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Somatic depression with cognitive impairment in a female patient with hypertension

Summary. *The paper describes a clinical case of hypertension and somatic depression in a female patient. It considers the differential diagnosis of somatic symptomatology within affective disorders and manifestations of a somatic disease, and analyzes the aspects of personal predisposition to a mental disorder. The authors note advantages of an interdisciplinary approach to therapy with the use of antihypertensive drugs, antidepressants and psychotherapy. Of particular interest is the problem of diagnosis and therapy of moderate cognitive impairment in the patient with cardiac and psychiatric comorbidities.*

Keywords: *depression; somatization; cognitive impairment; hypertension; antidepressants, vortioxetine.*
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Diagnosis and therapy of comorbid psychiatric pathology in general medical practice, including cardiovascular diseases, is an issue of the day for an internist. According to epidemiological studies, the prevalence of depressive disorders in cardiac patients exceeds 20% [1]. At the same time, the frequency of depression among patients with arterial hypertension (AH) reaches 16.8% [2, 3].

Several studies demonstrated a negative influence of comorbid depressive disorders on AH course and patients' behavior (low adherence to treatment and formation of cardiopersonified syndromes) [1, 4]. Synergy of AH and depressive symptoms complicates the treatment process due to difficulties in differential diagnosis and evaluation of the effectiveness of therapy and deteriorates patients' quality of life [5]. The severity of depressive disorders also correlates with an increase in medical costs and the length of cardiology department stay [6]. In this regard, we should specially note masked (somatic) depressions with psychopathological disorders masking affective symptoms (cardioneurotic, dissomnic, etc.) [1, 7].

One of the most complex issues in comorbid depression and AH is the identification of the etiology of cognitive disorders and the choice of adequate and effective treatment tactics. Cognitive impairment occurs in more than a half of patients with chronic hypertension. Mild cognitive impairments (MCI) are diagnosed more often than moderate cognitive impairments. [8, 9]. Depression, in turn, can also be accompanied by moderate or mild cognitive impairment, especially memory impairment [10]. Complaints of memory loss in patients with AH are associated with a higher depression level as compared with patients without such complaints [11].

At present, the modified diagnostic criteria of the MCI [12] are used in clinical practice:

1) Cognitive impairment as reported by the patient and/or his/her next of kin;

2) Deterioration of cognitive abilities as compared to the baseline;

3) Objective evidence of cognitive impairment obtained with the use of neuropsychological tests;

4) Absence of marked daily activity disturbance;

5) Absence of dementia.

In the management of patients with AH and cognitive and emotional impairments, a multidisciplinary approach involving a psychiatrist is of great importance, as demonstrated by our case report.

A 56-year-old female patient *complained of a depressed mood, despondency, sadness, dreariness, self-pity, tearfulness "on the verge of hysterics", sleep disorders, such as difficulties in falling asleep and early awakening (at 4–5 a.m.), decreased appetite (she lost 4 kg of weight in a month), unusual fatigue after slight physical and mental exertion, feeling jaded, sluggish, "exhausted", concentration difficulties, worsening memory for recent events, absent-mindedness in performing her work duties. The patient complained of paroxysmal states every 2–3 days with a rise in blood pressure (BP) up to 180/100 mm Hg, accompanied by fear of death from a heart attack, as well as by various unpleasant sensations in the body: tightening, compressing headaches like a "helmet" or "hoop" on the head, feeling of retrosternal tingling, burning and heat, waves of "flame" spreading inside the chest and a "lump" in the throat. The patient also noted "influx of anxious thoughts" about possible disability, loss of attractive appearance and social activity. Against this background there was a feeling of numbness in the hands and feet like "gloves and socks", weakness in the legs (as if they "gave away"). These manifestations had a distinct daily rhythm: she felt worse in the morning due to the prevalence of despondency and hopelessness.*

The patient worked in the field of publishing and retired at the age of 55. She had no occupational hazards during her life. She was married twice; present marriage – since the age of 27. Pregnancy and delivery at the age of 28 were physiological, without pathology. She was very irritable, quick-tempered, and had propensity to manipulative behavior. At the same time, she was sociable, easily got along with people. In public she demonstrated her ability to control herself and friendliness. In stressful situations, she noted short-term (up to 10–15 minutes) episodes of tearfulness with a feeling of "lump" in her throat, compressing headaches like "hoop", numbness in the fingertips, and internal tension, heat in the chest area.

