EOC
EUROASIAN
ONLINE
CONFERENCES

SPAIN
CONFERENCE

INTERNATIONAL CONFERENCE ON SUPPORT OF MODERN SCIENCE AND INNOVATION

Google Scholar zenodo OpenAIRE doi digital object identifier

INTERNATIONAL CONFERENCE ON SUPPORT OF MOERN SCIENCE AND INNOVATION: a collection scientific works of the International scientific conference – Madrid, Spain, 2025, Issue 2.

Languages of publication: Uzbek**,** English, Russian, German, Italian, Spanish,

The collection consists of scientific research of scientists, graduate students and students who took part in the International Scientific online conference **«INTERNATIONAL CONFERENCE ON SUPPORT OF MOERN SCIENCE AND INNOVATION»**. Which took place in Spain, 2025.

Conference proceedings are recommended for scientists and teachers in higher education establishments. They can be used in education, including the process of post - graduate teaching, preparation for obtain bachelors' and masters' degrees. The review of all articles was accomplished by experts, materials are according to authors copyright. The authors are responsible for content, researches results and errors.

IMPACT OF RESPIRATORY DISEASES ON THE CARDIOVASCULAR SYSTEM IN PEDIATRIC PATIENTS: A SINGLE-CENTER STUDY

Kabilova Dilbar Komilovna
Azamov Elbek Tokhirjon ugli
Department of Pediatrics and Pediatric Surgery, CAMU, Fergana
Uzbekistan
elbek.2926@gmail.com

Background. The impact of respiratory diseases on the cardiovascular system in pediatric patients is multifaceted and significant, as evidenced by various studies. Respiratory diseases can lead to pulmonary hypertension, which in turn causes right ventricular dysfunction and cor pulmonale, a condition where the right side of the heart fails due to increased pressure in the lungs. This interaction is particularly pronounced in children with congenital heart disease, where respiratory manifestations such as pulmonary edema, airway compression, and restrictive pulmonary physiology are common. These conditions complicate the clinical picture, as symptoms of heart and lung diseases often overlap, making diagnosis and management challenging. In newborns, the interplay between respiratory insufficiency and cardiovascular function is critical due to the immaturity of their systems, necessitating careful management of ventilatory support to avoid adverse hemodynamic effects.

Purpose of the Study: This study aims to evaluate the effects of acute respiratory viral diseases (ARVD) on the cardiovascular system in children. Particular emphasis is placed on cardiac function and laboratory parameters during ARVD episodes in a single children's hospital setting.

Materials and Methods: A total of 128 pediatric patients (aged 1–14 years) diagnosed with ARVD were included in this prospective study. All patients underwent clinical evaluation and cardiac examination, including electrocardiography (ECG) and transthoracic echocardiography (Echo). In addition, laboratory investigations were performed, including complete blood count (CBC) with hemoglobin (Hb), hematocrit (Hct), white blood cell count (WBC), and biochemical markers such as C-reactive protein (CRP), creatine kinase-MB (CK-MB), and troponin I levels. All data were recorded in Microsoft Excel and analyzed using statistical software (SPSS version 25.0). Descriptive statistics, chi-square tests, and t-tests were applied where appropriate. A p-value < 0.05 was considered statistically significant.

Results and Discussion: Cardiac evaluation revealed that 32.8% of children exhibited transient ECG changes, most commonly sinus tachycardia and nonspecific ST-T wave changes. Echocardiographic abnormalities were

observed in 14% of patients, including mild pericardial effusion and reduced left ventricular function. Laboratory results showed decreased hemoglobin levels in 26.5% of patients and elevated CRP and CK-MB in 18.7% and 11.2%, respectively. Troponin I elevation was rare but present in 4 cases. Statistical analysis confirmed a significant association between elevated inflammatory markers and cardiac abnormalities ($p < 0.05$). These findings suggest that ARVD may transiently impair cardiac function, especially in cases with systemic inflammation.

Conclusion: ARVD can cause functional and biochemical signs of cardiovascular involvement in children. Recommendations:

1. Routine cardiac (ECG, Echo) and laboratory (CRP, CK-MB) monitoring should be considered for children with moderate to severe ARVD.
2. Follow-up evaluations are necessary to detect and manage post-infectious cardiovascular complications.

References:

