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Biopsychosocial Approach to the Treatment of Chronic Urological Pelvic Pain Syndrome

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Abstract

Using the example of modern biopsychosocial urological models, the article shows that the syndrome of chronic urological pelvic pain has a multi-factorial Genesis and requires an integrative, multidisciplinary approach (urologist, neurologist, and clinical psychologist).In this regard, the identification of individual urological clinical phenotypes of patients allows us to identify predisposing, provoking and supporting factors that determine the course of the disease and the response to therapy. The phenotypic urological systems are described: Marr, UPOINT, and DABBEC. The specifics of mental comorbidity (depression, panic disorder, borderline personality disorder, etc.) in this group of urological patients are detailed. The Association of symptoms of depression and changes in sexual functioning with urological chronic pelvic pain syndrome is shown. For the first time, the models of urinary-bladder-bowel-brain by L. Karsten are described; accumulated stress and falsification of anxiety, loss of control in patients with urological pelvic pain by D. Dasalakis and models of the influence of the patient's mental state on muscle-tonic manifestations in the urological clinic of Yaong Ki. Personal characteristics of patients with urological pelvic pain neuroticism, compliance, openness, conscientiousness, conscientiousness, changes in masculine identity, alexithymia, catastrophization) are systematized and described. The tactics of conducting a full and rapid comprehensive psychological assessment of a urological patient are presented.

Keywords: chronic prostatitis; chronic pelvic pain syndrome; prostatitis; biopsychosocial approach; catastrophization, neuroticism; depression

Chronic prostatitis is the most common urological disorder among men younger than 50 years. Its prevalence worldwide ranges from 9 to 16% [1]. Prostatitis is a general (umbrella) term that is applied to various forms of pelvic pain in men, including bacterial prostatitis, which occurs from 5 to 10% of cases. More than 90% of cases in clinical practice are pelvic pain in the absence of an obvious bacterial infection - non-bacterial prostatitis or prostatodynia. This disorder is often referred to as chronic prostatitis (CP) or chronic urological pelvic pain syndrome (urological chronic pelvic pain syndrome) [2; 3]. Symptoms: 1) changes in urination; 2) suprapubic pain, in the pelvic region and/or genitals; 3) changes in sexual functioning. Symptoms persist for at least 6 months without obvious pathology [4]. Despite numerous treatment tactics, most patients with urological chronic pelvic pain syndrome continue to experience discomfort [4; 5; 6] and easily fall into a vicious behavioral circle [7]. To this day, the etiology and pathogenesis remain uncertain [8]. In most cases, preference is given to biomedical models of the occurrence of urological pain [3; 4; 6; 9]. However, it has been shown that accumulated psychological stress is involved in the etiology and trajectory of urological chronic pelvic pain syndrome [10; 11; 12]. Depressive rumination, a catastrophizing style of assessing the situation, a reduced sense of physical and mental well-being, are associated with a low probability of improvement of symptoms within 12 months [13].

They have a negative impact on the quality of life of a urological patient, adherence to therapy, forming a range of therapeutic barriers (closeness, self-medication, reinsurance medication) [14; 15; 16; 17]. High levels of actual and accumulated stress throughout life in men affect the development of urological chronic pelvic pain syndrome [12; 18; 19; 20; 21]. 40% foreign general practitioners and 70% of urologists note that the psychological characteristics of the patient contribute to the development and maintenance of SHTB [6; 22]. In this regard, over the past few years, uro-psychologists have begun to be introduced in foreign urological practice during the examination and treatment of patients with SHTB [23].

The use of pharmacotherapy (alpha-blockers, antibacterial drugs) as the “first line” and urological chronic pelvic pain syndrome monotherapy is not effective [6; 8]. In this regard, the causes of prostatitis symptoms should be expanded beyond urology and may include musculoskeletal pain, myofascial pain or other functional somatic and mental syndromes [2; 4; 5]. Each patient has an individual multifaceted complex of symptoms and their manifestations. In this regard, an integrative approach to the diagnosis of urological chronic pelvic pain syndrome was proposed (MAPP Research Network’s integrated approach [23]) aimed at identifying individual urological clinical phenotypes of patients (clinical phenotype), which allows us to identify triggers of symptom outbreaks, predisposing, provoking and supporting factors that determine the course of the disease. This contributes to improving the clinical assessment of patients and treatment. It is recommended to pay attention to psychosocial reasons (symptoms of depression, feeling of helplessness, hopelessness about their condition, catastrophization) [2; 27].

High rates of depression, anxiety spectrum disorders, changes in masculine identity are often observed in patients with functional urological disorders [11; 19; 20]. According to foreign data, 78% of patients with urological chronic pelvic pain syndrome report having symptoms of depression and 60% are diagnosed with depression of “moderate” and “severe” severity or panic disorder [10; 14; 15]. Symptoms of depression in men are accompanied by a feeling of emptiness, hopelessness, which leads to problems with male identity in the form of self-doubt, the formation of fears, constant stay in psychological distress, the growth of reinsurance, as well as avoidant behavior [9; 15; 29; 30].

