anemia of 1-2 degrees against the background of an infectious process. Concomitant diseases: U07.1 - COVID-19, virus identified. This code is used when COVID-19 has been confirmed by laboratory testing, regardless of the severity of clinical signs or symptoms: a condition after a coronavirus infection; Bilateral polysegmental pneumonia, moderate severity, resolution period.

Thus, with a new coronavirus infection in young children, it is possible to develop a Kawasaki-like COVID-associated syndrome. Pediatricians need to be careful, carefully diagnose after a COVID-19 infection.

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CLINICAL CASE OF DIFFUSE TOXIC GOITER IN A 12-YEAR-OLD CHILD

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This article describes a clinical case of severe thyrotoxicosis on the background of diffuse toxic goiter in a 12-year-old child. Non-systematic intake of thyrostatic drugs led to the development of severe thyrotoxicosis.

Keywords: thyrotoxicosis, thyroid gland, hyperthyroidism, triiodothyronine, thyroid-stimulating hormone, incompetence.

Introduction. The Republic of Sakha (Yakutia) is an endemic region for the content of iodine in the environment [2]. In endemic regions the frequency of endemic goiter and thyroid disease in general has a high prevalence [4].

Diffuse toxic goiter is a systemic autoimmune disease that develops due to the production of antibodies to the thyroid hormone receptor, it is clinically manifested by thyroid involvement with the development of thyrotoxicosis syndrome. It is a rather rare disease [1,3,5]. According to the Scientific Research Center of Endocrinology, the incidence in the Russian Federation during the period of 2018-2020 is 1.94:100,000 children, about 800 new cases are diagnosed annually [5]. Timely diagnosis, adequate therapy, and rigorous implementation of medical recommendations improve the quality of life and health of patients, as well as determine the prognosis of the disease and the tactics of patient management [1,3,4].

Purpose of the study is to describe a clinical case of severe diffuse toxic goiter with thyrotoxicosis of the 4th degree in a 12-year-old child.

I., a 12-year-old Sakha girl, was admitted to the Pediatric Center of the Republican Hospital No. 1 - National Center of Medicine of the Republic of Sakha (Yakutia) with complaints of tachycardia, nervousness, excitability, headaches, nausea, pain in joints of hands and feet.

Past medical history: a child from the first pregnancy, which proceeded smoothly. One, on time, natural childbirth. Weight at birth was 3300g, height was 51 cm. The baby was applied to the breast for 1 day. BCG and vaccinations against hepatitis B in the maternity hospital. Artificial feeding from 1 month old. Preventive vaccinations according to age.

Past illnesses are acute respiratory infections, acute respiratory viral infections. No injuries or surgeries. Heredity on the mother's side was not aggravated. Heredity on the father's side is unknown. No allergic diseases.

From the medical history: Headaches and dizziness have been bothering her since the fall of 2021. The girl dramatically lost weight, periodically noted nausea and vomiting. She was examined by local pediatrician and sent to the admission and diagnostic department of PC RH-1-NCM. She was examined by the physician on duty at the admission and diagnostic department.

On admission: height was 151 cm, weight was 36 kg. Condition was severe, due to signs of thyrotoxicosis, emotional tone is labile. Proportional physique, decreased nutrition. The skin was clean, dark, perioral hyperpigmentation, no strictures. Visible mucous membranes were clean. Nasal breathing was not obstructed. Thyroid gland is enlarged to degree 2, clinically signs of hyperthyroidism. Tremors of the hands. Breathing in the lungs is vesicular, conducted in all fields, no rales. Heart tones were rhythmic, pronounced tachycardia, HR-125 beats per minute, clear. BP 130/80 mmHg. The abdomen was soft and painless. The liver and spleen were not palpable. Physiological excretory functions were normal. NGO of female type, Tanner gender formula -1 (prepubertal).

General blood test of January 13, 2022: hemoglobin (HGB) -94 g/l (RI: 120-160 g/l); red blood cells (RBC) - $4.1x10^{12}$/l (RI: 4.1-5.2x10^{12}/l); platelets (PLT) - 428 10^9/l (RI: 150 - 450x10^9/l); white blood cells (WBC) -7. 0x10^9/l (RI: 4.5 - 13x10^9/l); lymphocytes (LYMF) - 41% (RI 8-10%); monocytes - 6.0x109/l

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(RI: 0.05 - 0.4x10^9/l); stab neutrophils - 1% (RI: 1-5%); segmented neutrophils - 62% (RI: 43 - 60%); eosinophils - 0% (RI: 0-5%); Panchenkow's COE determination -25 mm/h (RI: 1-15 mm/h). General blood analysis revealed hypochromic anemia, increased erythrocyte sedimentation rate, lymphocytosis.