1. Abdurakhmonov, N., & Eminov, R. (2024). IMPLANTABLE COLLAMER LENS: STEP AHEAD IN REFRACTIVE SURGERY?. *Science and innovation*, *3*(D10), 110-113.
2. ASSESSMENT OF COMPLICATIONS POST-HEMORRHOIDECTOMY. (2025). *INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY*, *2*(1), 38-40. https://eoconf.com/index.php/icset/article/view/50
3. EXPLORING METHODS TO IMPROVE THE TREATMENT OF COMPLICATIONS ARISING FROM ENDOUROLOGICAL OPERATIONS FOR URINARY STONE DISEASE (LITERATURE REVIEW). (2025). *ORIENTAL JOURNAL OF MEDICINE AND NATURAL SCIENCES*, *2*(3), 21-25. https://innoworld.net/index.php/ojmns/article/view/309
4. Fattaxov, N. X., Abdulxakimov, A. R., Xomidchonova Sh, X., & Xaidarov, G. N. (2025). EFFECTIVENESS OF SURGICAL PREVENTION OF POSTOPERATIVE PURULENT COMPLICATIONS IN CHILDREN. *Web of Medicine: Journal of Medicine, Practice and Nursing*, *3*(1), 191-193.
5. Fattaxov, N. X., Abdulxakimov, A. R., Xomidchonova Sh, X., & Xaidarov, G. N. (2025). SURGICAL PREVENTION OF PURULENT INGROWN TOENAIL IN CHILDREN. *Web of Scientists and Scholars: Journal of Multidisciplinary Research*, *3*(1), 125-127.
6. Fattaxov, N. X., Abdulxakimov, A. R., Xomidchonova, S. X., & Xaidarov, G. N. (2025). INNOVATIONS IN POSTOPERATIVE CARE: THE USE OF DRAINS AND ANTISEPTICS TO PREVENT PURULENT INFECTIONS. *Современные подходы и новые исследования в современной науке*, *4*(1), 90-91.
7. Gulomov, K. K., Juraev, S. B., Khamdamov, R. A., Kholikov, B. M., & Meliboev, R. A. (2025, February). IMPROVING THE TREATMENT OF COMPLICATIONS IN

ENDOUROLOGICAL OPERATIONS FOR UROLITHIASIS. In *INTERNATIONAL CONFERENCE ON SCIENCE, ENGINEERING AND TECHNOLOGY* (Vol. 2, No. 1, pp. 31-33).

8. Juraev, S. B., Khamdamov, R. A., Meliboev, R. A., & Yokubov, D. Y. (2025). NEW TREATMENT APPROACHES FOR PEDIATRIC UPPER GASTROINTESTINAL OBSTRUCTION IN FERGANA VALLEY. *ZAMONAVIY ILM-FAN VA INNOVATSIYALAR NAZARIYASI*, *2*(2), 4-6.
9. Kh, A. N. (2025). OPTIMIZING PROPHYLACTIC STRATEGIES FOR POST-LASIK DRY EYE SYNDROME: A COMPREHENSIVE REVIEW. *ORIENTAL JOURNAL OF MEDICINE AND NATURAL SCIENCES*, *2*(3), 4-8.
10. Khakimboy Ugli, B. O., Ismaeel, G. L., Hameed, S. M., Al-Hussainy, A. F., Abd, B., Hamza, H. H., ... & Rano Khazratkulovna, K. (2025). Recent Updates on Chemotherapy of Pt Complexes and Pt Nano-Composites for Breast Cancer Therapy: A Mini-Review. *Journal of Nanostructures*, *15*(1), 190-199.
11. Melikuzievich, K. G. (2025). PREVENTING PURULENT COMPLICATIONS IN PEDIATRIC OSTEOMYELITIS (LITERATURE REVIEW). *ORIENTAL JOURNAL OF MEDICINE AND NATURAL SCIENCES*, *2*(1), 33-40.
12. Rustamovich, A. B., & Arshad, M. S. (2024). PATHOLOGICAL CONDITION AND ANALYSIS OF THE JUXTAGLOMERULAR CELL OF THE EXCRETORY SYSTEM. *AMERICAN JOURNAL OF APPLIED MEDICAL SCIENCE*, *2*(3), 58-66.
13. Rustamovich, T. F. (2024). FLAT FEET-SYMPTOMS, DEGREES, PREVENTION AND TREATMENT METHODS. *JOURNAL OF INTERNATIONAL SCIENTIFIC RESEARCH*, *1*(4), 312-317.
14. Rustamovich, T. F. (2024). TYPES OF BLEEDING, METHODS TO STOP BLEEDING, THE IMPORTANCE OF PROVIDING FIRST AID IN CASE OF BLEEDING. *JOURNAL OF SCIENTIFIC RESEARCH, MODERN VIEWS AND INNOVATIONS*, *1*(2), 163-167.
15. Rustamovich, T. F. (2025). PREVALENCE OF ARTERIAL HYPERTENSION AMONG ELDERLY COVID-19 PATIENTS AND ITS IMPACT ON CARDIOVASCULAR OUTCOMES. *ORIENTAL JOURNAL OF MEDICINE AND NATURAL SCIENCES*, *2*(3), 12-16.
16. Shohrukhbek, K., & Ibrokhim, T. (2025). ASSESSMENT OF MORPHOLOGICAL CHANGES AFTER HEMORRHOIDECTOMY. ZAMONAVIY ILM-FAN VA TADQIQOTLAR: MUAMMO VA YECHIMLAR, 2(2), 7-9.
17. Кузибоев, Ш. (2025). АНАЛИЗ ОСЛОЖНЕНИЙ ПОСЛЕ ГЕМОРРОИДЭКТОМИИ: КЛИНИЧЕСКИЙ СЛУЧАЙ. *Экономика и социум*, (1-2 (128)), 697-701.