

## REJECTION OF A CORNEAL TRANSPLANTATION IN A PATIENT AFTER COVID-19 VACCINATION (clinical case)

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**Relevance.** Four years have passed since WHO declared the coronavirus a pandemic. During this time, the disease claimed the lives of 6.8 million people. The SARS CoV 2 virus is highly variable and is expected to disappear over time, becoming an endemic infection similar to other respiratory infections. Corneal transplantation is a surgical treatment aimed at restoring the optical and structural properties of a pathologically altered cornea. Exogenous and endogenous causes can lead to transplant rejection, a sharp decrease in vision and subsequent impairment of the patient's ability to work.

**Purpose:** analysis of a clinical case of a patient with a corneal transplant.

**Methods and techniques:** We observed a man aged 63 years. The patient underwent general ophthalmological examination methods: visual acuity studies, external examination of the eye, examination of the extraocular muscles, biomicroscopy, ultrasound examination of the eyeballs.

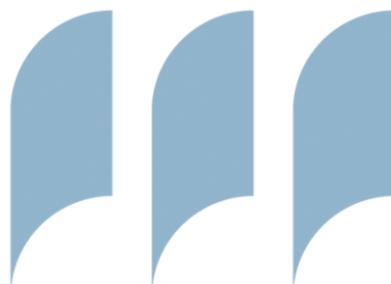
**Results.** From the medical history, the patient received a penetrating injury to the corneoscleral region of the left eyeball in 2005 as a result of trauma. The patient underwent primary surgical treatment of the eye after 6 months the injury, visual acuity of the left eye was 0.04 uncorrectable. Biomicroscopy revealed a white clouding on the cornea. The patient underwent penetrating keratoplasty of the left eye in 2008. According to the patient, the postoperative period was without complications. Visual acuity improved to 0.5.

During the pandemic, the patient was vaccinated against coronavirus (SARS-CoV-2) ZF-UZ-VAC 2021. Three weeks later, the patient was given a second dose of the vaccine. On the third day, the patient began to experience pain, photophobia, and blurred vision in the left eye. The patient was hospitalized in the inpatient department. Biomicroscopy revealed signs of transplant rejection with edema of the corneal stroma and endothelium. The patient was

prescribed local and systemic corticosteroid therapy. 1 month after treatment, complete resolution of corneal stromal edema was observed, and no signs of rejection were observed. At the same time, the corneal endothelium remained dim, visual acuity was equal to 0.3.

**Conclusions.** Thus, in this clinical case acute rejection of donor corneal endothelium occurred shortly after the administration of the COVID-19 vaccine. Timely initiation of aggressive local and systemic corticosteroid therapy can lead to resolution of clinical signs and symptoms of transplant rejection and improve visual function.

**References** Vaccines allow people to develop immunity without exposing themselves to the dangers of infection. Vaccinations often have mild to moderate side effects. This is because the immune system triggers certain types of reactions in the body: stimulating increased blood flow to allow more immune cells to circulate, and increasing body temperature to destroy the virus. It is necessary to remember that any transplant surgery can have a complication in the form of rejection of transplanted foreign tissue. International organizations, including WHO, are carefully monitoring any side effects associated with the use of the COVID-19 vaccine.

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