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Hypothalamic Syndrome

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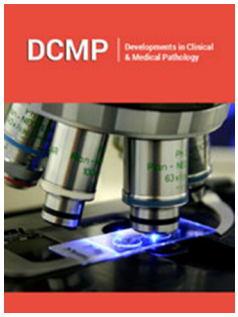

Abstract

Hypothalamic syndrome is a polyetiological disorder in which hypothalamic dysfunction manifests itself through autonomic, vascular, endocrine, and emotional disturbances. The underlying condition is an asthenic syndrome with fatigue, irritability, and anxiety. These symptoms often masquerade as somatic illnesses, particularly in depressive and cyclothymic disorders. It is important to consider the psychosomatic nature of the syndrome for proper diagnosis and effective treatment, including psychotropic medications and correction of autonomic dysfunction.

Keywords: Hypothalamic syndrome; Asthenia; Autonomic disorders; Psychosomatics

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Introduction

Strictly topical in form, but extremely vague and fuzzy in essence, the diagnosis of "hypothalamic (diencephalic) syndrome" became "fashionable" in the late 1940s, when a truly inexhaustible stream of diencephalic syndromes, diencephalitis, and diencephaloses of unknown origin began to be recognized by physicians of all specialties and even by patients themselves. The causes of hypothalamic lesions are considered primarily to be various (including childhood) infections in the anamnesis, noted in 68.1% of patients, and closed head injuries - in 17%; hormonal changes during puberty and menopause; unfavorable course of pregnancy and childbirth; exposure to intense noise and vibration, penetrating radiation and electromagnetic fields; all kinds of chronic intoxication (including alcohol) and overheating of the body [1]. Hypothalamic dysfunctions of extracerebral origin, or repercussive diencephaloses, are diagnosed in cervicothoracic osteochondrosis, as well as diseases of the internal organs with painful hyperalgic syndrome. The frequency of various pathogenic influences to which the hypothalamic region of any person is exposed throughout life is so great that the polyetiological nature of the disease is most often discussed [1,2]. A more or less pronounced "defect" of this region (even in the presence of a severe infection or traumatic brain injury in the anamnesis) is usually detected, however, only under the influence of known adverse factors that contribute to a noticeable decrease in overall vitality. Situational, somatogenic, or psychogenic asthenia becomes an invariable condition for the detection or aggravation of corresponding symptoms in the clinic of all kinds of neurological, somatic, and mental illnesses [2]. It is precisely "vital asthenia," unanimously noted from the first stages of suffering in all variants of hypothalamic pathology, that constitutes the basis upon which certain neurosis-like syndromes develop. Against the background of severe asthenia of various origins, reversible and recurrent, stable, protracted, and progressive hypochondriacal (more precisely, asthenohypochondriac and depressive-hypochondriac) disorders and social adaptation disorders develop [2,3]. It is the astheno-adynamic syndrome (weakness and fatigue, increased fatigue and deterioration of well-being, irritability and emotional lability with psychasthenic phenomena) that proves to be the most persistent and constant in hypothalamic dysfunction of any origin [3].

The most common and significant cause of hypothalamic dysfunction in general practice is not so much organic failure of the central nervous system, but rather cortical-subcortical

dysfunction in the structure of affective disorders. Affective overstrain and mental trauma are recorded in at least 20%, and practically certainly in the overwhelming majority, of these patients. The special "interest" of the hypothalamic structures, which integrate the body's autonomic functions and emotional reactions and synchronize its physiological rhythms, is most evident in cyclothymic states - the somatic equivalents of cyclothymia, such as migraine-like attacks or psychogenic hyperthermia [1-4]. It is no coincidence that the diencephalic type of clinical picture is regarded as one of the four main somatic equivalents of cyclothymia, and cyclothymic syndrome as one of the three leading psychopathological syndromes (along with hypochondriacal and neurasthenic-like) in hypothalamic lesions of various origins. The undoubted commonality of the mechanisms regulating humoral-autonomic adaptive reactions and the function of the sympathetic-adrenal system in affective disorders and true hypothalamic lesions is confirmed by the essentially identical nature of catecholamine excretion [4,5].

