



SOME PECULIARITIES IN THE MENTAL HEALTH STATUS OF ADOLESCENTS WITH NONTOXIC DIFFUSE GOITER

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Summary. Statistical credibility of mental disorders has been established in adolescents with nontoxic diffuse goiter in the form of organic asthenic disorders, neurotic disturbances, somatoform vegetative dysfunctions which occur significantly more often than the same in adolescents with normal volume of the thyroid gland. Frequency of disorders does not depend on the functional state of the thyroid gland.

Key words: mental disorders, adolescents, thyroid gland, nontoxic diffuse goiter.

Introduction

The topicality of studying mental health in children and adolescents with nontoxic diffuse goiter (NDG) depends on the prevalence of the disease, polymorphism and ambiguity of psychopathological manifestations in this endocrine pathology, some difficulties of identifying its disorders, especially at the early stages of the disease, and, at last, an insufficient knowledge of the pathology which is formed against minimal thyroid dysfunctions.

Numerous studies have been focused on studying a pronounced mental pathology. For instance, the intellectual insufficiency in endemic cretinism has been subjected to a comprehensive study, while borderline mental disorders remain underestimated. Iodine deficiency is a threat to the intellectual potential and mental health of the population, residing in the regions with an environmental iodine deficiency. Thus, mental retardation has been registered twice more often in the regions of iodine deficiency, and almost 15.00 % of pupils have difficulties in learning. A significantly increased level of morbidity has also been observed in such regions, while anthropometric characters have a tendency to a decrease (1).

The significance of thyroid pathology grows due to the fact that some of its forms proceed with clinical manifestations of the disorders in the cardiovascular system and in other organs and systems, as well as with reproductive function disorders. Undoubtedly important are those numerous manifestations of the thyroid pathology, which reflect the endocrine response of the organism to stress, occurring in both acute and chronic forms.

Clinical feature of the thyroid diseases is their significant impact on medico-social status of the patient, manifesting itself in emotional

disorders, mental reactivity, behavioral changes at home and at work, disorders or a significant decrease in self-criticism, memory and intellect. The enumerated facts inevitably cause some changes, as a rule a significant deterioration in the quality of life not only in aged disabled patients, but also in young and middle-aged patients with high social and creative activity.

Our research has established that thyroid pathology has a negative impact on mental health of the individual at all stages of life, causing the occurrence of a variety of clinical syndromes, beginning from mild disturbances and ending with severe mental disorders (2).

Taking into account the fact that hypothyroidism develops gradually and has latent atypical symptoms at the initial stage of the disease, worsening of the general state can be regarded as a result of mental or physical fatigue, pregnancy and childbirth. In some cases, symptoms of hypothyroidism resemble the signs of many other diseases. Patients appeal for aid to such specialists as cardiologists, gynecologists, neuropathologists, otolaryngologists etc., whose treatment does not lead to recovery (3).

Some authors are of opinion that the most frequent psychopathological symptoms, both of subclinical and manifest hypothyroidism, are depressive disorders. The relationships of subclinical forms of hypothyroidism with such states as depression, dementia, affective disorders have been proved by the authors (4, 5).

The greatest amount of research is devoted to the problems of the clinic, diagnosis and treatment of mental disorders in the hypofunction of the thyroid, and scientific works, devoted to a special study of mental pathology in the subclinical form of hypothyroidism, in the psychiatry of the country, are practically absent in the psychiatry of the country.

The study aims at determining the impact of thyroid dysfunction on the mental health of adolescents with nontoxic diffuse goiter, aged 10–17.

Materials and methods

Clinico-psychopathological method, which includes medical history, diagnostic interview and observations regarding motor, vegetative and emotional reactions; statistical method.

A total of 201 patients (91 boys and 110 girls) with NDG at the age of 10–17 years were under clinical observation.

Biological factors for prediction of mental disorders in children with NDG, aged 10–17, were analyzed in our study.

Results and discussion

Analysis of the data obtained has shown that cerebroorganic factors of predisposition are presented in children in the form of: pathology of pregnancy (toxicosis, neuropathy, threatened abortion in early gestation), which is observed in 42.80 % of their mothers. Pathology of childbirth occurs in 48.60 % of mothers. Deviations of parturition are presented in the form of rapid delivery, breech presentation, early discharge of amniotic fluid; neuropathy of early childhood has been registered in half of our patients (53.60 %).

