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## Short Communication

# Features of the Course of Covid-19 in Children of Different Ages (Based on Retrospective Analysis) - @

Bobomuratov TA<sup>1</sup>, Bakirova MA<sup>2</sup>, Karimova NA<sup>2</sup>, Abdullaeva MM<sup>2</sup> and Bobamuratova DT<sup>3\*</sup>

<sup>1</sup>Professor of the department of Propaedeutics of Children's Diseases of the Tashkent Medical Academy

<sup>2</sup>Teacher of the department of Propaedeutics of Children's Diseases of the Tashkent Medical Academy

<sup>3</sup>Teacher of the department of otolaryngology and dentistry of the Tashkent Medical Academy

\***Address for Correspondence:** Bobamuratova DT, Teacher of the department of otolaryngology and dentistry of the Tashkent Medical Academy, E-mail: dbobamuratova@mail.ru

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## ABSTRACT

The advent of COVID-19 has put the entire world health system on its feet. The clinical and epidemiological features of the disease are currently being intensively studied. Patients develop hypercoagulable syndrome in the form of thrombosis and thromboembolism. In addition, damage to organs and systems (myocardium, central nervous system, kidneys, liver, gastrointestinal tract) is observed [5]. Coronavirus infection is as dangerous in children as it is in adults. The purpose of study was to determine the clinical features of the disease in children of different ages who have coronavirus disease. The examination provided a retrospective analysis of the medical histories of children treated at 144 Tashkent Children's Infectious Diseases Hospital No. 3. In children, the following symptoms of the disease were observed: fever, dry cough, general intoxication (myalgia, weakness, profuse sweating, etc.), in some cases, sore throat, nasal congestion, disorders of the digestive system. Was observed significant increase in bilateral and unilateral pneumonias in children at 1–3 years of age and at 12–17 years of age. In addition, interstitial pneumonia was detected in 5 patients, focal pneumofibrosis in 1 patient and pneumomediastinum in 1 patient. Symptoms of general intoxication and respiratory failure predominated in most patients. In children, increased excitability in the central nervous system, inflammation in the heart muscle, and impaired conduction have led to severe disease progression. Delays in hospitalization measures have aggravated the condition of patients.

**Keywords:** COVID-19; SARS-CoV-2; Novel coronavirus; Children; Pneumonia; Complication

## RELEVANCE

On February 11, 2020, the World Health Organization named a new coronavirus infection as COVID-19. The advent of COVID-19 has put the entire world health system on its feet. The clinical and epidemiological features of the disease are currently being intensively studied [1]. One of the most common clinical signs of new coronavirus infection is bilateral pneumonia (viral diffuse lesion of microangiopathic alveoli), with acute respiratory distress syndrome detected in 3-4% of patients [2]. Patients develop hypercoagulable syndrome in the form of thrombosis and thromboembolism. In addition, damage to organs and systems (myocardium, central nervous system, kidneys, liver, gastrointestinal tract) is observed [3-5]. Coronavirus infection is as dangerous in children as it is in adults. Because this disease is new to humanity and its course and consequences have not yet been fully studied [3]. Although the disease usually disappears over time, it is observed that some of their symptoms and complications persist. This prolongs the recovery period from the disease, leading to the addition of other diseases. It is no secret that patients who are treated in an inpatient setting, after a certain period of time with secondary complications, turn to specialists in a narrow field [4]. According to current data, 10% of patients with SARS-CoV-2 are children. Few deaths have been reported in children around the world. In many cases, the disease is transmitted to children from sick adults in the family [5]. In children, the following symptoms of the disease were observed: fever, dry cough, general intoxication (myalgia, weakness, profuse sweating, etc.), in some cases, sore throat, nasal congestion, disorders of the digestive system. Complicated forms of the disease have been observed in patients with comorbidities [6,7].

### The purpose of the study:

To determine the clinical features of the disease in children of different ages who have coronavirus disease.

### Research materials and methods

General blood test, blood clotting time, bleeding time, biochemical tests, ASLO, rheumatoid factor, S-reactive protein, coagulogram, ECG, medical ultrasound of liver and gallbladder. The examination provided a retrospective analysis of the medical histories of children treated at 144 Tashkent Children's Infectious Diseases Hospital No. 3.

In order to study these patients, the following anamnestic data were collected: comorbidities, from whom they were infected, past diseases, allergological anamnesis, premorbid background

of the child and general condition at the time of illness, laboratory and instrumental examinations. All patients were examined by a cardiologist, neurologist, infectious disease specialist.

## RESULTS

As a result of the analysis of medical histories in 144 retrospective methods, the course and severity of Covid-19 disease in children were determined.

