

Ocular Behçet disease and COVID-19

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Abstract

Purpose: to study in patients with Behçet disease and ocular involvement (OBD) the presence of SARS-CoV-2 infection and its influence on the course of OBD.

Methods: all the patients with OBD living in Lazio, one Italian region, and attending the Uveitis center of the Sapienza University of Rome were included in the study.

Results: SARS-CoV-2 infection was found in 12.3% of 54 patients with OBD and in 3.84% of Lazio inhabitants ($p = 0.001$, OR 3.51), and it was unrelated to the use of immunosuppressive drugs. COVID-19 symptoms in OBD patients were mild, with one patient only requiring hospitalization for interstitial pneumonia. None of the SARS-CoV-2 infected patients presented any uveitis relapses during the infection and in a subsequent median follow-up of 6 months.

Conclusion: OBD seems to be a risk factor for developing SARS-CoV-2 infection. Usually this infection has a mild course and does not impact negatively on the course of uveitis.

Keywords

ocular Behçet disease, SARS-CoV-2, coronavirus, uveitis

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At the beginning of the pandemic some reports suggested that rheumatologic diseases do not pose an increased risk for the development of COVID-19,¹ but more recently a systematic review has demonstrated that patients with autoimmune diseases have an increased risk of a worse evolution of SARS-CoV-2 infection.² In patients with Behçet disease and ocular involvement (OBD), immunosuppressive therapy is mandatory to preserve useful visual function.³ This therapy might impact negatively on OBD patients during pandemic. No real-life investigation has been done on the prevalence of COVID-19 among OBD patients and the possible additional risk of using immunosuppressive therapy during SARS-CoV-2 pandemic.

We investigated in patients with OBD living in Lazio, one Italian region, the presence of COVID-19 infection and its influence on the course of OBD.

Sixty-five patients, 29 females (44.6%), mean age: 46.83 ± 13.77 years (range:22–82 years) were studied. Eight patients with OBD (12.3%; CI95%:4.48–20.22%) were symptomatic or possible SARS-CoV-2 infection and resulted positive to a PCR nasopharyngeal swab, all

between September 2020 and the end of February 2021, none during the first months of the pandemic. None of the other OBD patients suffered from COVID-19-related symptoms or resulted positive to a nasopharyngeal swab. Within the same period there were 220,349 SARS-CoV-2 positive patients out of 5,730,588 Lazio inhabitants (3.84%; CI95%:3.72–3.96%), suggesting a higher prevalence of SARS-CoV-2 infection in OBD patients ($p = 0.001$, OR 3.51, CI95%:1.67–7.35).

Fifty-four OBD patients were taking immunosuppressive drugs, alone or in combination (26 adalimumab, 20 azathioprine, 11 colchicine, 3 methotrexate and cyclosporine A, 2 infliximab), and 6 of them resulted SARS-CoV-2 positive(11.1%). None of them has changed therapy during

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pandemic. In non-immunosuppressed OBD patients, the rate of positivity was statistically similar (18.18%).

COVID-19 symptoms were fever in 100% of patients; muscle pain in 50%; cough in 37.5%; headache in 25%; and interstitial pneumonia, vomiting, nausea, anosmia, ageusia and prostatitis in 12.5%, respectively. Co-morbidities were present in 4 COVID-19-positive patients (50%) and in 16 negative subjects (28.07%, $p = 0.23$). The only patient presenting interstitial pneumonia was hospitalized and recovered completely in 30 days.

None of the SARS-CoV-2-infected patients presented any uveitis relapse or BD systemic symptoms during the course of the disease or subsequent follow-up (median: 6 months), and only one stopped methotrexate during the course of the disease.

In conclusion, SARS-CoV-2 infection seems to be more frequent in patients with OBD. Our study was not designed to look for a different prevalence of COVID-19 in OBD patients versus general population, but we have found a higher risk for COVID-19 infection in OBD patients. The use of immunosuppressive drugs and the presence of co-morbidities are not risk factors, as the latter were lower in our patients compared to those with SARS-CoV-2 infection (57.7%).⁴ This infection did not appear in OBD patients when a severe and complete lockdown in our region was done. Conversely, 100% of the infection occurred during the second wave of the pandemic, probably due in part to a less stringent maintenance of social distancing. The course of OBD remained unchanged during SARS-CoV-2 infection, which was mild in our OBD patients, similarly to what was found in Spanish patients.⁵ Conversely in a Turkish population it was reported a more aggressive course of COVID-19 in Behçet's disease.⁶ A different expression of Behçet's disease and of COVID-19 infection related to genetic and/or environmental factors may be responsible for these differences, that may be appropriately addressed in further multicenter and multinational studies.

Authors' contributions

M. Accorinti: conception and design of the study, acquisition of data, analysis and interpretation of the data, drafting the manuscript, critical revision for intellectual content. P. Manni, L. Sampalmieri, MC Saturno: acquisition of data, analysis and interpretation of the data, drafting the manuscript, critical revision for intellectual content.

Ethics approval was obtained by the Ethic Committee of the Sapienza University of Rome, n°6399/2021.

Availability of data and material

M. Accorinti is responsible for the data and material related to this correspondence.

Declaration of conflicting interests

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Coronavirus disease 2019 (COVID-19), caused by severe acute respiratory syndrome virus (SARS-CoV-2) is a global health care crisis.

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