AJPMHS GLOBAL RESEARCH NETWORK

AMERICAN Journal of Pediatric Medicine and Health Sciences
Volume 01, Issue 09, 2023 ISSN (E): 2993-2149

FEATURES OF TYPE 1 DIABETES IN CHILDREN WHO HAVE COVID-19.

Daminov Abdurasul Takhirovich

Assistant of the Department of Endocrinology, Samarkand State Medical University

Kuchkorova Muhlisa Zafarovna, Ismoilova Sitora Isroilovna

student of medical course 506 group, Samarkand State Medical University

Abstract: Diabetes mellitus (DM) is a leading non-communicable chronic disease that has become a pandemic in recent decades. [1]. According to the Diabetic Endocrinology Association in 2022, diabetes is rightfully considered as one of the most common comorbid pathologies recorded in patients with COVID-19 [2]. At the same time, to date, a significant number of large RCTs, systematic reviews and meta-analyses have been published proving that the virus SARS-CoV-2 is capable of triggering a cascade of pathoimmunological reactions leading, under the influence of the multifactorial environment, to the development of type 1 diabetes mellitus [3-5].
Keywords: children and adolescents; diabetes; coronavirus infection; COVID-19.

INTRODUCTION.

Diabetes mellitus (DM) is a leading non-communicable chronic disease that has become a pandemic in recent decades. [1]. According to the Diabetic Endocrinology Association in 2022, diabetes is rightfully considered as one of the most common comorbid pathologies recorded in patients with COVID-19 [2]. At the same time, to date, a significant number of large RCTs, systematic reviews and meta-analyses have been published proving that the virus SARS-CoV-2 is capable of triggering a cascade of pathoimmunological reactions leading, under the influence of the multifactorial environment, to the development of type 1 diabetes mellitus [3-5].

RELEVANCE. Thus, we can confidently assert that there is a certain bidirectional relationship between diabetes and COVID-19. The results obtained during the active study of the consequences of the onset of diabetes at an early age make this problem especially relevant. Thus, in cohort studies by Gagnum V. et al (2017, n = 7871) and Wasag DR et al (2018, n = 3642), it was proven that that acute diabetic complications, such as diabetic ketoacidosis and hyperglycemic reactions, are the leading cause of death in young people under 30 years of age, increasing the risk of death by 3 times compared with the general population. [11,12,13]In addition, diabetes mellitus is associated with numerous structural changes in the lungs, the development of endothelial dysfunction and an increased susceptibility to coagulopathies, which in the future may become a predictor of severe course of new episodes of COVID-19[14,16,18]. Considering the sharp rise in cases of newly diagnosed type 1 diabetes in children during the COVID-19 pandemic, as well as the possibility of developing serious prospective consequences, it seems especially necessary to focus attention on such clinical cases to develop an understanding of the pathogenetic features of the process, increased alertness regarding given nosology, development of competent tactics for managing patients with mandatory follow-up control[6,7,8,9]. Below we present one of our own observations of the debut of type 1 diabetes mellitus in a child against the background of the new coronavirus infection COVID-19[10,11,12].The COVID-19 pandemic has not spared children either. Although in general the course of the viral infection in children is mild, the question remains

about the long-term consequences of COVID-19 in childhood and adolescence, in particular, the possible effect on pancreatic beta cells[19,20,21].
PURPOSE OF THE STUDY. To study the clinical features of diabetes mellitus in children diagnosed for the first time afterCOVID-19 infections.
MATERIALS AND METHODS. This article presents preliminary results obtained from an examination of children and adolescents in the Samarkand branch of the Republican Scientific and Practical Center of Endocrinology with the first diagnosed diabetes mellitus after a COVID-19 infection,A systematic review and case compilation are also presented.
RESEARCH RESULTS. Of the 110 children hospitalized at the RSNPMCE clinic with newly diagnosed diabetes, 15 had itdiagnosed after a COVID-19 infection, all in a state of diabetic ketoacidosis. Only 20% of children knew about the COVID-19 infection, the course was mild, and in 80% of children the infection was asymptomatic. At the time of detection, all children had a high level of glycated hemoglobin - above 10%, lowVitamin D levels, high levels of antibodies to SARS-CoV-2 (IgG), higher than average insulin requirements.
CONCLUSION. The SARS-CoV-2 virus could become a direct cause of the development of diabetes mellitus in children evenwith an asymptomatic viral infection. However, the question remains about the exact classification of diabetes occurring after COVID-19 in children. It is necessary to inform the population about the first signs and symptoms of diabetes mellitus in order to promptly consult a doctor to diagnose the disease.

