

CHARACTERISTICS OF THE CLINICAL COURSE OF COVID-19 INFECTION ON THE BACKGROUND OF BRONCHIAL ASTHMA IN CHILDREN



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БОЛАЛАРДА БРОНХИАЛ АСТМА ФОНИДА COVID-19 ИНФЕКЦИЯСИНИ КЛИНИК КЕЧИШ ХАРАКТЕРИСТИКАСИ

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ХАРАКТЕРИСТИКА КЛИНИЧЕСКОГО ТЕЧЕНИЯ ИНФЕКЦИИ COVID-19 НА ФОНЕ БРОНХИАЛЬНОЙ АСТМЫ У ДЕТЕЙ

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Резюме. Тадқиқот мақсади. Болаларда бронхиал астма фонида COVID-19 инфекциясининг клиник кечиш хусусиятларини аниқлаш. Тадқиқот материаллари ва усуллари. Коронавирус инфекциясига чалинган 7 ёшдан 18 ёшгача бўлган 51 нафар бемор бола кузатув остида бўлди. Назорат гуруҳи худди шу ёшдаги 35 нафар боладан иборат эди. Натижалар. Асосий гуруҳ болаларида коронавирус инфекциясининг клиник кўринишидаги асосий фарқ шундаки, биринчи гуруҳ болаларида куруқ, озриқли йўтал, иккинчи гуруҳ болаларида эса ҳиднинг йўқолиши ва тана ҳароратининг пастлиги. Хулоса. Асосий гуруҳдаги беморларда коронавирус инфекцияси вақтида астма хуружлари кузатилган, бироқ астма учун дори-дармонларни мунтазам қабул қилган болаларда коронавирус кўшилиши сабабли уларнинг аҳволи ёмонлашмаган.

Калит сўзлар: болалар, бронхиал астма, коронавирус.

Abstract. Purpose of the study. Determination of the features of the clinical course of COVID-19 infection against the background of bronchial asthma in children. Materials and methods of research. 51 sick children aged 7 to 18 years who had suffered a corona viral infection were under observation. The control group consisted of 35 children of the same age. Results. The main difference in the clinical picture of corona virus infection in children of the main group was that in children of the first group a dry, painful cough predominated, and in children of the second group - loss of smell and low-grade body temperature. Conclusion. Patients in the main group experienced asthma attacks during the coronavirus infection, but in children who regularly took medications for asthma, there was no worsening of their condition due to the addition of the coronavirus.

Key words: children, bronchial asthma, corona virus infection.

Introduction. During the beginning of the pandemic, somatic pathologies, including bronchial asthma, were considered a risk factor that ended with serious clinical consequences. According to a number of scientific views and theories, it is believed that corona virus infection does not pose a serious threat to patients with BA [3]. According to the data presented by some authors, corona virus infection in children against the background of BA has a mild clinical course and does not cause serious complications [3], others believe that BA is a background condition that aggravates the clinical

course of coronavirus infection [9]. Some scientists have now confirmed that APF2 is the main receptor for virus entry into the cell [4,5,6,8]. APF2 receptors are widely distributed in the ciliated cells of the airways, and APF2 expression was found to be reduced in the nasal mucosa of children with allergic sensitization and allergic asthma [7]. Prospective studies in patients have shown that the use of inhaled glucocorticosteroids is a predictor of susceptibility to SARS-CoV-2 infection and reduced incidence of COVID-19 [2].

