Proceedings of International Conference on Modern Science and Scientific Studies
Hosted online from Paris, France.
Date: 19th March, 2024
ISSN: 2835-3730 **Website:** econferenceseries.com

LIVER DAMAGE AND ITS PREVENTION IN RESPIRATORY ALLERGY IN CHILDREN

Matniyozova Zaynab Tukhtaboevna
Bukhara State Medical Institute, Bukhara, Uzbekistan.
robiya08052019@gmail.com

Relevance

In children with acute respiratory tract infections (ARTI), elevations of serum liver enzyme activities are frequently observed in clinical practice. However, epidemiological data particularly in the pediatric population are very limited. The aim of this study was to assess the incidence of hepatic involvement, to identify the viruses and to analyze risk factors in children and adolescents with ARTI in a real-world setting.

Up to 90% of acute respiratory tract infections (ARTI) are of viral etiology mostly caused by rhinoviruses, respiratory syncytial virus (RSV), human metapneumovirus (hMPV), influenza virus, human coronavirus (HCoV), parainfluenza viruses and adenoviruses. Particularly children commonly encounter infections with multiple virus species. The respiratory tract as the first entry point is initially affected when the viral replication causes destruction of the airway tissue by cell loss, goblet cell hyperplasia, altered mucus secretion, and/or biochemistry. Consequently, sore throat, headache, sneezing, runny nose and nasal congestion as clinical signs usually appear early in the course of the disease subsequently followed by cough. During the viremic phase characterized by fever and chills, the virus may spread to other tissues and organs including the liver. Observations in routine clinical practice indicate that pediatric patients with ARTI exhibit elevated serum liver enzyme activities (ELEA) as an indicator of hepatic involvement.

Purpose of the study: Study of liver damage and its prevention in respiratory allergy in children.

Materials and methods. We report on a prospective, multicenter, non-interventional study with 120 consecutive patients aged 1–12 years with ARTI who consulted a physician within 5 days after onset of symptoms. Laboratory blood tests and PCR virus detection in nasopharyngeal lavage were performed at first presentation and after 3–7 days. Patients with elevated activities of serum liver enzymes (ASAT, ALAT, and γ-GT) were determined in local laboratories and

values were normalized by dividing by the individual upper limit of the normal range (ULN). The resulting index allowed to compare results from laboratories with different reference ranges.

Research results: Laboratory test results of 120 patients were available at first visit. 11.1% (95% CI: 9.2–13.3%) exhibited an elevation of ASAT, ALAT, and/or γ-GT activities. Virus DNA or RNA was identified in nasopharyngeal lavages of 63% of the patients. 12.2% of patients with positive PCR and 9.7% of those with negative PCR ($p = 0.25$) had elevated serum liver enzyme activities. The highest rates were observed in patients with a positive result for influenza B virus (24.4%) followed by human metapneumovirus (14.6%), and human coronavirus (others than SARS-CoV-2) (13.6%). The rate of children with ARTI and elevation of serum liver enzyme activities correlated with the virus species and with overweight of the patients but did not differ in patients with or without previous medication intake.

Conclusions. Elevated enzyme activities are present in about 10% of children with ARTI. In our cohort, these elevations were mild to moderate; probably resulting from an inflammation process with hepatic involvement.

References

1. Morice A, Kardos P. Comprehensive evidence-based review on European antitussives. BMJ Open Respir Res. (2016) 3:e000137. 10.1136/bmjresp-2016-000137
2. Zimmerman RK, Rinaldo CR, Nowalk MP, Balasubramani GK, Moehling KK, Bullotta A, et al. Viral infections in outpatients with medically attended acute respiratory illness during the 2012-2013 influenza season. BMC Infect Dis. (2015) 15:87. 10.1186/s12879-015-0806-2
3. Regamey N, Kaiser L, Roiha HL, Deffernez C, Kuehni CE, Latzin P, et al. Viral etiology of acute respiratory infections with cough in infancy: a community-based birth cohort study. Pediatr Infect Dis J. (2008) 27:100–5. 10.1097/INF.0b013e31815922c8
4. Han BK, Son JA, Yoon HK, Lee SI. Epidemic adenoviral lower respiratory tract infection in pediatric patients: radiographic and clinical characteristics. AJR Am J Roentgenol. (1998) 170:1077–80. 10.2214/ajr.170.4.9530062
5. Tukhtaboevna, M. Z. . (2022). ACUTE INTESTINAL INFECTIONS IN CHILDREN, MODERN PRINCIPLES OF CORRECTION AND RESTORATION

OF WATER-ELECTROLYTE BALANCE. IJTIMOIY FANLARDA INNOVASIYA ONLAYN ILMIY JURNALI, 101–105. Retrieved from https://sciencebox.uz/index.php/jis/article/view/3249

6. Matniyozova Zaynab Tukhtaboevna, & Hodjaeva Nafisa Abayevna. (2024). Causes of Obesity in Children and Adolescents. Best Journal of Innovation in Science, Research and Development, 3(1), 36–40. Retrieved from https://www.bjisrd.com/index.php/bjisrd/article/view/1372

7. Тухтабоевна, М. З. (2022). Современные Вгляд На Аспекты Развития Аллергических Заболеваний. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 1(5), 88–93. Retrieved from https://www.sciencebox.uz/index.php/amaltibbiyot/article/view/4137

8. Suvonovich, C. Z., & Tukhtaboevna, M. Z. . (2023). THERAPEUTIC APPROACHES TO THE DISEASE OF ANEMIA IN CHILDREN AND ADOLESCENTS . IJTIMOIY FANLARDA INNOVASIYA ONLAYN ILMIY JURNALI, 3(3), 50–55. Retrieved from https://sciencebox.uz/index.php/jis/article/view/6122

9. Mukhammadieva Musharraf Ibrokhimovna. (2023). IMPROVING THE PREVENTION AND TREATMENT OF COMPLICATIONS OF SPONTANEOUS BACTERIAL PERITONITIS IN PATIENTS WITH LIVER CIRRHOSIS OF VIRAL ETIOLOGY. Galaxy International Interdisciplinary Research Journal, 11(4), 388–394. Retrieved from https://giirj.com/index.php/giirj/article/view/5168

10. Mukhammadieva M.I. (2022). Modern Clinical and Biochemical Characteristics of Liver Cirrhosis Patients of Viral Etiology with Spontaneous Bacterial Peritonitis //Texas Journal of Medical Science. – 2022.- P. 86-90.