It is known that the patient's mother suffered from a depressive disorder and was under outpatient psychiatric observation. There was a burden of ischemic heart disease on the paternal line.

According to the patient's words, she noted the first clear mental distress at the age of 43 after the sudden death of her father from a heart attack. She complained of a sharp mood decline with growing despondency, she was constantly immersed in thoughts about her father, recalled the situations when he was talking about his ailments, thought about the missed opportunity of early detection of cardiac pathology, "scrolled" thoughts about the injustice of what had happened. There was no daily dynamics in her general state. She had sleep disturbance (difficulties falling asleep) and was worried by vivid dreams about the deceased. Her appetite decreased, she lost 3 kg over 3 months. In addition, she had various unpleasant sensations in her body: headaches like "hoop", piercing pain in the heart region, a feeling of "a burning ball" rolling from the chest to the throat. At the same time, she noted the first episode with the rise of blood pressure to 140/90 mm Hg, which was accompanied by anxiety, feeling of aimless worry, internal tremor and intense compressive headache like a "helmet". She regarded this condition as a consequence of the experienced stress. She did not seek medical help and took herbal sedatives (valerian, motherwort). Four months later, she noted mood improvement and night sleep recovery, reduction of despondency, tearfulness, sad thoughts and memories influx along with a decrease in pathological bodily sensations.

Menopause since the age of 50. The climacteric period was subjectively difficult. For six months, she had been disturbed by sense of hot and cold flushes. She felt increased emotional lability, tearfulness, became even touchier, irritable. Soon after the onset of menopause she noted that conflict situations at work or in the family provoked rises of blood pressure (firstly to 140/90–150/90 mm Hg), with characteristic symptoms: health anxiety, tightening, compressing headache as "helmet", numbness of the fingers and toes, tension, tingling in the chest area and a feeling of general weakness and "jaded body". The stage 1 arterial hypertension was diagnosed.

The present worsening occurred at the age of 56 against the background of the anxiety about the financial situation of the family. She noted a sharp mood decline, an increase in despondency and tearfulness. She felt melancholy, thoughts of the coming "collapse" of family well-being, helplessness under the circumstances and self-pity were burdensome. She had difficulties falling asleep due to the anxious thoughts about the future. In the morning she felt sluggish, "jaded", lay in bed for a long time. She also noted circadian variation of the condition: depression was more marked in the morning hours. Appetite was decreased and she lost 4 kg in a month. She did not feel the usual energy, quickly got tired after minor loads, felt sluggishness, weakness in the body. She performed household chores "forcing" herself, delegating most of the work to the house cleaner. She refused meeting with friends and cancelled planned activities. In addition, concentration difficulties and absent-mindedness which she had not noted before began to bother her. She became inattentive, aloof, and could repeatedly ask the same question in conversations with others. Immersed in her own thoughts, she could not concentrate on reading or watching TV. She noted memory loss for current events, forgot about the appointments, arrangements about domestic affairs, etc. She had to record important information in her notebook. She felt irresolute driving a car and hardly navigated in the unfamiliar part of the city, therefore, she stopped driving.

Within 1–2 weeks after the occurrence of the psychotraumatic situation, she noted an increase in her blood pressure up to 180/100 mm Hg, which was accompanied by fear of death, intense painful sensations of burning, spreading "flame" in the chest area, "lump" in the throat, headaches like "helmet", numbness of the limbs like "gloves and socks". With the physical condition worsening, the background anxiety mainly focused on "the heart health". Along with fears about the future of the family, she was alarmed by possible development of complications, disability.