As shown in Table 1, the child has high levels of T3 and T4, antibodies to toxoplasma and antibodies to TSH receptors in the tests dated January 13, 2022. After one week on the background of therapy - decrease of T4 and T3.

Parathormone dated January 13, 2022 44.8 pg/ml (12-95). Corresponds to the norm.

ECG from January 13, 2022: sinus rhythm, tachycardia, heart rate 120 per minute. Impaired repolarization processes.

Echocardiography on January 21, 2022: Ectopic chord attachment with minimal regurgitation. AC prolapse with regurgitation of the 1st degree. Additional LV trabeculae. Cavities were not enlarged. RV 66%.

Electroencephalogram of January 19, 2022: Age-related bioelectrical activity of the brain. Moderate interest of the trunk. No focal and epieactivity.

Consultations of specialists: Neurologist, dated January 24, 2022: Consciousness is clear. Pupils of the rounded shape are equal. No nystagmus. Diploopia. No paresis. Muscle tone of the extremities was moderately reduced. Arm and leg tendon reflexes were equal. Conclusion: Residual encephalopathy.

Medical psychologist, dated January 25, 2022: Neurosis-like disorder on the background of the underlying disease.

Psychiatrist, dated January 24, 2022: Consciousness is not impaired, contact. The patient gives information about herself, her behavior is orderly. Attention is not disturbed. Memory is normal. Thinking of the usual type. The intellect was secure. Conclusion: No psychiatric abnormalities detected.

Clinical diagnosis: Diffuse toxic goiter. Thyrotoxicosis of 3-4 degree (E05.0).

The patient was administered treatment: hospital ward regime, table #15, thyrotoxic therapy - thyamosol (thyrozol) in a daily dose of 15 mg, 1 tablet 3 times a day, anapriline 40 mg 2 times a day, prednisolone 60 mg in glucose 250 ml intravenously drip #5, glycine 0.1 mg under the tongue 3 times a day.

On discharge, clinical signs of thyrotoxicosis had subsided, lability of emotional background was less. The patient was discharged home with improvement in satisfactory condition. In the department, noncompliance of the patient - periodic refusal of procedures and examinations was noted. It is recommended to continue thyreostatic therapy in a maintenance dose under the supervision of endocrinologist, pediatrician at the place of residence.

Table 1

Thyroid hormone levels in the patient at hospitalization in January 2022

Thyroid hormones	13.01.2022	22.01.2022
Thyrotropic hormone	0 mlU/L (0.4-4,0),	0 mlU/L (0.4-4,0),
Free thyroxine (T4)	59.15 pmol/l (9-21)	14.8 pmol/l (9-21)
Triiodothyronine (T3)	12.4 pmol/l(2.6-5.7)	6.08 pmol/l(2.6-5.7)
Thyroperoxidase antibodies (TPA)	493, 87 U/ml (0-30)	
Thyrotropic hormone receptor antibodies (TrTTH)	27,4 U/l (0-1)	

Recommendations: Dispensary observation with a pediatrician, endocrinologist, neurologist. Protective regimen. Sleep at least 9 hours. Thyroid therapy: thiamozole (thyrozole)10 mg 1 tablet 2 times a day in the morning and in the evening, a further dose reduction to 5 mg 2 times a day under the control of an endocrinologist. Monitor the level of TSH, free T4 after 2 months, then quarterly. Thyroid ultrasound monitoring after 6 months. Echocyte control in 6 months.

The patient was re-admitted on April 20, 2022, with complaints of tachycardia, hypervigilance, pastous eyelids, hypertension, dizziness, headaches. Collecting the anamnesis revealed - she took thiamozole (thymazole) in a dose of 5 mg once a day non-systematically.

