

## Hypothalamic-Pituitary Complications in Patients with Covid-19

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**Annotation:** The article discusses the traditions of building hydraulic structures in difficult terrain since ancient times. The unique characteristics of the landscape and socio-economic conditions in the territory of Uzbekistan have led to the development of hydrotechnical structures from the simplest local building materials - stone, wood, clay. In the past, it was possible to build large irrigation facilities, create dams, distribution irrigation facilities, etc., to transport water over difficult terrain. A large part of the experience of the past does not lose its importance even today, especially in the rural areas. Therefore, hydraulic engineering deserves the attention of modern researchers.

**Keywords:** COVID-19, kushingoid syndrome, hypertension, postcoid syndrome, gynecomastia, withblood pressure.

**Relevance:** Environmental changes, climate warming, increasing population density and other factors provoke their appearance, and high migration activity of the population contributes to their spread around the world. Truly, infections know no boundaries. According to UN forecasts, the world's population will reach 10 billion people by 2050. This means that the processes of migration and urbanization will continue to accelerate. The COVID-19 epidemic ("coronavirus disease 2019") has already gone down in history as an international emergency. [1,3,4] At the moment, the number of infected people in the world has exceeded 470 thousand people. We still have to study the features of this epidemic, learn lessons, and analyze the shortcomings of ensuring the biological safety of the population. [2,5,6] One thing is clear: new viruses will appear, it is an integral part of our world. Humanity must learn to face these threats. The COVID-19 pandemic has spread to the territory of Uzbekistan, and currently ranks 76th. The number of cases is 83,623, recovered-81,629, mortality-631. The infection does not end in an acute period, and patients have long-term post-cystic complications. [[7, 8, 9] Symptoms of postcoid syndrome are combined with symptoms associated with pathology of the pituitary-hypothalamic region. In the new millennium, humanity is faced with infectious diseases that no one knew about. Plague and typhoid have been replaced by dangerous viruses. [1,11, 12] The COVID-19 epidemic (Coronavirus disease 2019), which first emerged at the turn of 2019-2020 in Wuhan (Hubei Province, China) and then spread to many countries around the world Coronavirus disease, is etiologically related to the severe acute respiratory syndrome type 2 virus (SARS-CoV-2 - Severe acute respiratory syndrome 2), has generated a new wave of interest in coronaviruses. The first coronaviruses-representatives of the Coronaviridae family Coronaviridae from the order Nidovirales - were discovered in the first half of the last century. The first human coronavirus, HCoV-B814, was isolated in 1965 and has not yet been preserved in virological collections. Since then, there have been multiple layers of obsolete names. By the beginning of the twenty-first century, coronaviruses were a serious veterinary problem, but epidemic coronaviruses were not considered particularly dangerous. [1,14, 15] The scientific community had to revise these ideas first in 2002, when the SARS-CoV-Severe acute respiratory syndrome-related coronavirus entered the population. First, in 2012, when natural foci of the Middle East respiratory syndrome-related coronavirus (MERS — CoV) were

discovered CoV Middle East respiratory syndrome-related coronavirus on the territory of the Arabian Peninsula. As a result of increased interest in coronaviruses, a large number of new members of Coronaviridae were discovered in the first two decades of the XXI century Coronaviridae, which required several revisions of the taxonomic structure of this family. [14,16] This review focuses on the history of coronaviruses and their modern classification system, which was developed at the beginning of 2020 in accordance with the latest recommendations of the International Committee on Taxonomy viruses. [17]

**Target:** To study the condition of patients with post-covid endocrine complication.

**Materials and methods:** We examined patients with neurological complaints: psychological instability, aggressiveness, irritability, anxiety, insomnia, unreasonable fears, headaches, obesity, amenorrhea in women and men, gynecomastia. Patients who have had covid-19, the control group – 15 patients who do not have infection. The patients were aged from 17 to 25 years and had a history of infection in the period of 8-9 months. Men -25, women-35.

**Results of the study:** We examined patients to assess their hormonal status. Clinically, the symptoms were identical to pituitary pathology: obesity II with an index of (35-39. 9)-III (>40) degrees, hypertension (7) (With blood pressure - >129 DBP - >89) - 130/90. All patients were diagnosed with Kushingoid syndrome (Purple striae on the anterior wall of the abdomen, moon-shaped face, amenorrhea in women, gynecomastia in men).

To clarify the genesis, Prolactin was determined in patients -  $28 \pm 2.3$  a in the control group within the limits ( $4.04 \pm 1.52$  ng/ml in normal), TSH in patients in the control group (0.27-4.2 U/l),  $T_4$  – in patients in the control group ( $12.0 \pm 22.0$  pmol/l in normal). Cortisol – in patients in the control group (morning-  $6.0 \pm 10.0$  evening-  $1.4 \pm 5.0$  nmol/l in normal).

According to MRI revealed: intracranial hypertension, only two patients with microadenoma with pituitary microadenoma are shown in Figures 1 and 2.