Considering the ineffectiveness of outpatient antihypertensive therapy, she was directed to inpatient treatment at the Department of Cardiology of the University Clinical Hospital No. 1 of the First Moscow State Medical University named I.M. Sechenov (Sechenov University), and was consulted by a psychiatrist.

Upon admission to clinic, there were no pathological signs in her somatic status. There were no data about focal neurological symptoms. The presence of severe depression was identified: 25 points on the Hamilton scale for assessing depression (HAMD), and 4 points on the scale of the Clinical Global Impression of CGI-S. In addition, cognitive impairment was detected: 22 points on the Montreal Cognitive Assessment scale (MoCA), the main disturbances were in the sections "Memory" and "Attention".

Clinical analyses of blood and urine, biochemical blood test did not reveal any abnormalities. Immunological tests for HIV infection, hepatitis B and C were negative. The level of thyroid-stimulating hormone was normal.

Electrocardiography (ECG) did not reveal any abnormalities. Echocardiography (ECHO) showed signs of myocardial hypertrophy of the left ventricle: end-systolic dimension – 31mm. end-diastolic dimension – 47.4 mm. ejection fraction – 56%, left ventricular posterior wall thickness (LVPWth) – 12 mm. LVPW excursion – 7 mm, right ventricle – 25 mm, not enlarged, the function of the valves was not compromised, pumping function of the left ventricle was normal. 24-Hour ECG Monitoring: the average heart rate was 74 per minute, there were no pauses, PQ was up to 173 ms, there were 37 single supraventricular extrasystoles. ST-T: without significant dynamics.

Magnetic resonance imaging of the brain: focal pathology of the brain was not revealed.

Ophthalmologist consultation: retinal angiopathy of both eyes.

According to the results of ultrasound examination of the kidneys, pathology was not revealed.

Psychiatric consultation: recurrent somatic depression with anxiety-phobic disorder (panic attacks, nosophobia) and cognitive impairment.

Diagnosis: arterial hypertension stage 2, grade 3, high cardiovascular risk. Recurrent depressive disorder, current depressive episode of moderate severity with somatic symptoms.

Prescribed treatment: prestarium 5 mg per day, brintellix 20 mg per day, cognitive-behavioral psychotherapy (CBT). During the course of the treatment, the patient noted the positive effect in the form of normalization of the affective background with reduction of despondency, sadness, tearfulness. Hypertonic crises became accompanied by a rise of BP to a maximum of 150/90 mm Hg (in comparison with 180/100 mm Hg before the initiation of psychotropic therapy while taking antihypertensive drugs). Reduction of thanatophobia and conversion symptoms in the structure of the crisis were noted. The intensity of asthenic symptoms decreased and the patient began to feel her usual cheerfulness and vitality; the sensations of sluggishness, "jaded body" ceased to disturb her. Night sleep became normal. There was also an improvement in cognitive functions according to the MoCA scale – an increase from 22 to 24 points. The patient also subjectively noted an improvement in concentration and regaining self-discipline.

Somatic disorders persisted for one month with episodic headaches like "helmets", "lump" in the throat, and unpleasant sensations in the heart region – tingling, burning, heat and "firing".

Eight weeks after the initiation of therapy a remission of depression was diagnosed – the result on the HAMD scale was 7 points (no depressive disorder) against the background of stable BP indices.

After remission achievement, the patient was recommended a maintenance dose of brintellix – 10 mg per day, prestarium – 5 mg per day.

Discussion. The mental state of the patient at the time of her visit to a psychiatrist was determined by psychogenically provoked hystero-hypochondriac depression, which proceeded according to the type of somatic hysteria [13]. Such a qualification was supported by the predominance of complaints about a depressed mood, despondency, sadness combined with theatricality, pomposity, dramatization of symptoms and a desire to draw attention to her suffering. The substantial complex of depression also agrees with the hysterical nature of the affective disorder and includes ideas of lost family well-being and shaky health that do not correspond to the real state of affairs.

