

Neurosis, Issues of Etiology, Pathogenesis, Outcome and Treatment

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ABSTRACT

The article proposes a triune model of neurosis as an adaptation disease with a violation of the psychosomatic, neuropsychic and psychosocial basic levels of regulation of human life. The causes, mechanisms, role of the soil, stages and outcome of the disease are traced. The group of psychosomatic diseases in the structure of neurosis is distinguished. Ways of its treatment are suggested.

Keywords: Evolution, Fear, Adaptation, Neurosis, Psychosomatic Diseases

INTRODUCTION

There is still disagreement in understanding the causes, mechanisms, prevention and treatment of neurosis [1,2]. The model in which neurosis is considered a clinical form of adaptation disorder [3,4], leading to a disruption of basic levels of regulation, is relevant. The association of neurotic and somatoform disorders (SFD) in one diagnostic group seems to be erroneous, since neurosis, unlike SFD, has a somatic, not somatized nature of disorders [5]. It is also controversial to combine neurosis with anxiety states, because anxiety is not always paired with stress and the patient's personality.

In ICD-10, the concept of "neurosis" is absent altogether. Meanwhile, neurosis, forming psychosomatic diseases, including coronary heart disease, hypertension, migraine, duodenal ulcer, hyperthyroidism, type 2 diabetes, bronchial asthma, ulcerative colitis, gynecological diseases, immunodeficiency states and others [6], delivers urgent pathology to clinical hospitals. In addition, the problems of neurosis are closely intertwined with drug problems: ethyl alcohol, tobacco, cannabis and other psychoactive substances, having a tranquilizing, euphoric and adaptogenic effect in neurosis, are also involved in the formation of urgent pathology.

According to the WHO, the incidence of neurosis has increased more than 20 times over the past 65 years, and the incidence of morbidity is up to 20-30% of the world's population. Neurosis is a disease of civilization, since its growth is associated with

an increase in the pace of life, urbanization of the population, information and stress overload, changes in the environment, and a decrease in the share of physical labor [7].

The purpose of the article is to identify the causes and mechanisms, stages of development, outcome, ways of preventing and treating neurosis as an adaptation disease using the methods of system evolutionary analysis, logic and theoretical modeling.

DISCUSSION

An organism is a unified whole, an open biological system capable of maintaining the constancy of the internal environment by means of homeostasis mechanisms. Homeostasis is the moment of integrity and independence of the organism from the ecosystem, which dictates its morphofunctional structure through natural selection. The organism as a whole, a system, is formed through the reflection of an internal need and the reciprocal triggering of self-regulation processes aimed at satisfying this need, which leads to homeostasis and preservation of the system. Violation of homeostasis is the essence of destruction and death.

Reactivity is the main property of life. Reactivity is the ability of an organism to reflect and internally respond to the requirements of the ecosystem, the form of its interaction with it, associated with the regulation of homeostasis. An integrative factor in the life of an organism, as an integral system, is a reflected need, and the system-forming reactive structure is the basal nuclei of the brain and emotions.

The development of emotions comes from the reflex ring and the basal nuclei of homeostasis regulation, working on the feedback principle [8]. Emotions are a form of reactivity of an organism. Reflecting the body's needs for matter, energy and information necessary to maintain homeostasis, they carry an energy charge of self-regulation and goal setting. Evolutionary-genetically, according to the "stimulus-reaction" type, emotions are paired with effectors processes and form a single complex of the organism's reactivity with them. The reactivity of the organism is associated with the energy modules of its vital activity. The energy characteristic of reactivity is temperament. Emotions are the center of adaptive reactivity, homeostatic regulation and systemic integration. Through the action acceptor emotions regulate in the organism the movement of energy flows (metabolic, hormonal, vegetative), mobilize the organism, target the creation of functional systems, homeostats, responsible for

the implementation of the reflected need, homeostasis and survival of the organism.

There are two nuclear polar emotions:

1. Positive emotions - associated with the satisfaction of needs and the closure of the reflex ring;
2. Negative emotions - arise with an unsatisfied need.

From core emotions, innate basic emotions are formed. Basic emotions are the basic emotions inherent in all people, regardless of the common culture and ethnic group. They have an evolutionary basis, a neurochemical and energetic equivalent. In phylogeny, adaptive differentiation and socialization of basic emotions take place [9].

Allocate up to 10 or more basic emotions [9,10]. The main ones are fear, rage, joy, sadness, interest and their equivalents. There are four types of basic emotions:

1. Negative mobilizing basic emotions - fear and its equivalents. Fear is a reflection of a direct threat. Stress is the equivalent of fear, a reflection of an indirect threat. Anxiety is the equivalent of fear, fear directed towards the future. Physical pain is the equivalent of fear, an indicator of the integrity of the body. Rage (anger) is the protopathic precursor and equivalent of fear. This is supported by the following:
 - A. nor epinephrine - the hormone and neurotransmitter of rage is a precursor to the synthesis of adrenaline - the hormone of fear;
 - B. there is an identity of neurohormonal and somatovegetative protective reactions in rage and fear;
- In. there is a clinical overlap and interchangeability of feelings of rage and fear.

