NEURO-ENDOCRINOLOGICAL ASPECTS IN PATIENTS WITH EPILEPSY

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Epilepsy is a disease that contributes to the involvement of the patient's brain in the pathological process as a single functional system. In turn, a violation of the functional state of the patient's brain leads to an imbalance in the activity of nonspecific systems and manifests itself not only in electroencephalographic features, but also in characteristic disorders in the cognitive, mental and vegetative status of the patient [1, 5, 9].

In this regard, the study of the functional status of the hypothalamic-pituitary system (HPS) in epilepsy will contribute to the expansion and in-depth study of pathogenetic mechanisms that will contribute to the optimization of modern diagnostic methods, which in turn will give a more complete picture of the clinical manifestation of this disease and optimize treatment methods [2, 7, 8, 10].

The hypothalamus is an important link in the system of regulation of cerebral functions and regulates a number of processes outside the pituitary, on the one hand, and on the other hand, controls the state of the adeno-pituitary gland, constituting a single hypothalamic-pituitary system, hormones are modulators of epileptic activity, which is a prerequisite for optimizing the principles of treatment of this disease [3, 4, 6]. Further study in this direction seems to be relevant and promising, since the low efficiency of antiepileptic drugs, according to many researchers, is 25%.

Most of the available research concerns the study of hormonal disorders, which were studied during or immediately after a seizure, when urgent mechanisms of regulation of hormonal homeostasis are implemented. Whereas between the seizure period and the formation of a chronic pathological process, which is provided by slowly acting mechanisms of adaptation, are practically not studied. The mechanism of chronic pathological adaptation is based on automatically proceeding metabolism, genetically predetermined with the participation of the regulatory role of the nervous and endocrine systems [5, 8].

Separate pathogenetic mechanisms of epilepsy, neurohormonal relationships and their influence on the characteristics of the course and prognosis of epilepsy have not been studied. Neurological manifestations of dysfunction of the hypothalamic-pituitary system in patients with epilepsy, as well as the role of the hypothalamic-pituitary system in the formation of clinical manifestations of this pathology, have not been sufficiently studied.

A decrease in the content of T3 in the blood plasma of patients with epilepsy and a significant variability in the level of T4 and TSH in all examined patients were found. Moreover, the severity of changes in thyroid status correlates with the severity of epilepsy, clinical signs of hypothalamic pathology, as well as the duration of the disease, the frequency and type of seizures.

Under stress (of any nature), a synergistic increase in the activity of the suprarenal and thyroid complexes at the hypothalamic, pituitary and peripheral levels occurs only in the initial phase. But in the future, activation of the adrenal complex inhibits the function of the thyroid gland at the hypothalamic-pituitary and peripheral levels. These mechanisms explain the presence of subclinical hypothyroidism in the examined patients during the interparoxysmal period.

Thus, the hypothyroid state disrupts bioelectrical processes in organs with a high level of metabolism, including the brain, where the activity of glycolytic and oxidative enzymes decreases. In addition to energy metabolism, the exchange of mucopolysaccharides in the vascular wall is disrupted, the tone of the cerebral vessels decreases.

It is known that repeated epileptic seizures of various origins are accompanied by persistent disorders of energy metabolism, in particular, a decrease in the rate and coefficient of phosphorylation. Along with this, anticonvulsants lead to a decrease in the respiratory activity of the brain tissues, dissociation of respiration by

sforphorylation, and this aggravates the disturbances in the bioenergetics of patients with epilepsy caused by the epileptic process.

T3 deficiency leads not only to a distortion of the hormonal status of the body, but also due to the variety of the influence of thyroid hormones to the development of a pathological energy and metabolic state, which aggravates the course of the disease and creates a pathological basis for its progression.

Thus, functional restructuring of the state of the brain in patients with epilepsy significantly alters the activity of the hypothalamic-pituitary system. This is confirmed by the identified autonomic disorders, changes in the bioelectrical activity of the brain, disorders in the hypothalamus-pituitary-thyroid gland and hypothalamus-pituitary-adrenal glands, and disruption of the integrated connections between these systems

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