Appreciation of the mental status has revealed the presence of psychopathological disorders in most of the examined persons (83.10 %), Fig.1. The process of examination has established that in children, suffering from NDG, only 16.90 % \pm 2.65 % have no psychopathological disorders. Mental disorders have been recorded in 83.08 % \pm 3.70 % of the total number of patients from the study group without any significant difference between boys and girls (81.80 % \pm 3.70 % and 84.60 % \pm 3.80 %, respectively).

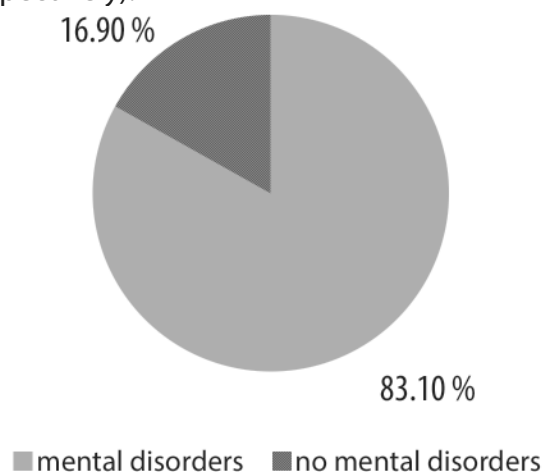


Figure 1. Frequency of mental disorders in adolescents with NDG and in the comparison group.

The diagnostic interview has shown the principal symptoms, involved in the formation

of psychopathology in children with NDG. Various manifestations of asthenia were present in the overwhelming number of patients: post-exercise bodily weariness (83.10 %), an increased mental fatigability (84.10 %), irritability (84.60 %), tension (84.60 %), and the state of internal anxiety (84.60 %). Emotional instability (85.60 %), impaired mood (89.50 %) and anxiety (89.50 %) were observed in most of the patients studied. Such symptoms as apathy (2.50 %), dysphoria, melancholy (2.50 %), suicidal thoughts (2.59 %) were registered in isolated cases (five patients).

Attention deficiency combined with hyperactivity was observed in two (0.99 %) male patients only with predominance of hyperactive behavior.

Sleep disturbances in the form of difficulties in falling asleep, disorders of the depth and duration of sleep were recorded in almost the same number of cases (29.80 %, 30.30 %, and 30.30 %, respectively). Difficulties in falling asleep, split-period sleep, morning drowsiness and weakness were the leading complaints of our patients.

The children under examination complained of intermittent headache (63.70 %), dizziness (49.20 %), cardiac discomfort (34.80 %), and dyspnoea (30.20 %).

Poor memory, a decline in attention focusing and working capacity in the form of complaints have been revealed in the individual questioning of our patients (22.40 %).

Affective disorders, such as depressive manifestations, have been found in 2.50 % of the cases. The governing manifestations of the affective pathology were: a depressed mood, a pronounced reduction of interests, a decreased vitality, and an increased fatigability (asthenia). Additional symptoms, characterizing affective pathology, were presented in the form of a reduced ability to the attention focusing, a decreased self-appraisal, an unconscious guilt, suicidal tendencies, and sleep disorders.

Behavioral disorders in the form of attention deficiency in combination with hyperactivity have been recorded in 0.99 % of the examined patients.

Development of three groups of disorders at the nosologic level has been established in patients with NDG, namely: asthenic organic, neurotic and affective, and stress-related disturbances.

Considering the gender aspect of psychopathology in children with NDG it should be noted that most symptoms occur equally, irrespective of sex.

It has been found that clinical polymorphous symptoms, with predominance in the clinical structure of the most frequent and intensive

ones, are characteristic of children with NDG at the age of 10–17 years. The established symptoms are: anxiety, emotional lability, tension, irritability, an increased mental and physical fatigue, recurrent headaches, and dizziness. The above symptoms in different combinations with some other symptoms conceal partly the endocrine pathology, complicating timely diagnosis of NDG at the present ontogenetic stage of development.

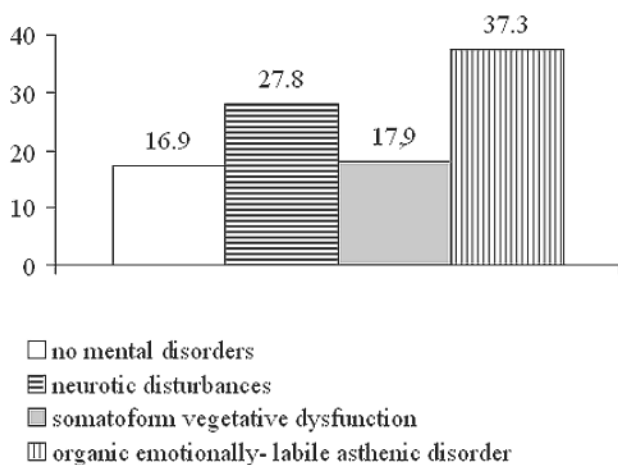


Figure 2. Frequency of mental disorders in children with NDG

Prevalence of organic emotionally-labile (asthenic) disturbances (37.30 %) has been revealed in the analysis of mental disorders frequency in children with NDG. Disorders of the neurotic register have been found in 27.80 %±3.20 % of our patients, and the events of somatoform vegetative dysfunction take place in 17.90 %±2.70 % of patients.