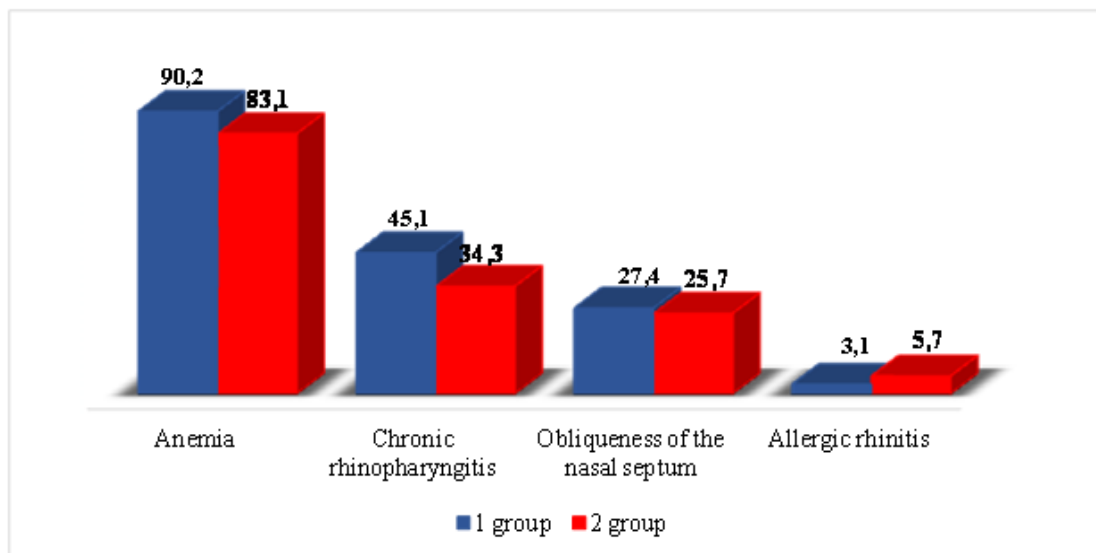


Figure 1. Comorbidities identified in children in the control group, (%) ($P \geq 0.05$)

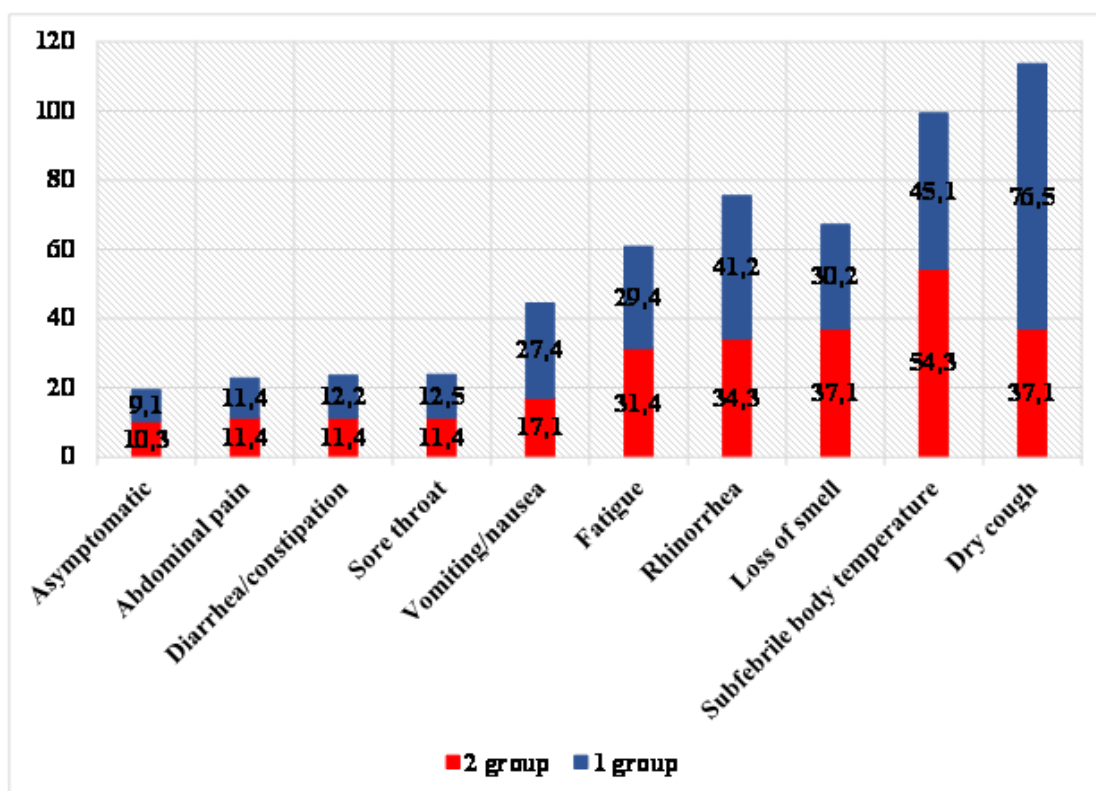


Figure 2. Clinical course of corona virus infection in children in the control group, (%) ($P \geq 0,05$)

The purpose of the study. Determining the characteristics of the clinical course of bronchial asthma against the background of COVID-19 infection in children.

