# GENERAL CHARACTERISTICS OF CHILDREN WITH NON-RHEUMATIC MYOCARDITIS IN THE SAMARKAND REGION FROM 2022-2023

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***Abstract****. In the Cardio-Rheumatology Department of the Samarkand Regional Multidisciplinary Pediatric Clinical Center, we examined clinical and electrocardiographic analyses of 50 young children diagnosed with non-rheumatic myocarditis (NM) over the years 2022-2023. Results show that 86% of these young patients had a history of acute respiratory infections.*

***Key words:*** *ECG, children, respiratory infections.*

# SAMARQAND XUDUDIDA 2022-2023 YILLARDA NOREVMATIK MIOKARDIT BILAN KASALLANGAN BOLALARNI UMUMIY XARAKTERISTIKASI

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***Annotatsiya.*** *Samarqand viloyat ko‘p tarmoqli bolalar klinik markazining kardio-revmatologiya bo‘limida so‘nggi 2022-2023 yillar davomida NM bilan kasallangan 50 ta erta yoshdagi bemor bolalarda klinik va elektrokardiografik tahlillarni o‘rgandik.Tekshiruv natijalari: shuni kursatdiki norevmatik miokardit bilan kasallangan 86% erta yoshdagi bolalar anamnezidan utkir respirator infeksiya bilan zararlangan.*

***Kalit so‘zlar:*** *EKG, bolalar, respirator.*

# ОСНОВНЫЕ КЛИНИЧЕСКИЕ ПРИЗНАКИ МИОКАРДИТА У ДЕТЕЙ САМАРКАНДСКОЙ ОБЛАСТИ 2022-2023 ГОДА

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***Аннотация****. В отделении кардиоревматологии Самаркандского областного многопрофильного детского клинического центра мы провели клинический анализ у 60 детей раннего возраста, у которых был диагностирован миокардит за последние 2022-2023 годы. Результаты исследования: оказалось, что 86 % детей с миокардитом были инфицированы респираторной инфекцией с раннего возраста в анамнезе.*

***Ключевые слова:*** *ЭКГ,дети, респиратор.*

**Relevance of the Problem**.

Myocarditis can be observed at various ages, with a high prevalence among young children. In some cases, mild forms of myocarditis are asymptomatic and, therefore, remain undocumented, complicating accurate prevalence estimation [2-4]. According to data, 24-33% of cases in children may proceed without symptoms [7-9]. Reports myocarditis in 10 out of 1,000 individuals [8].

**Research Object and Subject.**

Our study focused on clinical and electrocardiographic analyses of 50 young children diagnosed with NM in the Cardio-Rheumatology Department of the Samarkand Regional Multidisciplinary Pediatric Clinical Center during 2022-2023.

**Objective of the Study.**

To analyze the current clinical profile and ECG symptoms of non-rheumatic myocarditis in young children and to compare the findings with those reported in existing literature.

In the Pediatric Cardiology Department of the Samarkand Regional Multidisciplinary Medical Center, we performed ECG examinations on 50 children diagnosed with myocarditis following a viral infection.

**Patient Demographics.**

Out of the 50 patients, 20 were female, and 30 were male. Age distribution was as follows: 20 children were under one year old, 12 were aged 1-3 years, 6 were aged 3-7 years, and 12 were aged 7-12 years. The ECG results for these patients were compared with the age-based standards of healthy children as established by L. M. Makarov in 2004.

*Table 1.*

**Age Distribution of Patients**

| № | Age Group | Number of Patients | Percentage (%) |
|---|---|---|---|
| 1 | 6 months to 3 years | 32 | 64 % |
| 2 | 3 to 7 years | 6 | 12% |
| 3 | 7 to 12 years | 12 | 24% |
| | Total | 50 | 100% |

The diagnosed patients exhibited varying degrees of "acute acquired non-rheumatic myocarditis, with complications of AV block (QAB)."