Along with affective disorders (melancholy, disturbances in sleep, appetite and circadian rhythm), the hystero-hypochondriac symptoms with hysterophobia and pathological bodily sensations represented by conversions, body fantasies and asthenic phenomena came to the fore in the clinical picture. Thus, the manifestations of a real cardiac disease (hypertension) were amplified by atypical panic attacks without the formation of avoiding behavior – "conversion crises" [14], occurring with thanatophobia, polymorphic conversion symptoms (hysteralgia, dysesthesias, globus hystericus) and body fantasies such as "flame spreading inside the chest". Anxiety about the health of the patient was also expressed in the form of nosophobia (infarctophobia, fear of disability).

It is necessary to emphasize the presence of cognitive impairment in the patient: disorders of attention, operative and delayed memory, disturbance of information processing speed. In this case, the contribution to moderate impairment of cognitive functions was made by both mental (depressive disorder) and somatic (hypertension) component in the absence of organic brain damage (according to MRI) [15, 16].

When analyzing the patient's personality pattern, the traits described within the dramatic circle primarily attracted attention (histrionic traits, according to O.A.Filts [17]). The patient had a tendency to dramatization, exaggerated expression of emotions along with overestimation of her own personality throughout the life. Meanwhile, the patient's characteristic conversion symptoms (globus hystericus, compressing headache like "hoop", "helmet", etc.) had been noted since her childhood, appeared sporadically and were transient in nature – vegetative stigmatization [18] inherent to personalities of the dramatic cluster and manifested by short-term somatic reactions.

Thus, considering the patient's constitutional premorbid state in the form of a hysterical personality disorder (PD), the presence of psychogenic provocation (father's death) of hysterical depression with conversion symptoms in the history, as well as the typical course of PD in postmenopause, one could mention the proximity of the psychopathological structure of the disorder to hystero-hypochondriac depression with a predominance of somatic symptoms within the dynamics of hysterical PD [19].

The presence of hypothymia, despondency, melancholy, ideas of "futility", "worthlessness" in the clinical picture of depression as well as typical somatovegetative complex required a differential diagnosis of the disorder with typical melancholic endogenous depression. In this context, it is necessary to note the absence of typical signs of melancholic endogenous depression. So, melancholy in this case was not vital, painful, but was realized in single cognitive manifestations: dreary thoughts about "hopelessness" of the future, tragic consequences of the disease. Sleep and appetite troubles also did not reach the level of endogenous disorder (they were not accompanied by a feeling of disturbance in the need for sleep and food, or by a sharp decrease in the duration of sleep, or marked body weight loss).

However, psychogenic manifestation of depression, the complete conformity of the psychogenic reaction to the characteristic of dramatic personality pattern and the amplification of psychopathological symptoms with manifestations of real cardiac pathology (arterial hypertension) confirm the attribution of the disorder to hysterical depression with predominance of somatic symptoms.

An integrated multidisciplinary approach was used in the treatment of the patient. Prestarium (perindopril) – a drug with proven efficacy against moderate arterial hypertension from a group of angiotensin-converting-enzyme inhibitors – was chosen for antihypertensive therapy [20, 21]. Taking into account the mentioned clinical features of depression (predominance of somatization, asthenic and cognitive impairment), brintellix (vortioxetine) was prescribed – the drug with proven efficacy for the somatic component of anxiety within the depressive episode and with the proven safety of use in patients with concomitant cardiac pathology (hypertension) [22–24].

CBT was aimed at forming skills to control the patient's experiences and emotional reactions, restructuring coping strategies with the alignment of mechanisms of interaction with manifestations of the disease and improving compliance with the attending physician.

Thus, the presented clinical case demonstrates the advantages of an integrated multidisciplinary approach to the diagnosis and therapy of cardiac and psychiatric comorbidities.

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