

COVID 19 – Eye Issues

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The coronavirus illness (COVID-19) is caused by a new recombinant SARS-CoV (SARS-CoV) virus (SARS-CoV-2). Target cell infection by SARS-CoV is mediated by the prickly protein of the coronavirus and host cell receptor, enzyme 2 converting angiotensin (ACE2) [3]. Similarly, a recent study suggests that cellular entry by SARS-CoV-2 is dependent on both ACE2 as well as type II transmembrane axial protease (TMPRSS2) [4]. This means that detection of ACE2 and PRSS2 expression in human tissues can predict potential infected cells and their respective effects in COVID-19 patients [1].

Neurological sequences can be devastating complications of viral infections of the respiratory tract. Scientists report the presence of a virus in neuronal and capillary endothelial cells in the anterior lobe tissue obtained in a post-mortem examination of a patient infected with the acute respiratory syndrome coronavirus-2 (SARS - CoV-2). The observations of a virus in neurons, combined with a clinical correlation to exacerbate neurological symptoms, pave the way for a closer understanding of the pathogenic mechanisms underlying central nervous system involvement by SARS-CoV-2 [1].

The harmful virus infiltrates almost every inch of the human body. From the brain to the heart and lungs, to the intestines, from below to the toes, causing a dizzying array of symptoms that range from fatal to irritating. Doctors expect to grow even more. The symptoms of multiple systemic inflammatory syndrome in children, as it is called, are similar to an unrelated syndrome called Kawasaki disease, the leading cause of heart disease in children. Both are marked by high fever, rash, chapped lips and blood red eyes.

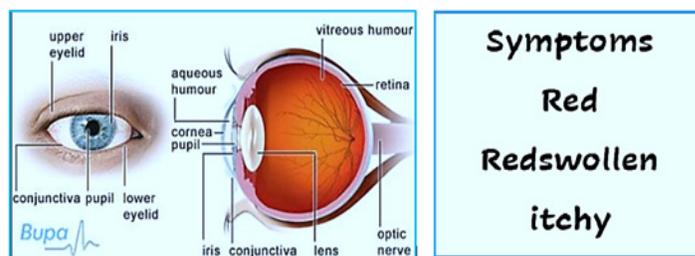
It is still unclear if Covid-19 and “Kawasaki disease” occur in parallel. Still, doctors think the new cases are probably another severe reaction of the Covid 19 immune system (cytokine storms) that only looks like Kawasaki disease. “We do not know for sure,” says Salta, “but that’s what it really looks like” [1-4].

Despite the fact that Covid-19 is a “lung disease”, it can affect almost any part of the body. After all, systemic diseases work systematically. With millions of cases around the world, we are starting to see more Covid-19 oddities, including its effect on the eyes. Although the evidence remains limited, what have scientists revealed about the Covid-19 eye pathology? [5].

More and more it turns out that the coronavirus attacks all body

systems. From the foot to the head. And not just the respiratory system. The eyes, nose, blood, and nervous system and even the immune system instead of protecting also turns its skin and destroys healthy tissues with the “cytokine storm.” The immune system becomes a double-edged sword. Instead of protecting the body, it destroys the tissues. An example of this is the process of killing, and the destruction of the brain’s net of nerve cells. This process takes place in the inner brain. Eventually this brings with it the collapse of all the life support systems of the body; It is the interception and death that follows. Even those who have recovered, carry with them various injuries and scars ranging from improper dysfunction of organs such as the kidney to deep mental injuries and brain injury and even stroke.

Indeed, this is a severe epidemic that is not, the “relief effect” of Professor Less. The new virus behind the epidemic causes the disease called COVID-19. The common symptoms are fever, cough, and breathing problems. Rarely, it can also create an eye infection called conjunctivitis.



Conjunctivitis

Based on data so far, doctors believe that 1% -3% of people suffering from COVID-19 will get conjunctivitis, also known as a pinkie. When the SARS-COV-2 virus infects the tissue called the conjunctiva. That is on the white part of the eye or the inside of your eyelids. Symptoms include if your eyes are: If you have conjunctivitis, it does not necessarily mean you have COVID-19. The more likely causes are different viruses, bacteria, chemicals, and allergens that can irritate your eyes. But patients have a fever, cough, or shortness of breath, ask your doctor what you should do. Call before you head to a medical center to see if it’s safe for you to visit and for any measures for your arrival.