*Table 2.*

**Distribution by Degree of Circulatory Insufficiency**

| № | Degree of Circulatory Insufficiency | Number of Patients | Percentage (%) |
|---|---|---|---|
| 1 | 0 Degree | 8 | 16 % |
| 2 | I Degree | 22 | 44 % |
| 3 | II Degree | 3 | 6 % |
| 4 | IIA Degree | 11 | 22 % |
| 5 | IIB Degree | 5 | 10 % |
| | Total | 50 | 100 % |

From Table 3.1.2, it is evident that among the examined patients, those with complications of first-degree AV block (QAB) constitute a significant percentage. No cases of subacute or chronic non-rheumatic myocarditis were detected. The findings indicate that only the acute form of acquired myocarditis was observed. The prevalence of comorbid conditions in percentages is as follows: 50% had Grade I anemia, 36% had Grade II anemia, 6% had Grade III anemia, 10% had lymphatic hypoplastic diathesis, 6% had somatogenic encephalopathy, and 6% had hypoxic-ischemic encephalopathy.

In reviewing patient medical histories, 28% (14 patients) had normal perinatal development, while 72% (36 patients) experienced perinatal development alongside anemia. Anemia was often accompanied by acute respiratory infections (ARI) and pregnancy complications, such as toxemia and nephropathy. Additionally, 36% (18 patients) were noted to have maternal pregnancy toxemia. Of these, 12% (6 patients) had mothers who were treated for severe toxemia, and 2% (1 patient) had mothers with pregnancy nephropathy combined with ARI, with another 4% (2 patients) also affected.

These findings suggest that viral infections have a lesser impact on fetal development compared to the more frequent influence of pregnancy toxemia and anemia. Regarding delivery methods, 1.5% (3 patients) were delivered by cesarean section, and 1% (2 patients) were born with asphyxia. Consequently, 94% of deliveries proceeded without complications, and 96% of newborns were in normal condition at birth.

When asked about familial health and consanguinity, 14% (7 patients) had documented familial relations; of these, 5 cases involved distant relations, and 2 cases involved close relations (offspring of siblings). Additionally, 98% of parents reported themselves as healthy, with only 2% (1 parent) having a history of chronic pyelonephritis. Based on this information, it can be concluded that familial relations and parental health issues were unlikely to significantly impact the development of illness in these patients.

Regarding birth order, 60% (30 patients) were firstborns from the first pregnancy, 16% (8 patients) were second children from the second pregnancy, 12% (6 patients) were third children from the third pregnancy, 8% (4 patients) were fourth children from the fourth pregnancy, and 4% (2 patients) were fifth children from the fifth pregnancy. No cases of abortion were recorded.

Upon reviewing past illnesses, 80% of patients had a history of acute respiratory viral infections (ARVI), typically contracted after the first 6 months of life. Additionally, 8% (4 patients) had a history of hepatitis A, 30% (15 patients) of angina, 8% (4 patients) of pneumonia, 6% (3 patients) of obstructive bronchitis, and 8% (4 patients) of acute bronchitis. Overall, the results indicate that 52% of patients had experienced a bacterial infection.