Research materials and methods: in order to achieve the set goal, BA who came to receive inpatient treatment at the multidisciplinary clinic of the Tashkent Medical Academy “Children’s Allergology” department during periods of attacks, had a history of COVID-19, aged 7 to 18 years 51 children patients were selected. As a control group, there were 35 children of the same age who had COVID-19, but did not have any chronic disease.

Clinical-laboratory and instrumental studies were conducted on all children in the control group.

In addition, in order to determine the effect of corona virus infection on the clinical course of BA, the medical history and outpatient cards of all patient children in the study group were studied. Thus, we divided the children in the control group into 2 groups. Group I - 51 children aged 7 - 18 years who have passed COVID-19; Group II - 35 children aged 7-18 years who did not have COVID-19 and did not have BA.

The obtained results and their analysis. Initially, we divided the children with BA according to the clinical course of the disease. The following results were obtained in the distribution of BA by severity level: medium-severe persistent form - 80.4% (n=40), mild persistent form - 14.5% (n=7), og transient persistent form - 5.1% (n=4).

Among the children in the control group, the following accompanying diseases were identified: anemia - 1st group - 90.2% (n=46), 2nd group - 83.1% (n=29); chronic nasopharyngitis - group 1 - 45.1% (n=23), group 2 - 34.3% (n=12); curvature of the nasal septum - 1st group - 27.4% (n=14), 2nd group - 25.7% (n=9); allergic rhinitis - group 1 - 3.1% (n=2), group 2 - 5.7% (n=2) ($R \geq 0.05$) (Fig. 1).

According to the data obtained from the history of the disease, the children in the main study group had a non-obvious clinical form of COVID-19, which was manifested by the following clinical symptoms: dry whooping cough-76.5% ; subfebrile body temperature-45.1%; loss of sense of smell-30.2%; rhinorrhea-41.2%; weakness-29.4%; nausea/vomiting-27.4%; sore throat-12.5%; diarrhea/constipation-12.2%; abdominal pain-11.4%. Asymptomatic clinical course was observed in 9.1 percent of children.

In the children of the second examination group, the corona virus infection was as follows: dry torturous cough - 37.1%; subfebrile body temperature-54.3%; loss of sense of smell - 37.1%; rhinorrhea-34.3%; weakness-31.4%; nausea/vomiting-17.1%; sore throat-11.4%; diarrhea/constipation-11.4%; abdominal pain - 11.4%. Asymptomatic clinical course was observed in 10.3% of children ($R \geq 0.05$). (Figure 2).

By figure 2, the main difference in the clinical presentation of corona virus infection in the children of the control group was that in the children of the first control group, a dry excruciating cough prevailed, while in the children of the second control group, the loss of sense of smell and it was found that subfebrile body temperature prevailed. It found that the rest of the clinical symptoms were almost equally absent in both groups of children.

Summary. 76.8% of patients in the main group experienced BA attacks during the coronavirus infection, but it is noteworthy that children who regularly took drugs for BA, even during the attack period, did not worsen their condition due to the addition of the corona virus.

In children without BA, COVID-19 was mostly mild. In some cases, parents did not even realize that their children were infected with the corona virus, they simply believed that it was a manifestation of SARS.

The results of our research were compared with the data obtained by other authors [14]. They also noted a mild clinical course of coronavirus infection in children with asthma. Also, suffering from a corona virus infection or being infected with a corona virus infection does not affect the exacerbation and clinical course of BA. Because at the time of the attacks, they were regularly taking medication for BA.

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Резюме. Цель исследования. Определение особенностей клинического течения инфекции COVID-19 на фоне бронхиальной астмы у детей. Материалы и методы исследования. Под наблюдением находился 51 больной ребенок в возрасте от 7 до 18 лет перенесшие коронавирусную инфекцию. Контрольную группу составили 35 детей того же возраста. Результаты. Основное отличие клинической картины коронавирусной инфекции у детей основной группы заключалось в том, что у детей первой группы преобладал сухой мучительный кашель, а у детей второй группы - потеря обоняния и субфебрильная температура тела. Заключение. У больных основной группы в период коронавирусной инфекции наблюдались приступы БА, но у детей, регулярно принимавших препараты от БА, ухудшения состояния за счет присоединения коронавируса не наблюдалось.

Ключевые слова: дети, бронхиальная астма, коронавирусная инфекция.