



COMPREHENSIVE ASSESSMENT OF VARIOUS FORMS OF CHRONIC CHRONIC NEPHRITIC SYNDROME IN CHILDREN

Bazarova Nigina Sobirjonovna

Assistant of the Department of Propaedeutics of Children's Diseases.

Samarkand State Medical University.

ORCID ID 0000-0001-8070-9391

Ziyadullaev Shukhrat Khudoyberdievich

Doctor of Medical Sciences, Associate Professor, Department of Internal Medicine No. 1.

Samarkand State Medical University. Samarkand Uzbekistan.

ORCID ID: 0000-0002-9309-3933

Annotation

Diseases of the urinary system, according to WHO, currently occupy the 2nd place among the main forms of pathology characteristic of childhood. In the structure of kidney diseases in children hospitalized in the nephrology department, nephritic syndrome ranks second. The disease, which began in children, often continues into adulthood, which leads to a decrease in the quality of life, can cause disability, and sometimes dramatic outcomes. The urgency of the problem of chronic glomerulonephritis is explained not by the prevalence of the disease, but by the course of the disease and the development of renal failure. Chronic nephritic syndrome is one of the severe kidney diseases in children, which is characterized by the frequent development of complications and the progression of the course of the disease. The course of chronic nephritic syndrome depends on various forms of the disease and the clinical characteristics determine the prognosis of the disease.

Keywords: chronic nephritic syndrome, nephrotic, hematuric, urinary syndrome.

Аннотация

Болезни органов мочевой системы, по данным ВОЗ, в настоящее время занимают 2-е место среди основных форм патологии, свойственных детскому возрасту. В структуре заболеваний почек у детей, госпитализированных в нефрологическое отделение, нефритический синдром занимает второе место.

Заболевание, начавшись у детей, часто продолжается в зрелом возрасте, которая приводит к снижению качества жизни, может явиться причиной инвалидности, а иногда и драматических исходов.





Актуальность проблемы хронического гломерулонефрита объясняется не распространённостью болезни, а течением болезни и развитием почечной недостаточности. Нефритический синдром - одно из тяжелых заболеваний почек у детей, которое отличается частым развитием осложнений и прогрессированием течения болезни. Течения нефритического синдрома зависит от различных форм заболевания и клиническая характеристика определяет прогноз заболевания.

Ключевые слова: хронический нефритический синдром, нефротик, гематурик, мочевого синдром.

Introduction

Chronic nephritic syndrome (Ch.N.S) is a bilateral immuno-inflammatory disease, predominantly of the glomerular apparatus, clinically manifested by nephritic, hematuric, nephrotic or mixed (nephrotic syndrome combined with hematuria and arterial hypertension) variants, leading to progressive death of the functional elements of the nephron and interstitial tissue of the kidneys leading to chronic renal failure. Ch.N.S may be the result of untreated acute nephritic syndrome,, but there may be a primary chronic course of the disease. The course of nephritic syndrome, can be recurrent, persistent and progressive.

The prognosis of nephritic syndrome, depends on the clinical and morphological variant and timely adequate therapy.

Purpose of Work

Comparative evaluation of various clinical forms of chronic glomerulonephritis in children

Materials and Study Design

Our study was carried out on the basis of the Samarkand Regional Children's Multidisciplinary Medical Center (SODMMC, chief physician Professor Azizov M.K.), a 3-family clinic (chief physician Khusenov I.A.). At the beginning of the study, at the Department of 2-pediatrics of SamSMU (Head of the Department - Doctor of Medical Sciences, Associate Professor N.I. Akhmedzhanova), a map of individual observation of the patient was developed, including data on the anamnesis of the patient's life and disease, genealogical and medical data. biological history, the results of clinical and paraclinical examination of the child.

The selection of patients for the study was carried out according to the inclusion/exclusion criteria. Criteria for inclusion in the study:





Signed informed consent of the patient.

Age <18 years.

Confirmed CGN by clinical, laboratory and functional methods.

Exclusion Criteria:

Patient's refusal to sign informed consent for the study.