The severity of anxiety in hypothalamic disorders clearly correlates with the activity of the sympathetic-adrenal system and the circadian rhythms of catecholamine excretion. None of the nine clinical variants of hypothalamic syndrome (not to mention the form with a predominance of neurosis-like and psychopathological manifestations) yet indicates organic damage. Currently, there is no doubt that there are no symptoms or syndromes pathognomonic of damage to the diencephalon. Bulimia and non-inflammatory hyperthermia, fluctuations in blood pressure or dysmenorrhea, and other symptoms considered specific to hypothalamic lesions per se are no less characteristic of functional hypothalamic disorders arising from cortical-subcortical disintegration during affective overstrain [5]. Symptoms of hypothalamic irritation, both clinically and experimentally, include dilated pupils and increased respiratory rate, vascular dystonia (with the development of arterial hypo- or hypertension) and severe tachycardia, increased or decreased gastrointestinal motility and bladder muscle contractions, hyperhidrosis and thermoregulatory disorders, sleep rhythm disturbances, and disturbances in all metabolic processes. It is difficult to find any bodily function not directly or indirectly associated with the hypothalamus [2-6].

The dominant clinical signs of hypothalamic dysfunction are autonomic-vascular disorders, typical of affective disorders of any origin. Polymorphic symptoms, indicating the involvement of hypothalamic structures in the pathological process, usually take on a paroxysmal nature. Vegetative-vascular and viscero-vegetative crises are recorded in 93% of all those examined in a psychosomatic clinic [6]. The most constant component of the clinical picture of hypothalamic paroxysm are cardiovascular disorders: a feeling of tightness or congestion in the precordial region or the entire left half of the chest - "not pain, but something aching in the chest; like nausea in the chest, somehow uneasy; the heart is not mine, it is heavy" -a sensation of sharp heartbeat with pulsation or "flushes" in the head and throughout the body, or "freezing" and even cardiac arrest ("the heart somersaults in the chest, and then suddenly stumbles," stops for some time, "stops beating" ...) [2-6].

At the height of the hypothalamic crisis, painful sensations in the precordial region sometimes reach such intensity that they can simulate an attack of acute coronary insufficiency during a cursory examination. The extreme persistence of cardialgia (persisting for hours or even days), intensifying under any stressful situation and weakening (although not always completely disappearing) at rest (and in some cases arising, on the contrary, during rest and even during sleep), the unusually colorful and affective richness of descriptions of pathological sensations experienced by patients, as well as the absence, as a rule, of a noticeable therapeutic effect of analgesics and antispasmodics with the undoubted effectiveness of tranquilizers and neuroleptics, make it possible to differentiate these disorders from true angina pectoris [6-8]. Increased sensitivity of the heart to acute arrhythmias, and in particular to ventricular fibrillation, which occurs under the influence of emotional stress, however, carries the risk of sudden death (especially in developing coronary atherosclerosis) at the height of the emotional state. The occurrence of an ectopic rhythm with the risk of death during electrical stimulation of the hypothalamic region has been experimentally demonstrated [7-9]. Hypothalamic cardialgias are often included in the clinical picture of abortive, atypical, and sometimes full-blown sympathoadrenal crises with an increase in systolic blood pressure to 160-200mmHg, sinus tachycardia, and single or multiple (usually supraventricular) extrasystoles. Paroxysms of arterial hypertension often alternate with severe arterial hypotension between attacks [2-8].