Negative mobilizing basic emotions cause a general adaptation syndrome G. Selye [11,12].

2. Positive tonic basic emotions - joy, pleasure. Associated with the satisfaction of needs.
3. Positive stimulating basic emotions - surprise, interest, curiosity. Associated with a cognitive resource, a reflection of the potential needs of the body.
4. Negative inhibiting basic emotions - sadness, despondency, longing.

Related to an unsatisfied need. There is a decrease in the reactivity of the organism, its transition to a lower energy mode of functioning, which is postulated as depression.

Positive basic emotions reinforce the existing adaptive mechanisms of regulation.

Adaptation, as an adaptation, can be specific and non-specific. G. Selye's general adaptation syndrome is characterized by tension, a generalized non-specific spectrum of protective reactions with a sharp activation of the hypothalamic-pituitary-adrenal-cortical system, which plays a leading role in the process of non-specific adaptation. However, the general adaptation syndrome is not always optimal. The payment for the generalized and non-specific response to a stressor is neurosis as an adaptation disease. Specific adaptation reactions are associated with the development of the cerebral cortex and intelligence. The progress of human reactivity as a biosocial system follows the path of differentiation and socialization of innate basic emotions.

The cause of neurosis is fear and its equivalents - anger, anxiety, stress and physical pain. The emotion of fear, reflecting the threat to life, is an important evolutionary acquisition. At the moment of experiencing fear there is a mobilization of the body's defenses aimed at preventing the threat. There are unitary adaptive changes at all basic levels of regulation of its vital activity. Internal tension indicates the readiness of the organism to respond. These changes are genetically programmed and directed against the stressor:

1. Psychosomatic basic level of regulation. Includes neuro-endocrine and neuro-vegetative components. There is a general adaptation syndrome [11,12]. At the same time, the basal metabolism, cardiac output increases, blood pressure rises, the heart rhythm and respiratory rate increase, the utilization of oxygen, glucose, triglycerides, cholesterol, and more accelerates.
2. Neuropsychic basic level of regulation. Unitary adaptive neuropsychic reactions are observed:
 - A. psychomotor agitation - active resistance to the stressor, reciprocal aggression, avoiding the situation (escape);
 - A. psychomotor stupor - immobility, mimicry. Passive protection.

This increases visual acuity and hearing, the strength and speed of neuromuscular, reflex and instinctive reactions.

3. Psychosocial basic level of regulation. Adaptive psychosocial reactions are observed - grief reactions, grouping, conflicts, hysterical reactions, parasuicides, calling for help, support, compassion. It is a form of supraorganizational defense against stressor.

The following unitary options for protection against a stressor are available:

1. Hyperergic reaction.
2. Normoergic (adequate) reaction.
3. Hypoergic (anergic) reaction.

The nature of the reaction depends on the previous experience of the organism, available stereotypes, defense automatisms and sensitization (readiness) of the organism. Hyperergic defense reaction (shock) is less appropriate, as it quickly leads to exhaustion, necrosis of defense. Hypoergic defense reaction, as ignoring the danger, leads to destruction of the body from the stressor. Normoergic defense reaction is adequate to the action of the stressor and corresponds to the body's need for protection.

At psychomotor excitation there is a fast, critical realization of fear energy. In psychomotor stupor, there is no rapid realization of fear energy, and after cessation of the stressor action there is a slow lytic return of the organism to the initial state. In this case, neurohormonal fear energy is not burned in the furnace of skeletal-muscular excitation, but is utilized through internal vegetative (vegetative-neurotic) reactions, visceral smooth muscles, and the phenomena of the syndrome of vegetative-vascular dystonia (VSD).

During chronic stress (fear), the level of neurohormonal protective energy, especially in conditions of hypodynamia, will be constantly increased, vegetative-neurotic reactions are fixed, a persistent psychosomatic syndrome arises with an exit to a psychosomatic disease. Psychosomatic syndrome is the body's ability to remove excess nervous and stressful energy through the soma using protective homeostatic reactions [13,14]. At the same time, the localization of the somatic link is not accidental, since it is an integral part of the innate psychosomatic adaptive complex [15,16].

A psychosomatic disease is a disease of adaptation, a persistent psychosomatic syndrome caused by the pathogenic influence of chronic stress, which canalizes and purposefully "beats" genetically determined somatic structures [17]. At the same

time, there is a failure of neurohormonal and neurovegetative regulation, psychosomatic disintegration of the body.

Classical examples of psychosomatic diseases are the "diseases of the holy seven" [18] - essential hypertension, hyperthyroidism, bronchial asthma, duodenal ulcer, ulcerative colitis, rheumatoid arthritis, neurodermatitis, as well as coronary heart disease, type 2 diabetes mellitus, migraine, obesity, biliary dyskinesia, irritable bowel symptom, intestinal colic and others [14-16].

Stages of development of psychosomatic illness in the structure of neurosis:

1. Functional stage.

VSD phenomena, persistent psychosomatic syndrome is observed. Morphologic changes of tissues are not observed.