The group of patients with psychopathological manifestations of the organic brain damage amounts to 37.30 % of all the examined persons; clinical picture is defined by the «organic triad» of signs: cerebroasthenia, emotional expansiveness as well as disorders in intellectual and mnestic processes.

In the structure of mental disorders dominate organic emotionally-labile (asthenic) disturbances (44.90 %±3.90 %), disorders of the neurotic level (33.50 %±3.70 %), and somatoform vegetative dysfunction (21.60 %±3.20 %).

In the analysis of psychopathological manifestations in our patients, depending on the severity of the thyroid insufficiency, attention is drawn to the lack of significant differences in the incidence of the registered mental disorders in the euthyroid patients and in the group of patients with thyroid deficiency, namely: organic emotionally-labile (asthenic) disorders (38.80 %±4.50 % and 35.00 %±5.40 %, respectively) and disturbances in the neurotic register (26.40 %±4.03 % and

30.00 %±5.20 %, respectively). Pronouncedness of the somatoform vegetative dysfunction in the group of euthyroid patients prevails significantly in the comparison with similar manifestations frequency in patients with the thyroid failure (21.48 %±3.70 % and 12.50 %±3.70 %, respectively, $p < 0.05$).

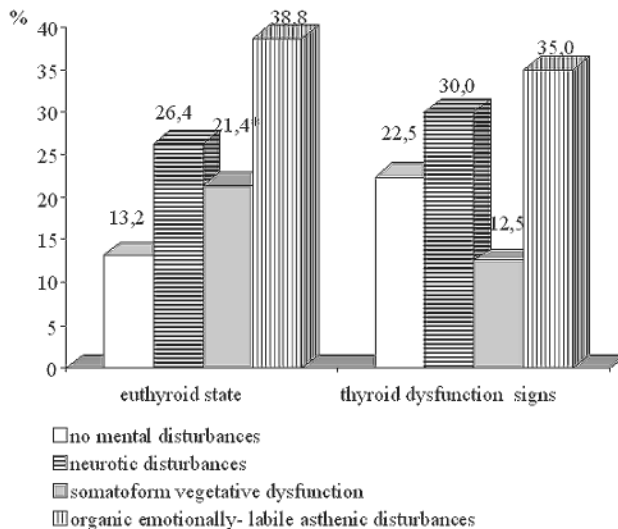


Figure 3. Mental disorders frequency in patients with NDG depending on the functional state of the thyroid

In the gender aspect the frequency of psychopathological disorders, depending on the degree of thyroid deficiency, is more pronounced. Disorders of the neurotic register in girls with the thyroid insufficiency exceeds twice the same in the group of euthyroid patients (16.39 % ± 4.70 % and 33.33 %±8.70 %, respectively, $p < 0.05$). And the severity of somatoform vegetative dysfunction predominates in the group of euthyroid patients, in comparison with the frequency of the same events in patients with the thyroid failure (31.14 %±5.90 % and 16.66 %±6.90 % respectively, $p < 0.05$). No pathology has been observed in the mental sphere (14.70 %±4.60 % and 16.70 %±6.90 %, respectively) of the patients studied in the groups with euthyroid state and thyroid insufficiency.

A significant prevalence of boys without mental pathology has been revealed in the group with the thyroid insufficiency, as compared with the group of patients with euthyroidism (26.00 % ± 6.20 % and 11.60 % ± 4.20 %, respectively). Disturbances in the neurotic register (36.60 % ± 6.20 % and 28,00 % ± 6.40 %), vegetative disorders (11.60 % ± 4.10 % and 10,00 % ± 4.30 %), and asthenic organic disorders (40,00 % ± 6.40 % and 36,00 %±6.90 %) without any significant difference have been recorded in the groups with various degrees of the endocrine pathology severity.

