



INCREASED INCIDENCE OF CENTRAL SEROUS CHORIORETINOPATHY IN POST COVID PATIENTS

Ophthalmology

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ABSTRACT

This is a retrospective cohort study where we report an increase in the incidence of Central serous chorioretinopathy (CSCR) in post covid patients during a period of one year (MARCH 2021 to FEBRUARY 2022). Most of the patients presented to the OPD with blurring of vision after 2 to 3 weeks of COVID infection. Most of them have been treated with intravenous Remdesivir and Dexamethasone and few patients were treated at home with the use of oral steroids. Detailed history, and history regarding the treatment during covid, clinical examination and all the required investigations were performed. All the cases with proven CSCR on OCT were documented and serial examinations were done and the patients with other retinal changes and any other cause of vision loss are not included in this study. Patients diagnosed with CSCR and with vision <6/12 were treated, with eplerenone(25mg/day) and propranolol (20mg/day) and the symptoms improved within 3-4months and patients with vision >6/12 were followed regularly and most of them showed improvement of vision by one line within 3-4months.

KEYWORDS

Covid infection ,Remdesivir, Oral steroids, Eplerenone, CSCR

INTRODUCTION

The novel pandemic coronavirus disease 2019 (COVID-19), caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has challenged the medical community. While diagnostic and therapeutic efforts have been focused on respiratory complications of the disease, several ocular complications have also emerged.

SARS-CoV-2 RNA has been found in tears of the infected patients, and reports suggest that the ocular surface could serve as a portal of entry and a reservoir for viral transmission.

Ocular manifestations may be due to the direct effect of infection or due to the adverse effects of administration of drugs for the treatment of the disease. Clinically, COVID-19 has been associated with mild conjunctivitis, which can be the first and only symptom of the disease other manifestations include episcleritis, scleritis, uveitis, retinal involvement (chorioretinitis, central serous chorioretinopathy, retinal vessels occlusions)^{1,2,3}

Here, we report an increased in the incidence of CSCR during study of 1 year (MARCH 2021 and FEBRUARY 2022) in the patients who recovered from covid.

Subjects And Methods

Inclusion Criteria

All the Post COVID cases with complain of blurring of vision attending our OPD were taken in this study, during the period of MARCH 2021 and FEBRUARY 2022.

Exclusion Criteria

Patients who are DM, ARMD, Previous use of steroids
Patients with previous history of trauma, Patients with other ocular diseases

A detailed clinical history was elicited from all the patients including: History of positive COVID test, History of hospital admission with duration of stay, History, duration and dosage of Steroids either oral or parenteral or inhalational, History of intake of other medications, History of Diabetes and control of blood sugars, History of smoking, alcohol intake

All the patients were thoroughly examined: for systemic examination which includes Blood pressure(BP), Fasting blood sugar(FBS), and Post prandial blood sugar

Ocular Examination: Best corrected visual acuity, Slit lamp examination

Fundus examination using Indirect Ophthalmoscope /90D, Colour fundus photograph, Optical coherence topography (OCT)

Following the confirmation of diagnosis of CSCR with OCT imaging, Patients with vision < 6/12 were treated with, eplerenone(25mg/day) twice a day (BD) for 2 weeks and propranolol (20mg/day) twice a day for 2 weeks. patients with vision >6/12 were followed regularly.

RESULTS

220 patients attended OPD with complain of blurring of vision post covid out of which 18 (8.18%) patients were diagnosed with CSCR.

Table I. AGE WISE DISTRIBUTION

AGE	NUMBER OF PATIENTS
20 to 40 yrs.	11 (61.2%)
41 to 50 yrs.	4 (22.2%)
50 to 60 yrs.	3 (16.6%)

Table II. GENDER WISE DISTRIBUTION

GENDER	NUMBER OF CASES
MALE	10 (55.6%)
FEMALE	8 (44.4%)

Table III. USE OF STEROIDS

Steroid Usage	Number Of Patients	Duration Of Usage
I.V Dexamethasone	10 (55.6%)	2-4 weeks
Oral Prednisolone	5 (27.7%)	2 - 4weeks

Table IV. VISION AT THE TIME OF PRESENTATION

VISION	NUMBER OF PATIENTS
6/36-6/24	5 (27.7%)
6/18	7 (38.9%)
6/12	3 (16.7%)
6/9	3 (16.7%)

FINAL VISION AFTER TREATMENT:-12patients (66.7%) with vision < 6/12 were treated, and most of the Patients showed improvement in vision after 4 months.6 patients (33.3%) with vision >6/12 were observed. None of the patients developed CSCR in the opposite eye during the follow up and no patient has a chronic CSCR.

DISCUSSION

Central serous chorioretinopathy (CSCR) is the fourth most common retinopathy after age-related macular degeneration, diabetic retinopathy and branch retinal vein occlusion⁴. CSCR is thought to occur due to hyper-permeable choroidal capillaries, which, in association with retinal pigment dysfunction, cause a serous

detachment of the neurosensory retina.

CSCR typically occurs in males in their 20s to 50s who exhibit acute or sub-acute central vision loss or distortion. Other common complaints include micropsia, metamorphopsia, hyperopic (most common) or myopic shift, central scotoma, and reduced contrast sensitivity and colour saturation⁵.

Most cases resolve by itself with minimal loss in visual function, around 5% of individuals can develop persistent defects in quality of vision (Gass, 1997)

Although the exact pathogenesis of CSCR is still unknown, a number of risk factors, such as age, race, corticosteroid use, emotional stress, type-A behaviour, *Helicobacter pylori* infection, sleep apnea, pregnancy, organ transplantation, and autoimmune diseases have been associated with disease⁶.

In our study, the patient had two potential risk factors: corticosteroid use and psychological stress brought on by COVID-19 infection. Significant psychological stress, anxiety, and depression caused by the COVID-19 is one of the major riskfactor⁷. Secondly, corticosteroids are one of the main drugs used in the treatment of COVID-19, as they reduce inflammation, associated with COVID-19 infection. Corticosteroids have been shown to decrease mortality and shorten hospital stays in COVID-19-infected individuals⁸. In our study majority of the patients were given corticosteroids for 2- 3 weeks. Some of the patients used oral steroids without any tapering although tapering was advised by the physician.

In our study patients diagnosed with CSCR and with vision <6/12 were treated, with eplerenone(25mg/day) and propranolol (20mg/day) and the symptoms improved within 3-4months and oedema on OCT took more time to resolve. and patients with vision >6/12 were followed regularly and most of them showed improvement of vision by one line within 3- 4months. All the patients were advised for life style modifications. Eplerenone is an MR antagonist with an increased MR selectivity and higher affinity compared to spironolactone.

Many studies have shown that the increase in the incidence of CSCR after COVID19 Pandemic.^{9,11}

In our study all the patients developed unilateral CSCR and all of them were acute cases. we did not observe any bilateral CSCR or any chronic cases that was observed in some studies¹².s

CONCLUSION

Psychological stress and corticosteroid administration have been a potential risk factor for developing CSCR. The decrease in quality of vision can not only impair the quality of life but also have a huge psychological impact on the patients hence the patients have to be treated cautiously without inadvertent use of steroids and timely tapering the steroid when required. The patients have to be referred to the Ophthalmologist immediately with any ocular complaint.

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Conflicts of Interest :- There are no conflicts of interest

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