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MODERN APPROACHES TO THE TREATMENT OF PREMENSTRUAL SYNDROME

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Abstract:

PMS symptoms can occur at various ages, from the onset of menarche to the onset of menopause. During puberty, the prevalence of PMS ranges from 20% to 80.4%. Mild PMS is optimally managed with non-drug approaches, including exercise, lifestyle modification, and proper nutrition. Patients with moderate to severe PMS with predominantly neuropsychiatric symptoms should be monitored in collaboration with related specialists; it is important to differentiate the syndrome from mental illness and extragenital pathology. Despite the availability of numerous different methods and pharmacological agents for the treatment of PMS, choosing the most optimal treatment strategy is fraught with certain difficulties. Many treatment methods do not eliminate the risk of patients "not responding" to therapy, necessitating further study of the disease's pathogenesis and the development of preventive measures based on modern medical advances.

Keywords: *treatment, disorders, premenstrual syndrome*.

According to numerous studies, predictors of premenstrual syndrome (PMS) include a hereditary predisposition to affective disorders, previous traumatic stress, traumatic brain injury, neuroinfections, concomitant extragenital diseases, smoking, eating disorders, and a high body mass index. The prevalence of PMS, according to numerous studies, ranges from 25% to 80% [1–7]. The inconsistency of the data is due to the diversity of clinical manifestations, the inconsistency of symptom severity, and the lack of clear diagnostic criteria for PMS. The definition of PMS is as follows: a complex pathological symptom complex of neuropsychiatric, autonomic-vascular, and metabolic-endocrine disorders, comprising at least three to four distinct symptoms that appear two to ten days before menstruation and disappear immediately after its onset or within the first few days.

Neuromycological symptoms include, for example, irritability, depression, tearfulness, and aggression.

Vegetative-vascular disorders include headache, dizziness, nausea, vomiting, tachycardia, heart pain, and changes in blood pressure, both upward and downward.

Metabolic-endocrine disorders are characterized by breast tenderness and pain, swelling, flatulence, thirst, shortness of breath, and fever.

Premenstrual syndrome primarily affects women of childbearing age. Although rare, it can sometimes begin in adolescence. Some doctors, based on numerous studies, note that the more severe this condition is, the more severe the menopause.

Accordingly, PMS is classified as mild or severe in severity. Severity can be determined, for example, using the Rudolf Moos questionnaire, developed in 1969. You can then independently determine the severity of the condition and then consult a doctor to determine how to manage your condition.

Recent studies show that the prevalence of PMS is independent of age at menarche, education level, marital status, social status, and ethnicity. Premenstrual dysphoric disorder (PMDD), according to the 5th edition of the American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM-V), is a distinct nosological entity since 2013. It is classified as a borderline neuropsychiatric disorder characterized by emotional and personality disturbances, adjustment disorders, and somatized depression, the clinical symptoms of which manifest with the onset of menstruation and recur cyclically during the luteal phase [10]. Results of studies meeting strict DSM-V criteria, including daily prospective assessment of PMS symptoms over two menstrual cycles, suggest that the prevalence of PMDD is 1.5–5% or less.

Currently, various theories exist to explain the pathogenetic mechanisms of PMS development. It is believed that the occurrence of PMS is associated with the hormonal activity of the ovaries, the influence of progesterone metabolites (pregnenolone, allopregnanolone) and other sex steroids on the activity of the neurotransmitters serotonin, dopamine, norepinephrine, gamma-aminobutyric acid (GABA), choline, which provide neurohumoral regulation. The influence of allopregnanolone, the main metabolite of progesterone, on the GABAergic system of the central nervous system contributes to a neuroprotective and anxiolytic effect, which determines the body's