2. Morphological stage [15].

Morphological changes in somatic tissue are observed.

3. Formation of persistent somatopsychic syndrome, vicious circle of disease.

With the appearance of morphological changes in the body tissues, secondary pain and anxiety-phobic syndromes, persistent somatopsychic syndrome, vicious circle of disease arise. In this case, other mechanisms of the disease are included, and the role of the stressor in the development of psychosomatic disease can decrease [15,19].

4. Severe psychosomatic illness.

The clinic of neurosis is formed by:

1. Stressor, the significance of which is individual in nature, taking into account gender, age, cultural factors, intensity and duration of the stressor [20].

2. The soil of the disease, which may be:

2a. The type of biological constitution as a morph functional expression of the genotype, genetic strength or fragility of the adaptive homeostat.

2b. Character accent.

2c. Disease of the central nervous system, brain: organic, vascular, atrophic and endogenous radicals.

2y. Soma disease - acute and chronic somatic diseases, endocrine disorders.

The cause and soil of the disease can change places. In the clinic of neurosis, it is not the causative factor that can dominate [21], but the pathology of the soil. The neurogenic factor gives impetus to soil pathokinesis [19]:

a) If the soil of neurosis is an organic disorder of the central nervous system, the brain with a functional weakness of neurovegetative regulation, then a persistent psychosomatic syndrome is more easily formed.

b) If the soil of the disease is endocrinopathy and soma pathology, the morphological stage of the disease, persistent somatopsychiatric syndrome, and vicious circle of the disease are formed more quickly.

c) If the patient has an accent of character, then chronification and a vicious circle of the disease occur more easily. Unfavorable are asthenic, anxious and hysterical character accents.

d) In the presence of an asthenic constitution, when the asthenic radical dominates in the psyche and soma of the patient, the course of neurosis takes on a malignant character with the rapid passage of all stages of the disease.

e) If the patient has an endogenous or atrophic radical of the brain, the course of neurosis flows benignly, leveling of the causative factors of the disease is observed, and a persistent psychosomatic syndrome is less often formed. In the first place is the pathology of the soil. "Pure" neurosis is extremely rare [22].

Stages of development of neurosis as an adaptation disease [23]

1. Disorder of adaptation, transient psychosomatic reaction. Anxiety phase of the general adaptation syndrome.

2. Reactive state. The tension phase of the general adaptation syndrome, the state of adaptation. Persistent psychosomatic syndrome. Functional stage of psychosomatic illness.

3. Neurotic development of personality. The tension phase of the general adaptation syndrome, the state of maladaptation. Morphological stage of psychosomatic

illness. Formation of persistent somatopsychiatric syndrome and vicious circle of disease.

4. Neurotic personality disorder. The exhaustion phase of the general adaptation syndrome. Severe psychosomatic illness. Anergic reaction to harm. Psychic Syndrome.

Singling out neurotic, including tearful depression, is hardly justified, since tears are a form of release of neuropsychic tension in fear and its clinical equivalents. Depressed patients note in themselves "dry tears" and lack of discharge. Weepiness is usually observed in the structure of asthenoneurotic syndrome, depression belongs to a deeper register of neuropsychiatric disorders.

CONCLUSIONS

Evolutionary triune approach to neurosis as a disease of adaptation, allows you to understand the causes and mechanisms of its formation, clinic, dynamics and outcome.

1.1. Highlights the cause of neurosis - fear and its equivalents: anger, anxiety, stress, physical pain.

1.2. Highlights the pathogenetic mechanisms of formation of neurosis, stages of its development.

1.3. Notes the role of soil in the development of neurosis.

1.4. Allocates a group of psychosomatic diseases in the structure of neurosis.

1.5. Determines the ways of treating neurosis as an adaptation disease:

1.51. Reducing the relevance of the stressor (psychotherapy, anxiolytics, antidepressants, sedatives).

1.52. The impact on the soil of the disease.

1.53. Relief of VVD syndrome, persistent psychosomatic syndrome (psychotropic and somatotropic drugs, vegetative stabilizers, psychotherapy). Direct the energy of fear into the furnace of musculoskeletal excitation (exercise therapy, physical labor, hardening, breathing exercises, sublimated activity, and others).

1.54. Relief of the somatopsychic syndrome, the vicious circle of the disease (somatotropic and psychotropic drugs, analgesics, vegetative stabilizers).

2. Emphasizes the inner unity of somatic, neuropsychic and

psychosocial, the indivisible integrity of the human being. Only complex impact on the person as a triune system can increase the effectiveness of therapeutic and preventive programs.

3. Neurosis is a psychosocial disease, since most stress is psychosocial in nature. The solution of human social problems is the main factor in the prevention and treatment of neurosis as an adaptation disease.

4. Psychiatrists, psychotherapists, psychologists and social workers should be involved in the treatment of neurosis. In case of pronounced somatization, the disease is treated by an internist with the consultative involvement of psychiatrists and psychotherapists, psychologists and social workers.

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CONFLICT OF INTEREST

There is no conflict of interest.

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