

RETINAL VENOUS OCCLUSION IN PATIENTS WITH COVID-19: AN EMERGING COMPLICATION

Gabriel Mello

Luiza Rangel Gambôa

<https://lattes.cnpq.br/6557004027890618>

Maria Eduarda Rangel da Silveira Neves

Julia Gomes Costa Villas Boas

Luciana Cunha de Freitas Lima

<http://lattes.cnpq.br/78734444848083073>

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Introduction

The COVID-19 pandemic, caused by the SARS-CoV-2 virus, has brought to light a variety of medical and ophthalmological complications. Based on ongoing investigations, the observation of a possible relationship between virus infection and Retinal Venous Occlusion (RVO) has been highlighted. RVO is a multifactorial vascular disease that presents mainly with blockage of the flow of one of the veins that drain blood from the retina. Timely recognition and treatment are essential to prevent vision loss and other serious complications, although there is uncertainty regarding the degree of association between COVID-19 and RVO.

OBJECTIVES

To investigate the association between COVID-19 and RVO, considering the high inflammatory thromboembolic state and common markers such as increased D-dimer concentration, relative platelet drop and prolonged prothrombin time.

METHODOLOGY

This is a literature review with articles published in the last 3 years, using the PubMed database and the following MeSH descriptors “Central Retinal Vein Occlusion”, “Retinal

Vascular Disease”, “COVID-19”. Included in this summary were one systematic review, two retrospective case series and two case reports—all in English.

REVIEW OF LITERATURE

COVID-19 presents clinical manifestations of multisystem involvement. Reported retinal changes include microhemorrhages, cotton-wool exudates and dilated and tortuous vessels. In those infected with SARS-CoV-2, the pathophysiological mechanisms by which RVO can manifest themselves are not well defined. One hypothesis is activation by the spike protein of the complement system due to thrombotic microangiopathy and a hypercoagulable state. A significant increase in D-dimer is an indicator of a likely unfavorable prognosis for the general condition.

CONCLUSION

COVID-19 may potentiate underlying risk factors for RVO, such as high blood pressure or diabetes. Many cases of RVO in patients with COVID-19 are completely resolved, however more data are needed to formulate treatment algorithms. The current recommendation is the use of anti-inflammatories and anticoagulants. It must be noted that cases of macular edema are generally resolved with anti-VEGF injection. The reduction in visual acuity caused by macular edema largely resolved after the resolution of the RVO.

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