THE STRUCTURE OF HEMATOLOGICAL DISEASES AND HOSPITALIZATION RATES AMONG CHILDREN

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Abstract

Background: Hematological diseases in children represent an important problem in pediatric practice. Anemia and disorders of blood coagulation are among the major conditions requiring specialized hematological care. Assessment of the structure and frequency of hematological diseases among hospitalized children is important for improving diagnostic and therapeutic approaches.

Objective: To analyze the structure of hematological diseases among children hospitalized for one month at Children's Clinical Hospital No. 3 and to determine the proportion of anemia and disorders of blood coagulation.

Materials and Methods: A retrospective analysis was performed on 61 children hospitalized in the hematology department of Children's Clinical Hospital No. 3 during a one-month observation period in [month, year]. Patients were categorized according to the International Classification of Diseases, 10th Revision (ICD-10). Anemia was classified within codes D50–D64, while disorders of blood coagulation were classified within codes D65–D68. Absolute numbers and percentages were calculated for each disease group.

Results: During the study period, 61 children with hematological diseases were hospitalized. Of these, 30 patients (49.2%) had anemia, while 31 patients (50.8%) had disorders of blood coagulation. No patients with other hematological diseases were recorded during the observation period. Disorders of blood coagulation slightly

predominated over anemia, exceeding the number of anemia cases by one patient.

Conclusion: During the one-month observation period, anemia and disorders of blood coagulation accounted for all recorded hematological hospitalizations. Disorders of blood coagulation represented a slightly larger proportion (50.8%) than anemia (49.2%). These findings emphasize the importance of early diagnosis, appropriate laboratory assessment, and timely specialized hematological care for children.

Keywords: children, hematology, anemia, coagulation disorders, hemostasis, hematological diseases, pediatric hospital, hospitalization.

INTRODUCTION

Hematological diseases in children constitute an important area of modern pediatrics. Disorders affecting hematopoiesis, erythrocyte metabolism, hemostasis, and immune regulation may lead to a wide range of clinical conditions requiring specialized diagnostic and therapeutic management.

Anemia is one of the most common hematological conditions encountered in childhood. Its development may be associated with iron deficiency, vitamin deficiencies, chronic diseases, hereditary disorders, nutritional factors, and other pathological conditions. In children, persistent anemia may negatively affect physical development, cognitive function, and overall quality of life.

Disorders of blood coagulation are also of considerable importance in pediatric hematology. They may manifest as an increased tendency to bleeding, recurrent hemorrhagic episodes, and, in severe cases, potentially serious complications. Some inherited coagulation disorders require lifelong monitoring and specialized treatment.

Therefore, assessment of the structure of hematological diseases among hospitalized children is important for evaluating the workload of specialized departments and for improving diagnostic and treatment strategies.

Objective

The aim of this study was to analyze the structure of hematological diseases among children hospitalized at Children's Clinical Hospital No. 3 during a one-month period and to determine the proportion of anemia and disorders of blood coagulation.

MATERIALS AND METHODS

The study was conducted at Children's Clinical Hospital No. 3 during [month, year].

The study population consisted of **61 children** who were hospitalized in the hematology department during the one-month observation period.

Patients were divided into the following major disease categories according to ICD-10 classification:

- **Anemia — D50–D64**
- **Disorders of blood coagulation — D65–D68**
- **Other diseases of the blood and blood-forming organs — D50–D89**

A retrospective observational study design was used. Hospitalization records for the study period were analyzed.

For each disease category, the absolute number of patients and the percentage of the total number of hospitalized patients were determined.

The percentage distribution was calculated using the following formula:

$$P = n / N \times 100\%$$

where:

P — percentage of patients in the respective disease group;

n — number of patients in the respective disease group;

N — total number of hospitalized patients.

RESULTS

During the one-month observation period, a total of **61 children** with hematological diseases were hospitalized at Children's Clinical Hospital No. 3.

Analysis of the disease structure demonstrated that two major groups accounted for all recorded hospitalizations: anemia and disorders of blood coagulation.

Table 1. Distribution of hospitalized children according to the main hematological disease groups

Disease group	ICD-10	Number of patients	Percentage
Anemia	D50–D64	30	49.2%
Disorders of blood coagulation	D65–D68	31	50.8%
Other hematological diseases	D50–D89	0	0%
Total		**61**	**100%**

Anemia was diagnosed in **30 patients**, representing **49.2%** of all hospitalized children with hematological diseases.

