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Research Article

MODERN PREVENTION OF EPILEPSY IN IODINE DEFICIENT ADOLESCENTS

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ABSTRACT

In iodine deficiency there is a decrease in the biosynthesis of thyroid hormones, which play an important role in the life activity of a person of any age. Our studies have shown that in children with iodine deficiency there is a tendency to worsen the course of epilepsy, the severity and progressive nature of psychopathological disorders, and with the addition of L-thyroxine to traditional treatment there is a positive dynamic of the disease.

KEYWORDS

Epilepsy, iodine deficiency, L-thyroxine, children.

INTRODUCTION

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Iodine deficiency conditions and diseases-say thyroid gland enlargement in people living in endemic regions with iodine deficiency in the external environment. An endemic region is considered if thyroid enlargement of grade I exceeds 5% in children and adolescents and 30% in adults.According to WHO, for more than 1.5 billion inhabitants of the Earth there is an increased risk of insufficient iodine intake. 650 million people have enlarged thyroid glands - endemic goiter, and 45 million people have severe mental retardation associated with iodine deficiency. The most common manifestation of iodine deficiency is endemic goiter. However, iodine deficiency increases the incidence of congenital hypothyroidism, leads to irreversible brain changes in the fetus and newborn, mental and physical development delay (cretinism), mental retardation (oligophrenia). In iodine-deficient regions there is a decline in the intellectual potential of the entire population (by 15-20%), women's reproductive function is impaired, the number of miscarriages and stillbirths increases. Elimination of iodine deficiency diseases is currently a priority for WHO and other reputable international organizations. Widespread iodine deficiency and goiter endemia in Russia requires the application of urgent therapeutic and preventive measures to eliminate iodine deficiency and diseases associated with it.

Population studies conducted in different countries indicate that epilepsy is detected annually in 40-60 people per 100,000 population. The problem of epilepsy is the most significant in young childrenAccording to epidemiologic data, while the incidence of epilepsy in the adult population is 0.5-0.8%, in adolescents this figure reaches 2% [2,4,5]. The clinical and neurological manifestations of epilepsy against the background of iodine deficiency, in particular endemic goiter, remain unstudied. Clinical experience shows that during puberty, both the clinical structure of epileptic paroxysms and the nature of interparoxysmal neuropsychiatric symptoms change significantly. At the same time, the issues of clinical transformation of epileptic seizures and pathogenetic significance of psychovegetative shifts during pubertal development in epileptic patients remain insufficiently studied. Due to the fact that Uzbekistan is an iodine-deficient zone, endemic goiter is more common here. The clinic of epilepsy in adolescents with iodine deficiency is characterized by the peculiarity of the course of the disease. More than 85% of the population of Uzbekistan is the most prone to goiter [1,3]. In this regard, optimization of therapeutic tactics of epilepsies on the background of iodine deficiency is of practical interest. The question of clinical, neurophysiological and vegetological aspects of epilepsy in early childhood on the background of iodine deficiency and determination of ways to optimize therapeutic tactics remains unresolved.

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Purpose of the study: study of clinical and neurological features in adolescents with iodine deficiency with the development of tactics for their treatment.

METHODS

There were 50 epileptic adolescents aged 12 to 16 years under our observation. The distribution of the examined patients by sex was as follows: 22 boys and 28 girls. The patients were divided into two groups. Group 1 consisted of children with epilepsy on the background of thyroid dysfunction, group 2 - children with idiopathic epilepsy. The adolescents in both groups were identical in age and duration of the disease. To find out the effect of L-thyroxine on the course of epilepsy, we examined two groups of patients with epilepsy: 22 were the main group, in which the drug was used at a dose of 5-6 mg/kg body weight, the second group consisted of 28 epileptic patients who received conventional therapy. Anamnesis collection included information about the age of onset, the nature of the course of epileptic seizures, the age of their onset, their dependence on the time of day, the frequency of seizures, the severity of emotional disorders, and behavioral disorders. Endocrinologic examination was performed and urinary iodine excretion was determined. The obtained data were subjected to statistical processing. The study revealed that one of the features of epilepsy with thyroid dysfunction is the progressive nature of psychopathologic disorders.

RESULTS

We analyzed some neurological features of epilepsy in children of both groups. Seizures in children in the groups differed both in frequency and clinic. In iodine-deficient children, psychomotor paroxysms of the secondary-generalized seizure type are more common, and there is a tendency to a high frequency of twilight disorders of consciousness and so-called absences. In this group, there are significantly more patients with the frequency of attacks more than once a month. Children in the first group more often have daytime paroxysms. In children with pure epilepsy, nocturnal and daytime paroxysms predominate. Important indicators of the peculiarities of the clinical course of epilepsy are the severity and nature of emotional disorders, as well as behavioral disorders. In 96% of patients in the first group there was a decrease in memory, and 9% had epileptic-type personality changes. Our data showed significant clinical differences of epilepsy in children with endemic goiter and in its absence. The epileptic process proceeds differently, which is probably related, on the one hand, to the peculiarities of autonomic-neuroendocrine regulation, and, on the other hand, apparently, to the peculiarities of systemic cerebral neurophysiologic mechanisms altered by iodine metabolism disorder. It was also pointed out that children with epilepsy often have clinical signs characteristic of endemic goiter In these children, the efficacy of the drug L-thyroxine was

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clarified. The choice of longer use of L-thyroxine was due to the malignant course of epilepsy in endemic goiter, as well as the fact that therapy with antiepileptic drugs reduces the level of thyroid hormones in the blood. The most likely cause of this decrease may be the effect of anticonvulsants on hepatic enzymes that are involved in the biotransformation of thyroid hormones. During L-thyroxine treatment, the relationship between the duration of the disease and the effectiveness of L-thyroxine use can be clearly traced, in addition, there was a positive dynamics: the patients' seizures were stopped, the psycho-emotional state changed.

CONCLUSIONS

In all patients with pubertal epilepsy, EEG, MRI studies should be mandatory if the course of the disease worsens. Consultation with an endocrinologist and ultrasound examination of the thyroid gland, urinary iodine, and tuloyl hormones should become a tradition. At the stage of transition from childhood to adolescence in most patients with epilepsy there is a worsening of the course of the disease with such clinical manifestations as increased frequency of epileptic seizures and clinical transformation with a tendency to partial and partial-generalized seizures in generalized formsAccording to our observations, transfer of patients with pharmacoresistance at puberty against the background of worsening course of the epileptic process to Depakine drugs gave clinical improvement in the form of seizure control and normalization of iodine deficiency in adolescents. Adolescents with epilepsy and endemic goiter have neuropsychiatric changes, the more pronounced the higher the degree of thyroid enlargement. Features clinical course of epilepsy on the background of iodine deficiency more severe and malignant course, not amenable to conventional treatment. Optimization of treatment tactics with the use of L-thyroxine improved the quality of life in patients In epilepsy against the background of endemic goiter, a moderate increase in TTG is noted. Thus, epilepsy is a complex multifactorial disease and in addition to various exogenous factors, the course of the disease is influenced by a number of endogenous factors, including iodine deficiency.

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