ocular morbidities were seen too, of which few cases recovered with timely diagnosis and management.

KEYWORDS : Conjunctivitis, Viral retinitis, ophthalmic manifestations, Mucor mycosis, SARS-Co-V-2

INTRODUCTION

- Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) which is responsible for the novel pandemic coronavirus disease 2019 (COVID-19) has been challenging the medical community since then with over 33.8 lakh cases reported in our country till October 2021.1
- While most of the diagnostic and therapeutic efforts have been focused on respiratory complications of the disease, several ocular morbidities have also been reported.
- In a study done by Ping Wu et al, one-third of patients with COVID-19 had ocular abnormalities, which frequently occurred in patients with more severe COVID-19. Although there is a low prevalence of SARS-CoV-2 in tears, it is possible to transmit via the eyes.2

AIM

- To assess Ocular morbidity among the patients with SARS-CoV-2 infection.

MATERIALS AND METHODS

- Study design: Prospective observational study
- Study place: Ophthalmology Outpatient Department, Adichunchanagiri Hospital and Research Centre, B.G. Nagara.
- Study duration: June 2020 to August 2021.
- Study Subjects: Patients who attended outpatient department during the study period.
- Sample size: 60 patients.
- Inclusion criteria: All Patients visited during SARS-CoV-2 Pandemic first and second waves.
- Exclusion criteria: Patients with preexisting ocular morbidities.
- After detailed clinical history, patient underwent routine ophthalmic examination which included BCVA with Snellen's chart, retinoscopy, slit lamp examination for thorough anterior segment evaluation, Intra ocular Pressure and dilated funduscopy.
- All post Covid 19 infection patients have been checked for prior RT-PCR test reports.
- Written informed consent was taken.

RESULTS

- A total of 60 patients were examined. Of them, 41 (68.3%) were males and 19 (31.7%) were females. The age group ranged from 12 years to 62 years.
- None of the patients in our study who had been referred from covid ward post discharge had any ocular symptoms or signs as the presenting complaint at the time of their admission.
- On clinical examination, 45 (75%) developed ocular manifestations, of which 22 (48.8%) had features suggestive of Bilateral viral conjunctivitis (Fig 1) solely, 20 (44.4%) had features

suggestive of viral retinitis (Fig 2) and 2 (4.4%) had combined features of conjunctivitis and viral retinitis.

- However, 1 (2.2%) patient had developed Mucor mycosis (Fig 3).

Table 1: Distribution of Ocular conditions among patients

OCULAR MORBIDITY	NO. OF PATIENTS (frequency)	Percentage (%)
Conjunctivitis	22	48.9
Viral Retinitis	20	44.5
Conjunctivitis + Retinitis	2	4.4
Mucormycosis	1	2.2
TOTAL	45	100



Figure 1: Young patient presented with Viral conjunctivitis.

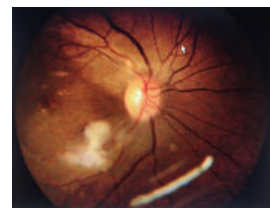


Figure 2: Fundus image showing features suggestive of Viral retinitis of a study patient.



Figure 3: Patient presented with features suggestive of Mucor mycosis.

DISCUSSION

- In our study out of 60 patients, we found that 45 patients had significant ocular morbidity in relation to covid-19 infection which included 22 cases(48.8%) of conjunctivitis,20 cases (44.4%) of retinitis,2 (4.4%)cases with both conjunctivitis and viral retinitis and 1 case (2.2%) of Mucor mycosis.
- In our study,48.8 % patient had developed Conjunctivitis,In a study done by Villahoz G et al they stated that Conjunctivitis or tearing can be the first presentation and even sole manifestation in a patient with the COVID-19 infection.³
- In our study, Viral retinitis was second most common ocular morbidity seen in 44.4% of study population. This in concordance with other study done by Invernizzia A et al, in which they found that COVID-19 can induce important changes at the level of the retina, most of them affecting the retinal vasculature and particularly veins.⁴
- In our study, Mucor mycosis was seen in 2.2% patients, this is in concordance with a study done by Singh A et al they reported overall 101 cases of Mucor mycosis in people with COVID-19 of which 82 cases were from India and 19 from the rest of the world.⁵ In a study by Mishra N et al have proposed that, patients with COVID-19 infection are susceptible to Mucor mycosis because of impairment of barrier defense, dysfunction of phagocytes and lymphocytes and the use of immunosuppressive medications such as steroids and tocilizumab.⁶

CONCLUSION

- In our study, Viral retinitis was most common ocular morbidity among the covid patients.
- This pandemic has changed our lives in many ways and various ocular morbidities were seen too, of which few cases recovered with timely diagnosis and management.

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