Secondary nephritic syndrome, within systemic and metabolic diseases.

Recurrent and complicated urinary tract infections.

Patients with decompensated diseases of vital organs.

At the second stage, a nephrological examination was carried out in 102 children with chronic nephritic syndrome, who were hospitalized in the nephrology department of the Samarkand ODMPMC from 2018 to 2021. The control group consisted of 27 practically healthy children of the same age with a favorable family history (Table 1).

Table -1 The composition of the examined children depending on age and gender

Examined children	gender	Age			Total
		5-7 years	8-11 years	12-15 years	
Children with CGN	Boys	24(36,9%)	18(27,7%)	23(35,4%)	65(100%)
	Girls	13(35,1%)	13(35,1%)	11(29,8%)	37(100%)
Control group	Boys	8(61,5%)	4(30,8%)	1(7,7%)	13(100%)
	Girls	6(42,8%)	6(42,8%)	2(14,4%)	14(100%)
Total		51(39,5%)	41(31,8%)	37(28,7%)	129(100%)

All patients with CGN were admitted in the acute stage. Complaints and clinical manifestations were mostly typical and corresponded to those repeatedly described in the literature [1,2,3] (Table 2). Characteristics of complaints in patients with chronic nephritic syndrome, in the period of activity of the process

(Table 2)

Nature of complaints	Chronic nephritic syndrome,		
	Nephrotic form (n=36)	Hematuric form (n=35)	Mixed form (n=31)
Decreased appetite	20(55,6%)	14(40%)	19(62,3%)
Headache	10(27,8%)	13(37,1%)	19(61,3%)
Nausea, vomiting	8 (22,2%)	13(37,1%)	15(48,4%)
Pain in the abdomen and lumbar region	11 (30,6%)	19(54,3%)	16(51,6%)
Edema:			
Common	27(75%)	1(2,9%)	17(54,8%)
Limited	6(16,7%)	12(34,3%)	10(32,3%)
Decreased amount of urine	29(80,6%)	2(5,7%)	24(77,4%)
Decreased urination	17(47,2%)	2(5,7%)	12(37,7%)
Urine color change:	13(36,1%)	18(51,4%)	18(58,1%)



As can be seen from Table 2, patients with nephrotic and mixed forms of CGN were characterized by complaints of widespread edema (75%; 5.84%, respectively), decreased diuresis (80.6% and 77.4%), changes in urine transparency.

Patients with hematuric form of CGN more often indicated pain in the abdomen and lumbar region (54.3%), gross hematuria and weight loss. Upon admission of patients to the hospital, the condition of 17 (16.7%) patients were defined as severe, with moderate severity - 29 (28.4%) patients. The severity of the disease was assessed by a combination of extrarenal and renal symptoms.

In an objective study, the syndrome of general intoxication was diagnosed in the majority of patients 33 (32.6%), it was manifested by lethargy, decreased emotional tone and appetite, pallor of the skin, passing changes in the function of the central nervous system. Lethargy and fatigue were noted by 66.7% of patients. Some patients complained of headaches 57.4%, recurrent abdominal pain 31.3%, nausea and vomiting, oliguria, discoloration of urine, thirst. An increase in blood pressure occurred in 56.1% of patients. In patients with CGN with a nephrotic form and in all children with a mixed form, an increase in the abdomen was noted due to free ascitic fluid in the abdominal cavity, in 2 ascites was combined with effusion pericarditis, in 1 - exudative pleurisy. As shown by the results obtained by us, 85.7% of patients with CGN with nephrotic form and 58.4% of the mixed form had hypoproteinemia (42-55 g/l), 76.7% had hypercholesterolemia (8.7-9.8 mmol/l).

In contrast, in patients with CGN with a hematuric form, a significant decrease in the content of total protein in the blood serum and hypercholesterolemia was not found. Changes in the blood coagulation system according to the type of hypercoagulation syndrome were detected in 74.4% of sick children with nephrotic form of CGN, in 62.6% in hematuric and in 77.5% of patients with mixed form of CGN.

Characteristics of urinary syndrome in children with chronic nephritic syndrome.