On admission: Height 150 cm. Weight 35 kg. Moderate condition, well-being is not impaired. Proportional build, moderate nutrition, average physical development. The skin was clean, dark, with slight perioral hyperpigmentation. Visible mucous membranes were clean. Nasal breathing was not obstructed. Thyroid gland was diffusely enlarged, visible to the naked eye (Figures a, b), painless. Tremor of hands. Mild exophthalmus. Breathing in the lungs is vesicular, conducted in all fields, no rales. Heart tones rhythmic, pronounced tachycardia, heart rate 120 beats per minute, clear. BP 120/75 mmHg. The abdomen was soft and painless. The liver and spleen were not palpable. Physiological excretory functions were normal. The NGO is of female type, Tanner gender formula -1-2 (prepubertal). Stool and diuresis are not disturbed.

General blood analysis of 22.04.2022: hemoglobin (HGB) -92 g/l (RI: 120-160 g/l); red blood cells (RBC) - 4.11x10^{12}/l

a

b

Diffuse toxic goiter in a 12–year–old girl: a - side view, b - front view

(RI: 4.1-5.2x10^{12}/l); platelets (PLT) - 482 10^9/l (RI: 150 - 450x10^9/l); white blood cells (WBC) -5. 4x10^9/l (RI: 4.5 - 13x10^9/l); lymphocytes (LYMF) - 56% (RI 8-10%); monocytes - 6.0x10^9/l (RI: 0.05 - 0.4x10^9/l); stab neutrophils - 0% (RI: 1-5%); segmented neutrophils - 34% (RI: 43 - 60%); eosinophils - 1.0% (RI: 0-5%); Panchenkow's COE determination -16 mm/h (RI: 1-15 mm/h). Hypochromic anemia and lymphocytosis were noted in general blood analysis.

Biochemical blood test dated 22.04.2022: ALT 8.1 u/L (RI:00-39.00), AST 22.9 u/L (RI: 00-47.0), albumin 39.1 g/L (RI: 38.0-54.0); total bilirubin 5.5 µmol/L (RI:3. 4-17.1), total protein 63.6 g/l (RI: 60.00-80.00), glucose 4.9 mmol/l (RI: 3.3-5.60), creatinine 38.2 µmol/l (RI: 27.00-62.00). Conclusion: the analysis corresponds to the norm.

Thyroid ultrasound dated 4.05.2022:

Table 2

Thyroid hormone levels in the patient in April-May 2022

Thyroid hormones	20.04.2022	26.04.2022	11.05.2022
Thyrotropic hormone	0 mlU/l (0.4-4,0),	0 mlu/l (0.4-4,0),	3.56 mlu/l (0.4-4,0),
Free thyroxine (T4)	23.82 pmol/l (9-21)	13.95 pmol/l (9-21)	13.06 pmol/l (9-21)
Triiodothyronine (T3)	11.6 pmol/l (2.6-5.7)	7.64 pmol/l (2.6-5.7)	7.64 pmol/l (2.6-5.7)
Thyroperoxidase antibodies (TPA)	644. 93 u/ml (0-30)		2.02 u/ml (0-30)
Thyrotropic hormone receptor antibodies (TrTTH)	27.4 u/l (0-1).		

Thyroid gland V=21.6ml. Right lobe V=21.6 cm3, length is 5.0 cm, thickness is 2.4 cm, width is 1.8 cm. The contour is flat. Echostructure is heterogeneous. Echoo density is average, in the CDC blood flow is not changed. The left lobe V=21.6 cm3, 5.0 cm long, 2.4 cm thick, 1.8 cm wide. The contour is flat. Echostructure is heterogeneous. Echoo density is average. In the CDC blood flow was not changed. The isthmus 1.0 cm. Regional lymph nodes: not enlarged. Conclusions: the 3rd degree diffuse goiter. Heterogeneity of the glandular tissue. Chronic thyroiditis.

ECG dated April 21, 2022: sinus rhythm with heart rate of 100 beats per minute, moderate tachycardia, repolarization disorder.

Thyreostatic therapy was prescribed - thiamazole at a dose of 0.42 u/kg/day (according to clinical guidelines, 2021), B-adrenoblocker at a dose of 40 mg/day.

Against the background of therapy, the signs of thyrotoxicosis were achieved. She felt well, was quiet, her sleep normalized, tachycardia disappeared (heart rate up to 112 beats per minute). The dynamics of the thyroid profile are shown in Table 2.

Conclusions: The article clearly shows the dependence of the severity of the disease and the frequency of its exacerbations on adequate therapy. Prescribing an adequate dose of thyrostatic drugs and strict adherence to the doctor's recommendations is a prerequisite for successful treatment. Conversations with the patient and his parents by specialists and control of the local pediatrician are necessary to create patient compliance.

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