Disorders of blood coagulation were recorded in **31 patients**, accounting for **50.8%** of the total number of patients.

Thus, disorders of blood coagulation represented the largest disease group, although the difference between the two groups was minimal. The number of patients with coagulation disorders exceeded the number of patients with anemia by only **one patient**.

No patients classified under the category of other hematological diseases were recorded during the analyzed one-month period.

Analysis of the daily hospitalization data demonstrated variability in the number of patients admitted to the hematology department throughout the month. According to the provided records, the number of hospitalized patients varied from day to day, with several days showing higher admission rates.

Overall, **61 children** were hospitalized during the analyzed month, with anemia

and coagulation disorders representing the entire recorded hematological hospitalization burden.

DISCUSSION

The findings of this study demonstrate that anemia and disorders of blood coagulation were the predominant hematological conditions among children hospitalized at Children's Clinical Hospital No. 3 during the analyzed month.

Almost half of all hospitalized patients were diagnosed with anemia. The relatively high proportion of anemia highlights the importance of timely detection of hematological abnormalities in children and identification of the underlying causes.

Disorders of blood coagulation accounted for a slightly larger proportion of hospitalizations, representing 50.8% of all cases. This finding emphasizes the clinical importance of adequate assessment of the hemostatic system in children presenting with bleeding manifestations or suspected coagulation abnormalities.

The nearly equal distribution between anemia and coagulation disorders is an important observation. It indicates that both erythrocyte-related disorders and hemostatic abnormalities represent significant components of the clinical workload of pediatric hematology services.

From a practical perspective, children with suspected hematological disease require an individualized diagnostic approach. For patients with suspected anemia, complete blood count, red blood cell indices, reticulocyte count, serum ferritin, serum iron and other relevant parameters may be useful depending on the clinical presentation.

In children with bleeding manifestations, assessment of the coagulation system, including coagulation screening tests and, when indicated, specific hemostasis investigations, is essential for establishing an accurate diagnosis.

However, the present study has several limitations. First, the observation period was limited to one month. Therefore, the findings should not be interpreted as representative of annual or long-term epidemiological patterns. Second, the available dataset did not include detailed information regarding age, sex, specific diagnoses within each major category, disease severity, laboratory findings, duration of hospitalization, or treatment outcomes.

Further studies involving longer observation periods and larger patient populations are required. Such studies should include demographic characteristics, detailed clinical diagnoses, laboratory parameters, treatment modalities, length of hospital stay, and clinical outcomes.

CONCLUSION

The analysis of hematological hospitalizations at Children's Clinical Hospital No. 3 during a one-month period demonstrated the following:

1. A total of **61 children** with hematological diseases were hospitalized during the study period.
2. **Anemia** accounted for **30 cases (49.2%)** of all hematological hospitalizations.
3. **Disorders of blood coagulation** accounted for **31 cases (50.8%)**.
4. Coagulation disorders slightly predominated over anemia, with only a **one-patient difference** between the two groups.
5. No cases classified as other hematological diseases were recorded during the analyzed period.
6. The findings emphasize the importance of early detection of hematological disorders, comprehensive laboratory assessment, and timely provision of specialized pediatric hematological care.

7. Longer-term studies involving larger populations and detailed clinical and laboratory characteristics are needed to establish the epidemiological structure of hematological diseases among children.

PRACTICAL IMPLICATIONS

The results indicate the need to strengthen early detection of hematological disorders among children.

For children with suspected anemia, routine hematological assessment should be complemented, when clinically indicated, by evaluation of iron status and other parameters necessary to determine the underlying cause.

Children presenting with bleeding manifestations should undergo appropriate evaluation of the hemostatic system, including coagulation screening and specialized tests when required.

Regular monitoring of children with confirmed hematological diseases and appropriate referral to specialized hematological services may contribute to earlier diagnosis and improved clinical management.

DECLARATION OF INTERESTS

The authors declare no conflicts of interest related to this study.

FUNDING

No external funding was received for this study.

ETHICAL CONSIDERATIONS

The study was based on analysis of hospital records. Ethical approval and informed consent requirements should be reported in accordance with the institutional regulations applicable to the study.

DATA AVAILABILITY

The data analyzed in this study were obtained from the hospital records of Children's Clinical Hospital No. 3. Data availability is subject to institutional policies and applicable confidentiality requirements.

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