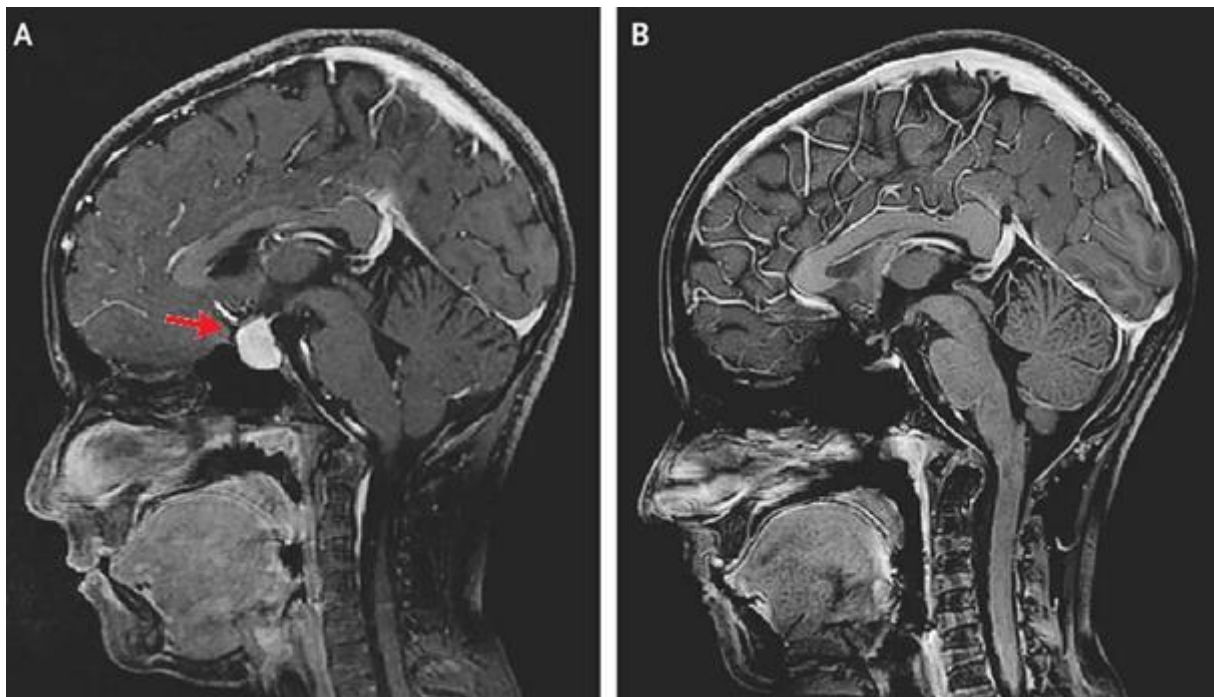


Figure 1. MRI image of patient Alimardonov S., born in 1972, shows pituitary adenoma

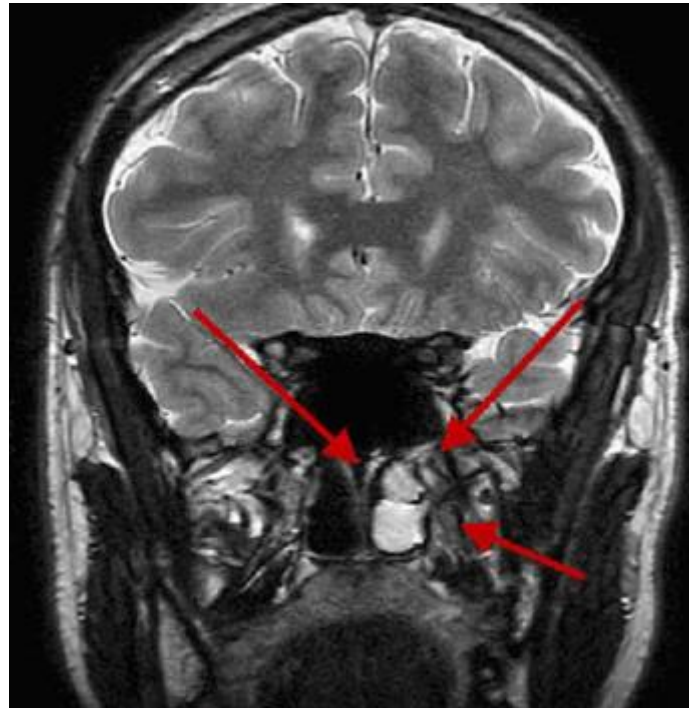


Figure 2. On the MRI image of the patient Savurbaev N. 1989 year of birth, четкорpituitary adenoma is clearly visible.

### Conclusions

Post-covid syndrome occurs within 8-9 months from the onset of the disease. Endocrine complications occur with damage to the pituitary system. To clarify, it is necessary to conduct studies of pituitary, thyroid, and adrenal hormones.

### Recommendations

All patients COVID who have had COVID-19 are recommended to carry out screening measures, in particular hormone tests, MRI diagnostics of the pituitary gland. If there are deviations in the indicators, carry out preventive measures.

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