According to the anamnestic data, 98 of these children were frequently ill, of which 75 were diagnosed with anemia, 8 with allergodermatitis, 13 with perinatal lesions of the CNS, 1 with meningoencephalitis, and 1 with diabetes mellitus. Of the children, 44 were born from the I fetus, 62 from the II fetus, 29 from the III fetus, and 9 from the IV fetus. The gestation period was satisfactory for most mothers.

Most patients were admitted to the hospital late and hospitalization was delayed. Medium-severe patients were admitted to the hospital on days 7-8. All patients received antiviral drugs, various vitamins, antibiotics before hospitalization. He was hospitalized after no effect of the drug was observed.

The main complaints of patients admitted to the hospital: general intoxication symptoms weakness, loss of appetite, irritability, muscle pain in 84%, profuse sweating 112 (77.7%), headache 44 (30.5%), upper respiratory tract symptoms are few observed in patients, symptoms of respiratory failure were detected in 128 (88.8%) patients, of which respiratory distress, shortness of breath 87 (60.4%), involvement of auxiliary muscles in respiration, the presence of cyanosis around the mouth and diffuse, dry cough 132 (91, 6%) were characteristic of the majority of patients.

Hyperthermic syndrome was observed in 109 (75.7%) patients, of whom 61 (55.9%) (42.4%) had febrile, 48 (44%) (33.3%) had subfebrile fever, odor and 35 (24.3%) sick children complained of taste disturbances, of which 18 were girls and 17 were boys. Cardiovascular examination revealed an increase in arterial blood pressure in a small number of patients, with a pulse rate of 69.4%. Most patients have developed varying degrees of intestinal dysbacteriosis in the gastrointestinal tract. This condition was accompanied by irregular bowel movements, abdominal pain, and anorexia.

Patients admitted to the hospital underwent a series of examinations. According to the results of electrocardiogram examination, were detected 68 (47.2%) sinus tachycardia, 9 (6.25%)

sinus arrhythmias, 17 (11.8%) blockades of various degrees in the cardiovascular system, 11 (7.63%) substances metabolic disorders, hypoxic changes in 32 (22.2%) myocardium. Ultrasound examination of the abdominal organs revealed reactive liver changes in 7 (4.86%) patients, biliary tract dyskinesia in 12 (8.33%), and gallbladder stasis. According to the neurologist, 34 (23.6%) patients had central nervous system intoxication, cephalic syndrome, 29 (20.1%) patients had astheno-neurotic syndrome, 7 (4.86%) cerebrospinal syndrome, 15 (10.4%) % of febrile seizures and neurosis, as well as depressive states in a small number of patients. Pediatric multisystemic inflammatory syndrome was detected in 2 patients with an allergic history [8,9].

Laboratory analyzes revealed varying degrees of anemia in 75 (52%) patients, and increased markers of inflammation in 62 (43%): leukocyte count, erythrocyte sedimentation rate, and S-reactive protein. Examination of the coagulation system revealed hypercoagulable changes in 34 (23.6%) (Table 1-3).

### CONCLUSION

Thus, a significant increase in bilateral and unilateral pneumonias in children was observed at 1–3 years of age and at 12–17 years of age. In addition, interstitial pneumonia was detected in 5 patients, focal pneumofibrosis in 1 patient and pneumomediastinum in 1 patient. Symptoms of general intoxication and respiratory failure predominated in most patients. In children, increased excitability in the central nervous system, inflammation in the heart muscle, and impaired conduction have led to severe disease progression. Delays in hospitalization measures have aggravated the condition of patients.

**Table 1:** Of the 144 children infected with Covid-19, 83 were boys and 61 were girls.

Sex/ age	1-3 years	4-7 years	8-11 years	12-17 years	Total
Boys	31	20	13	19	83
Girls	18	8	9	26	61

**Table 2:** Patients on examination were hospitalized in varying severity.

Weight/age	1-3 years	4-7 years	8-11 years	12-17 years	Total
Medium severe	36	18	15	28	97(67,4%)
Severe	11	7	3	14	35(24,3%)
Too severe	2	3	2	3	8(5,55%)

**Table 3:** According to the results of radiological examination, the disease in children of different ages was divided into the following groups according to the degree of lung lesion.

Age	bilateral pneumonia	unilateral pneumonia	acute bronchitis	Others	Total
1-3 years	11	36	1	1	49
4-7 years	9	15	3	1	28
8-11 years	5	14	1	0	20
12-17 years	20	17	5	5	47
total	45(31,25%)	82(56,94%)	10(6,94%)	7(4,86%)	144

Therefore, it is important to study the clinical features of caronavirus disease in children and not to delay hospitalization and dispensary measures. Given the fact that the characteristics of the recovery period of children with caronavirus infection are not fully understood today, the clinical features of the disease and the characteristics of the recovery period in such children, as well as changes in the hemostasis system and measures to mitigate them are appropriate.

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