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behavioral responses to various stimuli. According to experimental studies, disturbances in progesterone (PG) metabolism in the monoaminergic system, as well as changes in the activity of PG receptors in hippocampal neurons contribute to psychoemotional maladaptation and provoke various affective disorders and cognitive impairment [7]. An outstanding psychiatrist of the 19th century. Dr. Mandoli was one of the first to point out the causal relationship between cyclical ovarian activity and mental disorders, which served as the basis for radical surgical treatment. The first successful bilateral oophorectomy was performed by the American surgeon R. Batty in 1869 for a large dermoid ovarian cyst. Subsequently, from 1872 until the mid-20th century, "Betty's operation" became a common method of treating menstrual dysphoria in the United States and Britain. The lack of understanding among 19th-century physicians of the symptoms of menopause and late hypoestrogenic complications made it possible to consider such a disabling method necessary for the treatment of hysteria and insanity associated with menstrual function [16]. Currently, it is difficult to imagine such treatment with such a limited indication. Nevertheless, a number of observations confirm the high effectiveness of bilateral oophorectomy, indicating the role of ovarian functional activity in the development of PMS symptoms.

Clinical guidelines for the diagnosis and treatment of PMS have not yet been developed in Russia. The standardization of primary treatment methods has been thoroughly addressed by the consensus of the International Society of Premenstrual Disorder (ISPMD), which included gynecologists, psychiatrists, psychologists, and pharmacologists. According to the ISPMD consensus, the primary treatments for PMS include therapy targeting central nervous system activity, including the metabolism of the neurotransmitter serotonin, and therapy aimed at suppressing ovulation [2]. The Royal College of Obstetricians and Gynecologists (RCOOG) in the UK distinguishes four lines of therapy:
1st line – exercise, cognitive behavioral therapy (CBT), combination hormonal therapy in a cyclic or continuous regimen, low-dose selective serotonin reuptake inhibitors (SSRIs) administered continuously or in phase 2;
Second-line: cyclic estrogen-progestin therapy with low-dose transdermal estradiol (100 mcg) with micronized progesterone (100–200 mg) or a levonorgestrel-releasing system (LNG-IUS 52 mg), high-dose SSRIs, either continuously or in the second phase;
Third-line: gonadotropin-releasing hormone (GnRH) agonists + add-back therapy;
Fourth-line: total hysterectomy with bilateral oophorectomy, followed by hormone replacement therapy (HRT).

PMS affects the physical, mental, and social well-being of patients and is an interdisciplinary problem that requires the attention of related specialists (neurologists, endocrinologists, psychotherapists, and psychologists). A wide range of behavioral and physical symptoms, in the absence of specific laboratory signs and clearly defined diagnostic criteria for PMS in clinical practice, creates certain difficulties for timely diagnosis and treatment selection. Given the diversity of clinical forms and severity of the disease, a comprehensive and individualized approach is necessary in the treatment of PMS. It has been established that PMS is more common in women with low physical activity, an unbalanced diet, nicotine addiction, and an irregular sleep-wake cycle [1, 2, 4, 6]. This explains the opinion that the correction of PMS symptoms is recommended to begin with measures aimed at modifying lifestyle. Physical therapy, combined with preventive and therapeutic measures, improves the body's adaptive responses, positively impacts autonomic nervous system regulation, the cardiovascular and immune systems, and improves the physiological functioning of internal organs and psychoemotional state. Several studies have demonstrated the positive impact of moderate physical activity on the clinical course of PMS. Daily morning exercises (15–20 minutes), yoga, breathing exercises, Pilates, dancing, swimming, and other moderate physical activities are recommended.

Endocrinologists, dietitians, nutritionists, and gynecologists offer dietary recommendations to help reduce the severity of PMS symptoms. Foods rich in magnesium, vitamins B and E, trace elements, antioxidants, polyunsaturated fatty acids, and phytoestrogens. Consumption of table salt, coffee, alcohol, fast food, and foods with a high glycemic index should be limited. Scientists recommends reducing the proportion of protein foods and simple carbohydrates, while increasing the consumption of foods rich in tryptophan.

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