Table 3

Group of patients		nephrotic form (n=36)	hematuric form (n=35)	mixed form (n=31)
Indicators				
Proteinuria	Up to 3 g/day	-	22 (62,9%)	12 (38,7%)
	3 to 5 g/day	22 (61,1%)	-	9 (29%)
	Over 5 g/day	14 (38,9%)	-	10 (32,3%)
Hematuria	gross hematuria	-	2 (5,7%)	-
	microscopy: erythrocytes cover the entire field of view	-	10 (28,6%)	1 (3,2%)
	Clinical analysis of urine 10 to 40 erythrocytes per field of view	-	23 (65,7%)	8 (25,8%)
Cylindruria	hyaline	13 (36,1%)	3 (8,6%)	9(29%)
	grainy	11 (30,6%)	4 (11,4%)	13(41,9%)
	Epithelial	8 (22,2%)	16 (45,7%)	3(9,7%)
	Erythrocyte	4 (11,1%)	12 (34,3%)	6(19,4%)



During the period of the greatest activity of nephritic syndrome, exacerbation, urinary syndrome was the leading among other clinical manifestations of diseases. From Table 3 it follows that in CGN with a nephrotic form, it is manifested by the presence of proteinuria (from 3 to 5 g / day - in 61.1%; more than 5 g / day - in 38.9% - significant changes in urinary sediment. At the same time, the duration of proteinuria was different in different age groups. In the hematuric form of nephritic syndrome, the main manifestations were hematuria and cylindruria, with erythrocyte and epithelial casts predominating in the urinary sediment. When analyzing the anamnestic data, it was found that in 33.3% (34) children, inflammatory diseases were more often resolving or provoking factors in the development of CGN, in 24.5% (25) angina or exacerbation of chronic tonsillitis that occurred 2-3 weeks before clinical manifestation of the disease. Distribution of patients with CGN according to the duration of the disease, the number of previous exacerbations and the duration of the previous remission

Table 4

Analyzed indicators	Quantitative characteristics of the analyzed indicators in patients		
	nephrotic form (n = 36)	hematuric form (n = 35)	mixed form (n = 31)
Disease duration			
2-3 years	12 (33,3%)	14 (40%)	10 (30,6%) (32,3%)
4-5 years	13 (36,1%)	12(34,3%)	12(38,7%)
Over 5 years	11(30,6%)	9(25,7%)	9(29%)
Duration of previous remission			
Less than 1 year	15 (41,7%)	17(48,6%)	18(58%)
1-2 years	13(36,1%)	12(34,3%)	10(32,3%)
Over 2 years	8 (22,2%)	6(17,1%)	3(9,7%)
Number of previous exacerbations			
Up to 3 times a year	21(58,3%)	23(65,7%)	17(54,8%)
4-5 times a year	13(36,1%)	11(31,4%)	10(32,3%)
More than 5 times a year	2(5,6%)	1(2,9%)	4(12,9%)

Table 4 shows that according to the duration of the disease and previous remission, as well as the number of previous exacerbations between the compared forms of CGN, these indicators are practically indistinguishable.

Conclusions

Thus, the clinical and laboratory characteristics of the observed patients confirms the heterogeneity of the severity and dynamics of these indicators in children suffering from certain forms of nephritic syndrome,



An analysis of the clinical manifestations of CGN showed that in 47 patients (46.1%), an exacerbation of the disease was detected upon treatment due to the onset of symptoms of the disease - edema, decreased diuresis, headache, dark urine that appeared after acute pharyngitis or acute respiratory viral infection.

In the remaining 43 patients (42.2%), an exacerbation of nephritic syndrome, was detected when the patient came to a medical institution not due to the nephritic syndrome, clinic, but due to some other disease, in 12 children (11.7%) during preventive examinations.

We have assessed the physical development and its harmony in the examined children. The physical development of children was assessed by the standard deviation coefficient (Standard Deviation Score - SDS) of the body mass index. It has now been established that mass-height indices are more informative than individual anthropometric indicators, and their parameters are not due to the influence of ethnic-territorial factors [5,6,7].

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