Cardiovascular disorders are usually accompanied by more or less stable respiratory disturbances - from a constant feeling of "oxygen deficiency" and "stuffiness" in any room, a lack of air that forces patients to gulp greedily, to attacks of psychogenic hyperventilation (neurotic asthma) in the structure of a hypothalamic crisis. A frequent object of hypochondriacal fixation in patients also becomes pathological sensations in the abdominal cavity (in the stomach, "the heat is spreading," "something is rumbling, shimmering," "hot arrows are striking," something is about to burst from this unbearable pain) and in the head (burning, pressing, distending) [2-4]. Viscerovegetative disorders are often preceded by a feeling of sudden, unusual and therefore extremely frightening fatigue - "paroxysms of loss of strength and internal trembling (from which sometimes the teeth chatter, "like with malaria") with profuse cold sweat and "nasty weakness" in the legs or throughout the body. In addition to chill-like tremors, peculiar, affectively colored thermal disturbances are noted - from a slight coldness in the extremities to a feeling of icy coldness in the legs and throughout the body, from which "life leaves" [2-10]. Distal hypothermia is sometimes accompanied by acrocyanosis or even a mottled discoloration of the skin of the extremities. Much less frequently, a sensation of extreme heat (which almost "melts the brain and boils the blood") occurs, accompanied by profuse sweating, severe facial flushing, and the development of hyperthermia (up to 37.5-38 °C, in some cases up to 40 °C). Patients complain of dry mouth and thirst, and sometimes experience a craving for something sweet [2-7]. Pelvic dysfunction, common at the end of such attacks, with imperative urges to urinate and

defecate (false or accompanied by massive polyuria and even diarrhea), sometimes truly forces patients to rush between bed and toilet [2-4].

The clinical picture of hypothalamic crises is characterized primarily by a growing sense of internal agitation and anxiety-a kind of "fluster in the body," reminiscent of a premonition of an impending somatic catastrophe, when "everything inside is torn apart by fear and anguish." Initially, a vague sense of general ill-being arises-"something wrong with my heart, maybe my head," accompanied by a fear of death, whether from a myocardial infarction or a stroke. This feeling quickly develops into panphobia-"horror beyond words." Against this backdrop, a wave of extremely oppressive and oppressive sensations appears in the head and heart region [5-9]. This is not simply a fear of death, but a terrifying sense of the end already approaching-"this is death!"-not a threatening, but an already unfolding catastrophe. At the peak of an attack, patients are overcome by indescribable fear and horror, feeling knocked off their feet by a wave of incomprehensible and very unpleasant sensations. They are confused and unable to comprehend what is happening to them. At the height of the attack, they experience incoherence and confusion, along with peculiar states of consciousness: "thoughts scatter and become jumbled; a fog rises before the eyes, the ground shifts from under one's feet, as if falling into an abyss; the mind is at a loss, and one thought remains-the end" [10].

Frequently present is a fear of falling and losing consciousness or "going crazy." Fear of death from cardiac arrest or a sharp rise in blood pressure is combined with fears of a "bad end"-a cerebral hemorrhage, meningitis, or loss of reason. Trying to avoid this "impending death," patients take a large number of different medications, primarily cardiovascular ones, lie motionless, afraid to move their arms and legs, or, conversely, run outside for "fresh air," calling an ambulance several times a day [2-5]. Like one of M. E. Saltykov-Shchedrin's characters, these patients seem to be in a "half-sleep state," aware only of the sudden and unbearable pain they have suffered: "the brain is burning, the heart is breaking, the back is broken. And you have to run somewhere, cry out for something - in those moments when reason refuses to function, and the legs cannot bear the weight of the body, and it seems as if you are falling into an abyss" [4-9]. No other symptom, even the most painful and persistent, brings such dissonance to the patient's mental state as hypothalamic paroxysms. One or two such attacks with cardiovascular disturbances can radically alter a person's worldview, habits, and lifestyle. Even years of successful outcomes from such crises do not spare the patient from the recurring terror [2].