Thus, a variety of psychiatric symptoms has been revealed in 83.08 % of patients with

NDG. An organic asthenic disorder as a leading psychopathological damage at the nosologic level, irrespective of gender and the degree of thyroid insufficiency, has been registered in 37.70 % and 40.00 % of patients in the group with euthyroidism, and in 33.33 % and 36.00 % in the group with the thyroid failure in girls and boys respectively.

No significant differences in the frequency of the registered pathology in boys and girls (81.80 %±3.70 % and 84.60 %±3.80 %, respectively) have been revealed when comparing manifestations of the disease in terms of gender.

Comparing the total incidence of mental disorders in the population of school-age children, depending on the presence of thyroid pathology, attention is drawn to the fact that regardless of age and sex a significant excess of this pathology has been recorded in the group of children with NDG. Populational rates, obtained in the examination of schoolchildren by medical experts of our institute, are much lower.

Thus, our study has found that NDG in children at the age of 10–17 years is characterized by polymorphous clinical symptoms with prevalence of anxiety, emotional lability, tension, irritability, an increased mental and physical fatigue, recurrent

headaches, and dizziness in the clinical structure. The above symptoms in various combinations with other symptoms partly mask the endocrine pathology that may complicate timely diagnosis of NDG at the present ontogenetic stage of the child development.

Conclusion

The results presented enable the authors to arrive at a conclusion that a convincing surge in the frequency of mental disturbances is characteristic of children with NDG.

The most common forms of mental disorders, recorded in the presence of the thyroid pathology, are: organic emotionally-labile (asthenic) disorder, neurotic disorders, and functional vegetative disturbances.

Considering the state of their own health as a result of fatigue or age-related changes, many unsound people do not receive any treatment at all or appeal to different irrelevant specialists — cardiologists, neurologists, and pediatricians for aid without any results after the therapy. Only a thorough analysis of their complaints, physical examination, and the performed research make it possible to determine, whether the patient has endocrine pathology.

References

1. Жуков А. О. Вызванные дефицитом йода задержка психического развития и синдром дефицита внимания (клинико-эпидемиологическое исследование) [Текст] / А. О. Жуков // Журн. неврологии и психиатрии им. С. С. Корсакова. – 2007. – № 6. – С. 4–16.
2. Моллаева Н. Р. Психическое здоровье детей, проживающих в йододефицитном регионе (клинико-эпидемиологическое исследование) [Текст] / Н. Р. Моллаева // Международный эндокринологический журн. – 2009. – № 6 (24). – С. 52–60.
3. Пятницкий Н. Ю. Сравнительная характеристика психических расстройств при разных видах эндо-

кринопатий [Текст] / Н. Ю. Пятницкий // Соц. и клинич. психиатрия. – 2001. – № 4. – С. 10–13.

4. Пятницкий Н. Ю. Сравнительная характеристика психических расстройств при разных видах эндокринопатий [Текст] / Н. Ю. Пятницкий // Соц. и клинич. психиатрия. – 2001. – № 4. – С. 10–13.

5. Шевченко И. А. Субклинический гипотериоз [Текст] : обзор литературы / И. А. Левченко, В. В. Фадеев // Проблемы эндокринологии. – 2002. – № 2. – С. 13–22.

ОСОБЛИВОСТІ ПСИХІЧНИХ РОЗЛАДІВ У ПІДЛІТКІВ, ХВОРИХ НА ДИФУЗНИЙ НЕТОКСИЧНИЙ ЗОБ

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Встановлено достовірне переважання психічних розладів у підлітків із дифузним нетоксичним зобом у вигляді органічного емоційно-лабільного астеничного розладу, невротичних розладів, соматоформної вегетативної дисфункції, що достовірно частіше, ніж у підлітків з нормальним об'ємом щитовидної залози. Частота порушень не залежала від функціонального стану щитовидної залози.

Ключові слова: психічні розлади, підлітки, щитовидна залоза, дифузний нетоксичний зоб.

ОСОБЕННОСТИ ПСИХИЧЕСКИХ РАССТРОЙСТВ У ПОДРОСТКОВ С ДИФУЗНЫМ НЕТОКСИЧЕСКИМ ЗОБОМ

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Установлено достоверное преобладание психических расстройств у подростков с диффузным нетоксическим зобом в виде органического эмоционально-лабільного астенического расстройства, невротических расстройств, соматоформной вегетативной дисфункции, что достоверно чаще, чем у подростков с нормальным объемом щитовидной железы. Частота нарушений не зависела от функционального состояния щитовидной железы.

Ключевые слова: психические расстройства, подростки, щитовидная железа, диффузный нетоксический зоб.