

# First report of COVID-19 orbital involvement

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A severe skin infection in the orbital area (around the eye) may represent an unusual complication of COVID-19, according to a patient report published in *The Journal of Craniofacial Surgery*.

Doctor Vinícius Almeida Carvalho, and colleagues of State University of Londrina, Paraná, Brazil, describe their experience with a 28-year-old, COVID-19-positive man who developed orbital cellulitis. The patient was referred to the authors' craniofacial surgery department with painful, progressive swelling around his left eye.

## **Sinusitis related to COVID-19 may be a source of facial infection**

A few weeks before, the patient had developed a mild illness, with fatigue and loss of smell and taste. He didn't seek medical care until he developed a headache and swelling around the eye, and loss of smell, which got progressively worse. At his local emergency department, he was diagnosed with COVID-19, as well as sinusitis. However, despite antibiotics and other treatments for sinusitis, the facial pain and swelling worsened—even as the patient's COVID-19 symptoms improved.

By the time Dr. Carvalho's department saw him, the patient's eye was swollen tightly shut. A [computed tomography](#) (CT) scan revealed a fluid collection that was putting pressure on the globe (eyeball), which was fortunately not yet damaged. The CT scan found no evidence of pneumonia or other respiratory involvement from COVID-19.

The patient was diagnosed with cellulitis—severe [infection](#) under the skin—which was thought to have spread from the sinuses to the orbital area. Because of the danger to the eye, Dr. Carvalho and colleagues performed urgent surgery, using a small incision to drain the collection of fluid and pus.

The swelling around the eye decreased immediately after the procedure. The patient remained in the hospital for several days, including treatment with intravenous antibiotics. A few weeks later, his pain and swelling had resolved and the eye was functioning normally.

Although COVID-19 predominantly affects the lungs and of the skin and underlying tissues, a wide range of other manifestations may also occur, including liver and heart conditions, blood clotting abnormalities, and effects on the immune system. Some reports have described "ocular

repercussions," with eye-related symptoms such as congestion and tearing, eye pain, and dry eyes.

A previous US paper reported sinus infection and orbital cellulitis as "atypical conditions" associated with COVID-19. Sinusitis is known to be an important cause of infections spreading to the orbital area. "It is not clear whether SARS-CoV-2 itself is a contributing factor to the pathogenesis [development] in these cases," Dr. Carvalho and colleagues write.

Their case findings suggest that COVID-19 may contribute to sinus infection with the potential to spread to the area around the eye—even in an otherwise-healthy young patient with mild COVID-19 symptoms. Whatever the course of the infection, the researchers emphasize the need for early surgery in patients with severe, vision-threatening orbital cellulitis.

**More information:** Vinicius Almeida Carvalho et al, Coronavirus Disease 2019 as a Possible Cause of Severe Orbital Cellulitis, *Journal of Craniofacial Surgery* (2021). [DOI: 10.1097/SCS.00000000000007826](https://doi.org/10.1097/SCS.00000000000007826)

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