The exceptional severity and excruciating intensity of pathological sensations and experiences during hypothalamic crises force patients to constantly focus on them, reducing the entire burden of their suffering to them. Hypothalamic paroxysms typically occur against a background of asthenia (weakness) of any origin and are intensified after seasonal respiratory illnesses, and especially during stressful situations-for example, after the sudden death of a colleague in the patient's presence. These paroxysms most often develop during a specific emotional state-at night, during an influx of anxious and depressive thoughts, or after intense anxiety or mental stress associated with an important and difficult situation for the patient. Furthermore, attacks can occur while falling asleep or during sleep, sometimes at the same time, especially before dawn, accompanied by nightmares. The duration of such attacks varies from 10-15 minutes to 3-4 hours or more, and the frequency ranges from one attack per year to 1-2 per day, or even more frequently [1-9].

The clinical picture of hypothalamic crises includes the same affective disorders (depression, anxiety, fear, melancholy) and autonomic disturbances (chills, tremors, tachycardia, and others) as the patient's interictal state. Essentially, a hypothalamic crisis is a sharp, multiple intensification of symptoms already present in the patient. The main component of the crisis is overwhelming fear, primarily the fear of death, which is usually combined with a depressive mood, insomnia, and senestopathies (feelings of painful or strange sensations in the body) [5-9]. The clinical picture is characterized by pronounced affective disturbances, ranging from mood disorders similar to dysthymia to vital emotions; A general anxious-hypochondriac background with a feeling of one's own alteration and heaviness in the chest; depression and melancholy; anxious restlessness and a deep-seated fear for one's life. These symptoms are characteristic not only of hypothalamic paroxysms, but also of the interictal period [2-6]. Both during and between crises, disturbances in the nature of emotions may occur - manifested by localized, somatized fears and anxiety. These are peculiar sensations that do not always have a clearly expressed emotional content, but are accompanied by anxiety in various parts of the body - for example, in the back, fingers, thighs, eyes, leg muscles, joints, buttocks, and even the anus [2-9].

Spontaneous attacks of fear, which can "split into parts"-manifesting as various physical symptoms such as tremors, dizziness, palpitations, shortness of breath-were described as early as the early 20th century [6-8]. The close connection between the somatic component of depressive states (i.e., the bodily reflection of the emotional state) and the diencephalon explains the high incidence of hypochondriacal disorders associated with hypothalamic damage. Hypochondriacal syndrome, which naturally develops against the background of impaired protopathic sensitivity (i.e., loss of a sense of health), becomes one of the leading psychopathological manifestations in psychosomatic disorders associated with functional hypothalamic disorders. Thus, one in three patients with hypochondriacal disorders exhibits obvious hypothalamic dysfunction [1-3].

A mandatory element of this hypochondriacal syndrome of hypothalamic origin is extremely distressing, emotionally charged sensations in various organs and parts of the body. The syndrome includes a wide variety of pains and discomforts - burning, pulling, pressing, and constricting pains-as well as hyperpathies and paresthesias (numbness, tingling, and pins and needles) with a pronounced senestopathic component. Paroxysmal (sudden) or prolonged senestopathies are often observed, localized in the

heart, head, abdomen, or musculoskeletal system, and sometimes sensations approaching hallucinations of a generalized sense. Pathological interoception-a distorted perception of internal sensations associated with past or ongoing chronic somatic diseases-plays a special role [5-10]. These pathological sensations are usually accompanied by obsessive thoughts about health, fears, and concerns for life. Patients fear cardiac arrest, "valvular detachment," heart attack, paralysis, suffocation, loss of consciousness, as well as less realistic threats such as ectopic pregnancy, colds, infection, and incurable diseases. Fears of darkness and loneliness, open spaces or, conversely, closed spaces, heights, transport, drafts, and other fears often arise. At first, these fears are vague and undefined, but over time, reinforced by persistent distressing sensations, they become persistent and specific, developing into overvalued ideas [6-10]. During a hypothalamic crisis, some patients experience a transition from obsessive fears and concerns for their health to transient (temporary) delusions of illness. This can also lead to severe disturbances in body perception, such as depersonalization, when patients lose awareness of their bodies, complain of emptiness in their heads, and feel that their eyes have turned white, their face has turned black, their body has shrunk, and their head has become disproportionately large [9,10].