- Extraversion (sociability, assertiveness, energy). A low degree of severity (according to 44-item Big Five Inventory) affects the severity with the severity of urological symptoms. Changes in extroversion in the form of closeness are significantly associated with symptoms of depression, anxiety, as well as reduced self-efficacy, self-esteem and maladaptive styles of coping with stress. There is a negative association with anxiety traits and fear of negative evaluation, which are psychological factors of pain syndrome in urological patients. It affects satisfaction with the quality of life, since this personality trait leads to a higher tendency to perceive and experience positive emotions [17; 20].
- Agreeableness, which includes good nature, cooperation, altruism, empathy and is associated with greater social support, adaptive coping styles, less symptoms of depression and anxiety in patients with , urological chronic pelvic pain syndrome even with severe medical and surgical conditions. This trait is the main component of a positive, or rather flexible cognitive assessment of the situation [7; 17].

- Openness (openness to experience, intelligence, imagination, independence of position). Currently, there is no connection between the severity of urological symptoms, the response to treatment and this personality trait. However, it was found that openness to new experiences significantly correlates with a flexible, non-catastrophic perception of pain in patients with urological chronic pelvic pain syndrome [17].
- Conscientiousness (organization, responsibility) is associated with a low level of depression in patients with urological chronic pelvic pain syndrome [17].
- Consciousness (awareness). Despite the fact that high consciousness is not associated with the response to urological treatment [37], it can be assumed that this trait is involved in this process, since it is believed that low consciousness has a significant and direct impact on overall functioning, family distress, reduces labor productivity, self-efficacy, pain perception and satisfaction with the quality of life.
- Catastrophizing style of thinking. Stressful events interfere with flexible thinking and coping style in patients with urological chronic pelvic pain syndrome [11]. The presence in the patient of such a form of cognitive distortion as "catastrophization" or a catastrophizing style of assessing the situation is associated with the severity of pain manifestations and acts as a key component in the clinical phenotypic classification of male urological chronic pelvic pain [15; 32]. Catastrophization refers to the patient's tendency to use a set of negative cognitive assessments associated with bodily manifestations ("this is prostate cancer"), anxious rumination ("I can't get it out of my head", "what if, and if it is...") that increase the feeling of helplessness ("I can't think about anything think except...", "I can't do anything...", "nothing helps") [15]. This cognitive style of situation assessment is associated with depression and anxiety, but is considered a unique factor of pain syndrome [15]. Along with urological symptoms, depression, catastrophization acts as a strong psychosocial predictor of pain in urological chronic pelvic pain syndrome [16]. It is also a predictor of a decrease in satisfaction with the quality of life and changes in mental health [36].
- Changes in masculine identity are associated with a reaction to treatment, psychological distress. Masculinity determines how men interpret what is happening to them and what was in their experience. Low male self-esteem contributes to increased anxiety (the formation of fears about their own health), depression, increases the risks of sexual dysfunction, affects adherence to urological treatment [11; 20].
- Alexithymia or "alexithymic" personality (alexithymic personality). Most patients with CP have alexithymia (according to the Toronto Scale, TAS) in the form of difficulties recognizing emotions by external signs, identifying emotions by face. The ability to express emotions is reduced [37]. Developing mental disorders, and minimize the risks of relapse [7; 9; 12; 17; 33]. Before describing the specifics of personal characteristics in this group of urological patients, we note that the disease itself can cause potential changes in personality, which will affect the treatment process.

The foreign studies analyzed by us allowed us to systematize the personal characteristics of patients with urological chronic pelvic pain syndrome.

It has been shown that changes in psychological stability in this group of urological patients are associated with an anxious personality profile: high level of neuroticism, low extroversion, conscientiousness, openness and compliance [34].

- Neuroticism (irritability, touchiness, self-doubt) There is an increase in the level of neuroticism (according to 44-item Big Five Inventory) in patients with urological chronic pelvic pain syndrome. Its increase is often associated with various psychological factors: anxiety, depression, impulsivity, anger, vulnerability to stress. They are also accompanied by a severe course of urological symptoms. Patients with high neuroticism tend to form health fears. For example, prostate cancer, sexually transmitted diseases, loss of erection. The spectrum of avoidant behavior. For example, they prefer to be alone in a public toilet while urinating. Masturbation is preferred instead of sexual intercourse with a partner [16; 17; 35]. High neuroticism is associated with polymorphism of the serotonin transporter gene, which affects the modulation of interactions between life stresses and depressive reaction [16]. Vulnerability to minor stressors is observed in these urological patients and often leads to an unadaptive coping style, cognitive distortions in the perception of information and a decrease in the quality of life. The presence of changes in neuroticism is closely related to the levels of C-reactive protein and interleukin-6, which indicates that treatment tactics will be more effective if

the influence of personality traits on predisposition to inflammatory processes is taken into account [31]. Patients with low neuroticism have a significantly better response to urological treatment than those with high neuroticism. While high neuroticism in these patients is associated with a predisposition to distress in the form of predominance of negative emotions (anger, irritation) [12].ies are observed in 2-3% of patients. There is a connection between the symptoms of depression and panic disorder with pain and urinary symptoms in urological chronic pelvic pain syndrome [20]. This group of urological patients also had: irritable bowel syndrome, chronic headache, fibromyalgia, as well as various dermatological manifestations [18].