REFERENCES:

1. Erener S. Diabetes, infection risk and COVID-19. Mol Metab. 2020 Sep; 39:101044. doi: 10.1016/j.molmet.2020.101044.
2. Dedov I.I., Mokrysheva N.G., Shestakova M.V., Nikonova T.V. et al. Glycemic control and choice of antihyperglycemic therapy in patients with type 2 diabetes mellitus and COVID 19: consensus decision of the expert council of the Russian Association of Endocrinologists. Diabetes. 2022; 25(1):27–49. [Dedov II, Mokrysheva NG, Shestakova MV, Nikonova TV et al. Glycemic control and choice of antihyperglycemic therapy in patients with type 2 diabetes mellitus and COVID-19: consensus decision of the Council of Experts of the Russian Association of Endocrinologists. Diabetes Mellitus. 2022; 25(1):27–49. (In Russ.)]
2. Wu ZH, Tang Y., Cheng Q. Diabetes increases the mortality of patients with COVID-19: a meta-analysis. Acta Diabetol. Feb 2021; 58(2):139–144. doi:10.1007/s00592-020-01546-0.
3. Nazira K., Siddikovna T.G., Davranovna D.A., Takhirovich D.A., Tulkinovich O.S. (2021). Cardiovascular complications in patients with covid and diabetes mellitus 2. Central Asian Medical and Natural Science Journal, 2(3), 37-41.
4. GROWTH HORMONE FOR THE TREATMENT OF HEREDITARY DISEASES IN CHILDREN Ortikov Shahzod Tulkinovich. Karimova Nazira Alimovna, Kurbanova Nozima Sobirjanovna, Daminov Abdurasul Takhirovich / International Journal of Innovative Engineering and Management Research. 2021 281-284.
5. Features of the course of type 2 diabetes mellitus with arterial hypertension and ways of their correction Negmatova Gulzoda Shukhratovna, Salimova Dildora Erkinovna Eurasian Medical Research Journal 17, 39-41, 2023.
6. FEATURES OF THE TECHNIQUE OF TYPE 2 DIABETES MELLITUS IN COMBINATION WITH ARTERIAL HYPERTENSION AND WAYS OF CORRECTION IX G.Sh. Negmatova, D.E. Salimova LLC "Research and publications", Enlightener, 2023.
7. Features of the coexistence of type 2 diabetes mellitus with arterial hypertension and their treatment Gulzoda Shukhratovna Negmatova, Dildora Erkinovna Salimova LLC "Ochik fan", Science and education, 2023.
8. Khalimova Z.Yu. and G.Sh. Negmatova. Autoimmune polyglandular syndromes. Literature review". Central Asian Journal of Medical and Natural S

9. Даминов А., Хайдаров О., Хасанова М. и Абдукахорова Р. (2023). ОСЛОЖНЕНИЯ ГЛЮКОКОРТИКОИДНОЙ ТЕРАПИИ У ПАЦИЕНТОВ С ДИАБЕТОМ, ПЕРЕЖИВШИХ КОВИД-19. Евразийский журнал медицинских и медицинских наук , 3 (4), 197-200.ciences 2.4 (2021): 166-175.
10. Khamidova M.N., Ismatova I.F., Zh.Sh. Berdirov, G.Sh. Negmatova and A.T. Daminov. "DIABETES AND COVID-19". Eurasian Journal of Medicine and Natural Sciences 2, no. 13 (2022): 190-204.
11. Takhirovich D.A., Burchaklar S.J.A., Shukhratovna N.G., Shukhratovna S.G., Zainuddinovna M.G. (2022). COURSE OF COVID-19 IN PATIENTS WITH DIABETES. Web of Scientist: International Journal of Scientific Research, 3(02), 73–76.
12. Takhirovich D.A., Korners S.J.A., Shukhratovna N.G., Shukhratovna S.G., Zainuddinovna M.G. (2022). COURSE OF COVID-19 IN PATIENTS WITH DIABETES. Web of Scientist: International Journal of Scientific Research, 3(02), 73–76.
13. Abduvali, X., Otabek, S., Asilbek, E., & Daminov, A. T. (2023). TYPE 2 DIABETES: TIME TO CHANGE THE CONCEPT. Science and innovation, 2(D4), 165-167.
14. Togaeva G.S. «Ўз-узини назорат қилиш мактабида ўқиган қандли диабет 2 тип билан касалланган беморларнинг клиник ва биохимиявий курсаткичлари». Journal of Biomedicine and Practice 2 Special Issue. Tashkent in 2020. Pages 132-135.
15. Togaeva Gulnora Siddikovna., Oripov Firdavs Suratovich., Davranova Aziza Davranovna.: "Structural features of cells of the islets of Langerhans in offspring with alloxonic diabetes" (Review article). Annals of the Romanian Society for Cell Biology 2021; P.158-162
16. Negmatova G.Sh, Togayeva G.S., Davranova A.D., Azimbegova S.N. “Assessment of the effectiveness of cardioprotectiva drugs in treatment of childeren with diabetic cardiomyopathy”/ The American juornal of medical sciences and pharmaceutical research//4.01. 79-83.
17. Negmatova G.Sh., Togayeva G.S., Davranova A.D., Azimbegova S.N. Uzbek medical journal. // Criteria for physical and sexual devolopent in with thyroid diseases. 4. 32.
18. Negmatova G.Sh, Togayeva G.S., Davranova A.D., Azimbegova S.N. “Assessment of the effectiveness of cardioprotectiva drugs in treatment of childeren with diabetic cardiomyopathy”/ The American juornal of medical sciences and pharmaceutical research//4.01. 79-83.
19. Dzhuraeva Z.A. Negmatova G.Sh. The state of the cardiovascular system in patients with hypothyroidism. Use of highly innovative technologies in preventive medicine. Republican scientific-practical conference. Andijon 2020.
20. Z.Y Xalimova G.Sh. Negmatova - "Аутоиммунные Полигландулярные Синдромы. Обзор Литературы”. Central Asian Journal of Medical and Natural Science, 2021