The new virus, called SARS-CoV-2, is transmitted primarily through coughing drops or sneezing. These particles usually enter

through your nose or mouth as well as through your eyes. It is possible to catch the coronavirus if you touch a contaminated table surface, door handle or other surfaces. This is one of the main ways the virus is spreading.

Having conjunctivitis from COVID-19, one may infect others with SARS-CoV-2 if one touches the eyes and then touch people or surfaces. without washing or disinfecting your hands. Avoid touching your face, especially the mucous membrane in your mouth, nose and eyes. Brain imagea of COVID patients as reflected on the on a wall, highlighting the large areas of damage, shown as white blurs, affecting his vision, memory, coordination, and speech.

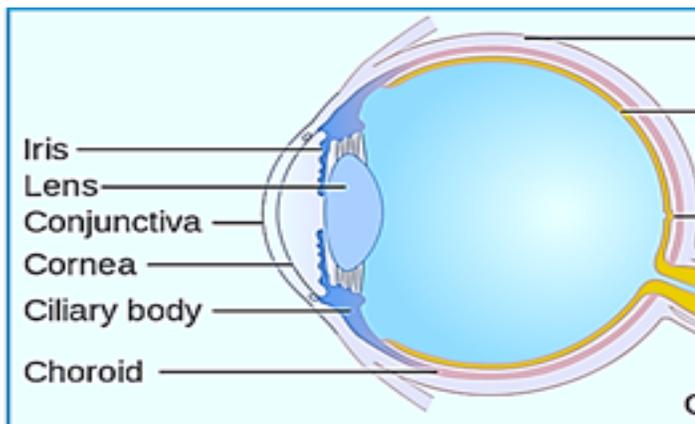
A study from the University of Gothenburg shows that some patients who receive treatment at a coronavirus (COVID-19) hospital show clinical and neurochemical signs of brain damage. In even mild cases of COVID-19, finding and measuring a blood-based biological marker for brain injury has been reported [7].

Covid 19 patients suffer from chemotherapy, which is inflammation and swelling in your conjunctiva. Your conjunctiva is the transparent mucosa that covers the front of your eyeball and the inside of your eyelids. Generally, one should not be able to see your conjunctiva unless you have a super vision or you are extremely small and can see the very thin blood vessels passing through your conjunctiva.

The covid 19 patients had conjunctival hyperemia, that blood flows to your conjunctiva and makes them look red. And seven of the patients underwent eye secretions. None of the patients experienced blurring of their vision.

Connection of the Retina and Optic Nerve

In a work published in May in the journal Ocular Immunology and Inflammation, researchers in Germany discovered the genetic material of SARS-CoV-2 in the retina of three of the 12 patients who died. And previous research has actually found the expression of ACE2 (the major receptor that SARS-CoV-2 uses to infect cells) in the human retina.



Credit

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The retina is the back of the eye where the optic nerve sits. All

information that the retina receives is transmitted to the brain through the optic nerve [8].

Inflammatory systemic diseases usually affect the skeleton, cornea, retina and orbit, and can pose a serious threat to vision. They include primary and secondary vascular disorders and specific granulomatous inflammatory conditions. In addition to direct involvement of the eyes from a systemic inflammatory process, there may be signs of eye ischemia as a result of carotid or ocular inflammation, hypertensive retinopathy and eye complications such as chloroquine maculopathy associated with treatment with anti-inflammatory drugs. In addition, systemic eye contact, as a result of primary infectious disease processes or secondary infection to immunosuppression, may be mistaken for endogenous ocular inflammation. Infection can closely mimic the ocular signs of endogenous inflammation, and in selected patients (such as those who have been vaccinated against vasculitis and who have also undergone invasive surgery, intravenous catheterization, or systemic sepsis), specific exclusion may be necessary. Contamination by sampling and cultivation of intraocular fluids and tissues [9-11].

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