Psychosensory disturbances are considered among the most characteristic and frequent psychopathological phenomena in hypothalamic syndrome. These disturbances include a distressing, sometimes "obsessive" sensation of the presence of a particular organ, which in fact reflects hypochondriacal fixation and general mental hyperesthesia of the patient. For example, a "stomach feeling" may give way to a "heart feeling" under the influence of iatrogenic influences or the emergence of new sensations that shift the patient's attention. A feeling of the disappearance of internal organs, their cessation of function, or malfunction is also common: patients complain that "the heart stops," "the lungs are atrophying and not breathing," "the bladder has rotted." These complaints approach nihilistic delusional ideas. Perception is often distorted, the idea of the localization of internal organs changes - for example, the heart is felt to be shifting to the right or even the presence of two hearts; their shape and size change: the heart seems small, compressed, like an hourglass, or swells and does not fit under the ribs; The stomach is perceived as tiny or, conversely, gigantic; the consistency of the lungs and heart seems hardened, while the intestines and bladder feel soft, like a rag; the limbs feel as if they have turned to stone. The weight of the body and head is also distorted: the head may feel "as if filled with lead" or, conversely, empty and weightless; the heart feels heavy as a stone. Projection of sensations from a specific organ to other parts of the body is also common - for example, nausea is felt in the head, or palpitations in the lower abdomen. Sometimes a banal complaint of heaviness in the head is explained by influxes of uncontrollable thoughts, and some of these disturbances are practically indistinguishable from hallucinations of a general feeling or classic hypochondriacal delusions of internal organ transformation [2-8].

The bizarre nature of psychosensory disturbances is often associated not only with affective disorders, but also with disturbances in sensory analysis and synthesis. This manifests itself not only in the distortion, redundancy, or blockage of information coming through internal channels, but also in its pathological processing in certain emotional states of the patient. The almost obligatory presence of psychosensory disturbances in the structure of hypochondriacal syndrome does not at all indicate an organic lesion of the hypothalamic region. The close connection between pathological sensations, which are processed hypochondriacally in the clinic of psychosomatic disorders, and functional hypothalamic disturbances sometimes creates the impression of an organic lesion, even in the absence of any organic changes in the central nervous system [4-8]. According to some authors, pathological sensations, especially in the head, psychosensory disturbances such as unsteadiness and gait instability, blurred vision (webbing, fog before the eyes, a sense of distance from the surroundings), against a background of severe asthenia up to complete adynamia and abulia, as well as painful emotional experiences with depressive complaints and a focus on illness - all this gives grounds for speaking of hypothalamic syndrome in the complete absence of organic symptoms and indications of infectious processes in the anamnesis. This assertion makes the boundaries of the concept of "hypothalamic lesions" practically unlimited [10].

The same localization of pathological manifestations and a similar clinical picture are characteristic of so-called vasomotor neuroses and vegetative states, which precede organic disorders in true diencephalon lesions, protracted neuroses with gradually developing organic changes, and diencephalic lesions with secondary neurotic disorders arising as a personality response to the disease as a whole or to individual symptoms. The nosological heterogeneity of hypothalamic disorders is evidenced primarily by the extraordinary diversity of psychopathological and neurosis-like symptoms in cerebral disorders affecting the hypothalamic level. This is particularly evident in the extremely heterogeneous clinical descriptions of pathological sensations within the so-called hypothalamic syndrome. Some authors emphasize the sensory and concrete nature of affectively charged disturbances that do not assume a "fantastic" character, while others note surges of vivid, imaginative, strange, and sometimes quite bizarre interoceptive sensations and hypochondriacal overlays.