*Table 3.*

**Past Illnesses Among Examined Children**

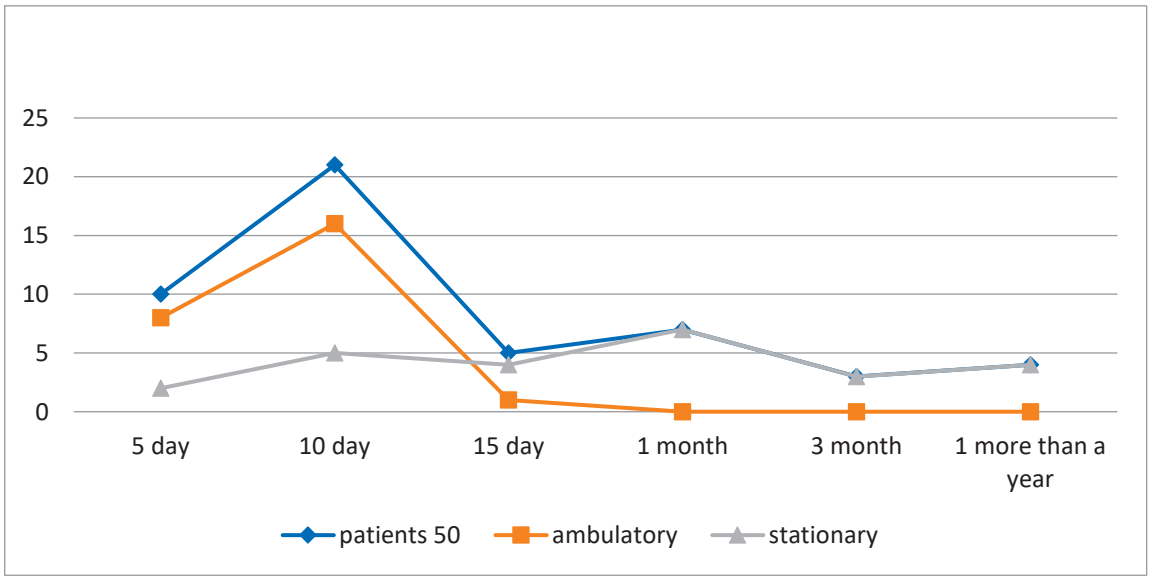
| | Viral Infections | | | Bacterial Infections | | | |
|---|---|---|---|---|---|---|---|
| | ARI | Hepatitis A | Acute Bronchitis | Pneumonia | Diarrhea | Angina | Obstructive Bronchitis |
| Number of Cases | 40 | 4 | 4 | 4 | 4 | 15 | 3 |
| Percentage (%) | 80 | 8 | 8 | 8 | 8 | 30 | 6 |
| Total Cases | 48 (96 %) | | | 26 (52 %) | | | |

**History of Illness Development.**

When examining the history of illness development, it was found that 20% (10 patients) had been ill for less than 5 days. Of these, 2 were treated in a hospital, and 8 were treated at home. For children who had been ill for more than a week, 18% (9 patients) were affected, with 6 receiving outpatient care and 3 receiving inpatient treatment. 24% (12 patients) had been ill for 10 days, with 2 treated in a hospital and 8 receiving treatment at home. For children who had been ill for more than 15 days, 10% (5 patients) were affected, with 4 treated in a hospital and 1 at home. Among those who had been ill for more than a month, 14% (7 patients) were hospitalized. Additionally, 6% (3 patients) were ill for between 1.5 to 3 months, while 6% (3 patients) had been ill for more than a year, and 2% (1 patient) had been ill for more than 2 years and were under dispensary observation. All of these patients received care both in hospital and outpatient settings at their places of residence.

In total, 46% of patients were treated in a hospital setting, and 64% were treated at home. The results of the investigation show that the highest percentage of patients had been ill for less than 10 days after the onset of symptoms.

The graphical representation of this data is shown in *Graph No. 1*.




***Graph No. 1.***

**Patient Complaints Overview.**

When examining the complaints of the patients, it was found that 80% had an elevated body temperature. If we break it down by degrees: 50% (25 patients) had a subfebrile temperature (36.7°C - 37.9°C), 26% (13 patients) had a febrile temperature (38.0°C - 38.9°C), and 6% (3 patients) had a high fever (39.0°C - 39.9°C). 18% (9 patients) did not show any increase in body temperature.

When analyzed by age, the results were as follows:

- Among patients aged 1-3 years: 40% had a subfebrile temperature, 50% had a febrile temperature, and 10% had a high fever.
- Among patients aged 3-7 years: 70% had a subfebrile temperature, 20% had a febrile temperature, and 10% had a high fever.
- Among patients aged 7-12 years: 80% had a subfebrile temperature, 20% had a febrile temperature, and no patients showed a high fever.

Fatigue (especially during breastfeeding in infants) was reported by 80% of patients, while 100% of patients complained of lack of appetite. Cough was

reported by 70%, phlegm by 60%, chest pain by 10%, nausea by 30%, and excessive sweating by 60%.

**Conclusion.**

Children with non-rheumatic myocarditis were studied based on clinical and laboratory analyses. The results of the study showed that this disease is often associated with infectious factors, leading to inflammatory processes and functional changes in the heart. Patients were observed to have symptoms of heart failure, electrocardiographic changes, and changes in laboratory parameters. Early diagnosis and a comprehensive treatment approach help reduce complications of the disease and improve the health of children.

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