An increased tendency to somatization as a form of psychological protection is observed in men with chronic prostatitis [16]. Most patients with urological chronic pelvic pain syndrome excessively perceive situations as stressful, and react to them with urological symptoms, in connection with this, the term stress-induced prostatitis (stress prostatitis) has been proposed as the equivalent of a panic attack [31]. It is shown that men react with a recurrence of prostatitis due to overstrain at work, accumulated stress, financial stress.17-25% of men note that the occurrence or aggravation of prostatitis symptoms is associated with divorce. 4-6% associate the appearance of symptoms with difficulties in planning children, the loss of a child during the pregnancy of a partner [11; 14; 19].

Symptoms of depression, hypochondriacal fixation on the state of health in patients with urological chronic pelvic pain syndrome are accompanied by changes in sexual health [16]. For example, there is a fixation on the state of erection. 45-50% of men with prostatitis have changes in sexual health, which affects the frequency of contacts (87%), prevents or stops ongoing sexual relations (67%), and also prevents the establishment of new relationships (43%) [16]. There is an increased sense of isolation, avoidance of sexual and romantic relationships. In this regard, when treating patients with urological chronic pelvic pain syndrome, it is necessary to take into account the connection of sexual problems, depressive and pain symptoms [12; 16; 17].

In patients with urological chronic pelvic pain syndrome, the following character accentuations are observed: excitability, jamming, anxiety, hyperthymia and pedantry [20]. According to the questionnaire on the severity of psychopathological symptoms (SSL-90-R), patients with urological chronic pelvic pain syndrome have a “psychosomatic” personality profile (psychosomatic personality): increased somatization, interpersonal sensitivity and anxiety [9; 14]. Borderline personality disorder or narcissistic personality disorder may be observed [32].

Conclusion

- Chronic urological pelvic pain syndrome has a multifactorial genesis, in this regard, an integrative urological approach (MAPP Research Network’s integrated approach) should be used during examination and treatment, which takes into account the individual biopsychosocial clinical phenotype of the patient.
- The use of diagnostic systems UPOINT, DABBEC, MAPP involves the inclusion of clinical psychologists in the examination process of patients with urological chronic pelvic pain syndrome to exclude stress-induced prostatitis. Identification of predisposing, provoking, supportive psychosocial factors that determine the course of the disease, the response to therapy, which will minimize the risks of developing a refractory course.
- Models of urinary bladder-intestine-brain L. Karsten; accumulated stress and falsification of anxiety, loss of control in patients with urological chronic pelvic pain syndrome D. Dasalakis and the model of the influence of the patient’s mental state on musculotonic manifestations in the Yaong Ki Kwu urological clinic showed the influence of mental well-being and personal characteristics of the patient on the occurrence and course of urological chronic pelvic pain syndrome. This involves the use of not only medicinal, but also non-medicinal methods (cognitive behavioral psychotherapy) for the treatment of patients.
- Patients with urological chronic pelvic pain syndrome have severe psychosocial dysfunction in the form of high rates of depression and anxiety spectrum disorders (panic disorder). This is accompanied by a feeling of emptiness and hopelessness of their situation, which increases reinsurance, as well as avoidant behavior, suicidal tendencies. The relationship between sexual problems in a patient with urological chronic pelvic pain syndrome, depressive and pain symptoms should be taken into account.
- The personal characteristics of reinforcing and supporting urological chronic pelvic pain syndrome include increased somatization, personal and social anxiety (interpersonal sensitivity), neuroticism, alexithymia, conscientiousness and compliance. There

is reduced awareness, extraversion and openness to new things.

- Patients with urological chronic pelvic pain syndrome have a catastrophizing style of thinking. This leads to reduced satisfaction with the quality of life, risks of depression, panic disorders and increased severity of pain manifestations. In this regard, catastrophization should be considered as one of the main targets of cognitive behavioral psychotherapy for this group of urological patients.
- Changes in the masculine ("male") identity in patients act as a supportive factor of urological chronic pelvic pain syndrome. They are accompanied by feelings about the inconsistency of a particular role; constant stay in hypermobility with the formation of excessive anxiety for health; the desire to get rid of obligations with the desire to pay attention and regret.
- A comprehensive full clinical and psychological assessment of a urological patient is recommended to be carried out taking into account the assessment of: symptoms of prostatitis, depression (fatigue, hopelessness), sexual dysfunction, perception of situations as stressful, pain syndrome (severity, catastrophization of pain), health anxiety, changes in sleep, satisfaction with the quality of life and personal characteristics (neuroticism, alexithymia, "psychosomatic personality").
- Rapid assessment of the mental state of a patient with urological chronic pelvic pain syndrome includes scales for assessing mental well-being (PHQ-SADS), pain catastrophization (PCS) and neuroticism (EPQ).

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