Some describe distressing bodily sensations, usually affecting a single organ that arouses the greatest concern in patients, and assert that multiple and widespread senestopathies are not characteristic of hypothalamic lesions; others, on the contrary, point to the abundance and diversity of all kinds of viscerovegetative manifestations. The idea that in such cases a combination of a number of typical syndromes-autonomic-vascular, neuroendocrine, and trophic disorders - occurs does not simplify the nosological classification of these conditions: such a combination is found in hypothalamic pathology in only 58 of 277 patients. Another "mainstay" assumption, according to which the paroxysmal nature of viscerovegetative disorders in combination with psychopathological disorders always indicates a hypothalamic origin of the condition, is also not very reliable for differential diagnosis. This tendency to view any paroxysmal condition from

this perspective essentially leads to an overdiagnosis of functional hypothalamic lesions during pubertal or climacteric transitions, as well as in various mental, neurological, and somatic diseases [2-10]. Reducing functional hypothalamic disorders to organic lesions of the central nervous system in practice leads to inadequate treatment of patients - the unjustified use of antibiotics, urotropin, biyoquinol, and even X-ray irradiation of the hypothalamic region. This, in turn, gives rise to the opinion that such conditions are incurable and the extremely negative iatrogenic impact of a diagnosis of hypothalamic syndrome, which is "intractable." For example, at a meeting of the Moscow Society of Neurologists and Psychiatrists, the answer to the question of whether anyone present had seen a cured patient with diencephalic pathology was negative - not a single neurologist raised their hand [3-5].

The socioeconomic consequences of such a diagnosis are difficult to overestimate: hypothalamic syndrome almost automatically exempts schoolchildren from physical education classes and exams, entitles unsuccessful students to academic leave, prevents graduates from working, and leads to inappropriate employment recommendations for those in the workforce. Almost 50% of individuals with "hypothalamic pathology" are recognized as disabled 5-8 years or more after the onset of the disease. The main criterion determining the state of ability to work in most cases is psychopathological disorders - anxiety, suspiciousness, emotional lability, increased irritability, hypochondria - caused by disturbances in the affective sphere and activation of protopathic sensitivity. It is these disturbances that contribute to the clinical manifestation of hypothalamic disorders in asthenic individuals in the absence of any organic processes in the diencephalon [6-10].

Hypothalamic dysfunction is particularly significant in affective disorders, associated with the pronounced torpidity and rigidity of senestopathic-hypochondriac disorders of various origins, which take on the character of "stagnant" symptoms. It is known that psychopathological disorders of hypothalamic origin persist even when objective indicators in patients are completely normalized after cessation of occupational exposure to harmful factors. Hypothalamic structures are responsible for the processes of generalization and stabilization of pathological excitations at the cortico-subcortical level, that is, ultimately, for the chronicization of neurotic conditions with senestopathic-hypochondriac symptoms [6-8]. Underestimation of psychogenic factors, primarily affective ones, along with a clear overestimation of the role of infections or traumatic brain injuries in the anamnesis, underlies the assumption of a discrepancy between objective data and the severity of the pathological process. High variability of clinical symptoms and a lack of reliable organic changes are often observed in patients, who are often perceived by others as malingerers. This discrepancy, in most cases, indicates a psychogenic origin of hypothalamic disorders [3-4].

These patients' particular predisposition to rhythmic paroxysms, characterized by a agonizing fear of death at the peak of attacks and increasing hypochondriacal fixation during the interictal period, as well as prolonged asthenodepressive states with secondary reactions to disease symptoms and impaired social adaptation, contribute to the pathological development of the personality. This process is characterized by hysterical, hypochondriacal, and paranoid traits, persistent senestopathic-hypochondriac disorders, and overvalued hypochondriacal ideas and attitudes that determine the patient's behavior and maintain, and sometimes intensify, hypochondriacal symptoms even as asthenia subsides and senestopathies subside [3-5]. The diagnosis of "hypothalamic syndrome" not only limits medical judgment but also absolves the physician of the need to establish the true nature of suffering and of responsibility for the lack of therapeutic effect due to inadequate treatment. Refusal of pathogenetic psychopharmacotherapy for functional hypothalamic disorders leads to iatrogenic social disability of patients. As a result, the responsibility that each individual physician absolves ultimately falls on the state [10].

Conclusion

Hypothalamic disorders should be considered as part of a complex syndrome, the nosological significance of which is fully revealed only when included in a broader pathological system.

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