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OPTIMIZATION OF DIAGNOSIS AND TREATMENT OF PATIENTS WITH CHRONIC ABACTERIAL PROSTATITIS

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Abstract. Chronic abacterial prostatitis (CAP) is one of the most complex and insufficiently studied diseases of the male urogenital system. This condition is characterized by prolonged pain syndrome, urinary dysfunction, decreased sexual activity, and negative effects on the psychoemotional state of patients. According to statistical data, approximately 80–90% of all prostatitis cases are represented by the abacterial form. The multifactorial etiology and pathogenesis of the disease, as well as the absence of a clearly identified microbiological cause, complicate the diagnostic and therapeutic process. Therefore, optimizing the diagnosis and treatment of patients with CAP remains one of the most pressing challenges in modern urology.

Keywords: Chronic abacterial prostatitis, diagnosis, multimodal therapy, prostate, treatment, NIH-CPSI, quality of life.

Chronic abacterial prostatitis has long been considered a “diagnosis of exclusion.” Currently, according to the classification of the National Institutes of Health (NIH), it is recognized as Type III prostatitis — chronic pelvic pain syndrome (CPPS). This condition is characterized by the absence of detectable infectious agents in the prostate gland, although inflammatory processes may be present as evidenced by clinical and laboratory findings.

The pathogenesis of CAP involves impaired microcirculation in the prostate gland, neuroendocrine regulatory imbalance, immune system alterations, autoimmune mechanisms, and dysfunction of the autonomic nervous system. Scientific studies indicate that pelvic floor muscle hypertonicity and myofascial pain syndrome play a significant role in CAP development. Reduced blood supply to the prostate leads to secretion stagnation, resulting in clinical manifestations similar to inflammation. Additionally, disturbances in androgen metabolism and decreased sensitivity of testosterone receptors negatively affect the functional state of prostate tissue.

One of the major challenges in diagnosing CAP is the nonspecific nature of symptoms. Patients often report perineal pain, suprapubic discomfort, lower back and sacral pain, frequent and difficult urination, discomfort during ejaculation, and decreased libido. These symptoms may also occur in other urological or neurological conditions. Therefore, CAP diagnosis requires a comprehensive approach combining clinical, laboratory, and instrumental examinations.

Modern diagnostic algorithms widely employ the NIH Chronic Prostatitis Symptom Index (NIH-CPSI), which evaluates pain severity, urinary symptoms, and quality of life. Laboratory tests include prostate secretion and ejaculate analysis; however, the absence of microorganisms is typical for CAP. Transrectal ultrasound examination allows assessment of structural changes in the prostate gland, fibrotic areas, and blood flow status.

For many years, antibiotics were considered the primary treatment option; however, numerous studies have demonstrated their limited effectiveness in CAP. Currently, treatment optimization is

based on a multimodal approach. Alpha-adrenergic blockers reduce smooth muscle tone in the prostate gland and bladder neck, improving urinary function. Nonsteroidal anti-inflammatory drugs (NSAIDs) reduce pain and suppress inflammatory mediators.

Physiotherapeutic methods — including prostate massage, magnetotherapy, laser therapy, and electrophoresis — improve blood circulation in the prostate and enhance drug effectiveness. In recent years, biofeedback therapy and pelvic floor relaxation exercises have shown positive results in CAP patients. Psychotherapy and stress management techniques are also essential, as psychosomatic factors play a leading role in disease progression.

Phytotherapy and biologically active supplements are increasingly used in complex treatment regimens. Scientific studies confirm the beneficial effects of saw palmetto extract, quercetin, zinc, and omega-3 fatty acids on prostate health. An individualized approach, identifying the dominant pathogenic factor in each patient and targeting therapy accordingly, allows effective CAP management.

The clinical course of CAP is often prolonged and wave-like, characterized by alternating periods of remission and exacerbation. Exacerbations are typically associated with hypothermia, stress, physical strain, prolonged sitting, or irregular sexual activity. Clinical observations indicate that in many patients, the disease initially presents with mild urinary symptoms, which over time are replaced by predominant pain syndrome. This significantly reduces quality of life, limits social activity, and increases the risk of depressive states.

Modern scientific perspectives consider CAP not merely as a localized prostate pathology but as a complex functional disorder involving the entire organism. Autonomic nervous system imbalance plays a crucial role in CAP pathogenesis. Disruption of the balance between sympathetic and parasympathetic activity leads to vascular spasm in pelvic organs, persistent muscle tension, and amplification of pain impulses within the central nervous system. Central sensitization — decreased pain perception threshold — is also commonly observed in CAP patients.

Immunological studies have revealed elevated levels of inflammatory mediators such as interleukin-6, interleukin-8, and tumor necrosis factor-alpha (TNF-α) in prostate tissue. This confirms ongoing inflammatory processes even in the absence of bacterial infection. Some researchers suggest that CAP may have autoimmune components, as prostate-specific autoantibodies have been detected in certain cases. These findings indicate the necessity of incorporating functional and immunological assessments into the diagnostic process.

Differential diagnosis plays a crucial role in CAP evaluation. The condition must be distinguished from bladder pain syndrome, benign prostatic hyperplasia, urethritis, neuropathic pain, and even spinal pathologies. Comprehensive instrumental examinations, including urodynamic studies, Doppler ultrasound, and when necessary, magnetic resonance imaging, are recommended. These methods allow more accurate assessment of blood flow, tissue elasticity, and fibrosis degree in the prostate gland.

There is no universal treatment strategy for CAP. Identification of the leading pathogenic factor in each patient is essential. When urinary symptoms predominate, alpha-adrenergic blockers are considered first-line therapy. If pain syndrome is dominant, analgesics, NSAIDs, and medications targeting neuropathic pain are prescribed.

In recent years, the multimodal therapy concept has gained widespread acceptance. This approach integrates pharmacological, physiotherapeutic, and psychological interventions. Clinical

studies demonstrate significant improvement in NIH-CPSI scores among patients receiving multimodal therapy. In particular, pelvic floor relaxation techniques and cognitive-behavioral therapy effectively reduce pain intensity and prolong remission periods.

Conclusion

Chronic abacterial prostatitis is a complex, multifactorial, and long-term disease of the male urogenital system. Its progression is associated not only with local prostate alterations but also with neurological, immunological, and psychoemotional factors. The complexity of its etiology and pathogenesis limits the effectiveness of a single standardized treatment approach. Therefore, optimization of CAP diagnosis and treatment requires a comprehensive and individualized strategy.

Modern scientific evidence indicates that accurate diagnosis based on the integration of clinical, laboratory, and instrumental assessments is essential for effective CAP management. Combining pharmacological therapy with physiotherapy, psychotherapy, and lifestyle modifications significantly improves patient quality of life. The multimodal therapy concept remains one of the most effective strategies for reducing pain, decreasing exacerbation frequency, and achieving long-term remission.

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