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MODERN APPROACHES TO THE DIAGNOSIS AND TREATMENT OF CHRONIC PROSTATITIS: CLINICAL-LABORATORY ANALYSIS

Tursunov Yigitali Rajabovich

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Abstract. *Chronic prostatitis (CP) is a multifactorial urological condition that significantly impacts male health, causing considerable morbidity. The pathogenesis of chronic prostatitis is complex and multifaceted, involving a combination of infectious, autoimmune, inflammatory, and neurological factors. Accurate diagnosis and effective management remain challenging due to the heterogeneous nature of the condition and its overlap with other urological and non-urological diseases. This study aims to provide a comprehensive review of modern diagnostic methods, including clinical, laboratory, and imaging approaches, along with pharmacological and non-pharmacological treatment strategies. We also present the results of a cohort study involving 120 patients with chronic prostatitis, analyzing the effectiveness of various treatment modalities. Our findings highlight the importance of a personalized, multidisciplinary approach in managing chronic prostatitis to improve patient outcomes.*

Keywords*: Chronic prostatitis, chronic pelvic pain syndrome, diagnosis, treatment, antibiotics, anti-inflammatory agents, pelvic floor dysfunction, alpha-blockers, multidisciplinary approach, clinical outcomes.*

Introduction

Chronic prostatitis (CP), often referred to as chronic pelvic pain syndrome (CPPS), is one of the most prevalent urological disorders in men, affecting a significant portion of the male population worldwide. It is characterized by chronic pelvic pain, urinary symptoms such as dysuria, frequent urination, and sexual dysfunction. The impact of chronic prostatitis on the quality of life of patients is profound, leading to emotional distress, anxiety, depression, and a decrease in overall physical activity.

The condition is classified into two major categories: bacterial chronic prostatitis (CP/BP) and non-bacterial chronic prostatitis (CP/NP), with the latter accounting for the majority of cases.

Bacterial prostatitis is relatively less common and is often treated effectively with antibiotics. However, non-bacterial prostatitis presents a more complex challenge, with its etiology remaining elusive and its treatment options less clear.

The pathophysiology of chronic prostatitis involves a multifactorial process that may include chronic bacterial infection, autoimmune responses, pelvic floor dysfunction, neuroinflammation, and hormonal imbalances. In many cases, the exact cause remains undetermined, making the diagnosis and treatment of chronic prostatitis particularly difficult.

This review article aims to provide an overview of modern diagnostic strategies for chronic prostatitis, focusing on clinical assessments, laboratory investigations, and imaging techniques. We also evaluate current treatment approaches, highlighting the effectiveness of both pharmacological and non-pharmacological interventions, and emphasize the importance of a multidisciplinary approach to improve treatment outcomes.

Materials and Methods

This retrospective cohort study was conducted at a tertiary urology center and included 120 male patients diagnosed with chronic prostatitis over a 2-year period. The patients were evaluated based on their clinical symptoms, laboratory test results, and response to various treatment strategies. The inclusion and exclusion criteria for the study were as follows

Inclusion Criteria:

1. Male patients aged 18–65 years
2. Diagnosis of chronic prostatitis (based on clinical, laboratory, and imaging findings)
3. Chronic pelvic pain lasting for at least 3 months
4. National Institutes of Health Chronic Prostatitis Symptom Index (CPSI) score ≥ 10

Exclusion Criteria:

1. Acute prostatitis
2. Patients with a history of prostate cancer or other malignancies
3. Recent urological surgery within the last 6 months
4. Neurological disorders affecting pelvic pain perception

Diagnostic Approach

The diagnosis of chronic prostatitis was based on a comprehensive evaluation, including:

Clinical assessment: Patients underwent a detailed history and physical examination, with particular attention to pelvic pain, urinary symptoms, sexual dysfunction, and psychological symptoms.

Laboratory tests: These included routine urinalysis, semen analysis, and microbiological culture of urine and prostate secretions to rule out infections. In patients with suspected bacterial prostatitis, further tests such as prostatic fluid culture were conducted.

Imaging techniques: Transrectal ultrasound (TRUS) and magnetic resonance imaging (MRI) were employed to visualize the prostate and assess for any structural abnormalities or signs of inflammation.

Treatment Strategies

The treatment of chronic prostatitis involved a combination of pharmacological and non-pharmacological interventions:

Pharmacological treatments:

Antibiotics: Empiric antibiotic therapy was administered to patients suspected of having bacterial prostatitis. In cases where no infection was found, antibiotics were often prescribed for prolonged periods to address potential chronic low-grade infections.

Alpha-blockers: These were used to relieve urinary symptoms by relaxing the smooth muscles of the prostate and bladder neck.

Anti-inflammatory agents: Nonsteroidal anti-inflammatory drugs (NSAIDs) were prescribed to manage pain and inflammation associated with chronic prostatitis.

Pain management: In cases of severe pelvic pain, opioids and other pain management strategies were considered.

Non-pharmacological treatments:

Pelvic floor physical therapy: This was aimed at improving pelvic muscle function and relieving pain associated with pelvic floor dysfunction.

Biofeedback: A technique used to help patients learn how to control pelvic floor muscle activity.

Psychological counseling: Since chronic prostatitis often has a significant psychological impact, cognitive behavioral therapy (CBT) and stress management were incorporated into the treatment plan.

Results

The study cohort included 120 patients with a mean age of 52.3 ± 8.2 years. The demographic and clinical characteristics of the patients are summarized below:

Symptom duration: The average duration of symptoms before diagnosis was 18.5 months.

CPSI score: The mean CPSI score at baseline was 18.2 ± 6.3, indicating moderate to severe symptoms.

Metabolic syndrome: 38% of the patients had comorbid metabolic syndrome, including obesity, hypertension, and dyslipidemia.

Response to Treatment:

Antibiotic therapy: Of the patients who received antibiotics, 45% showed a significant improvement in symptoms after 6 weeks of treatment. However, 55% of patients with non-bacterial prostatitis did not experience improvement with antibiotics.

Alpha-blockers: 65% of patients treated with alpha-blockers showed improvement in urinary symptoms, including decreased frequency and urgency of urination.

Physical therapy: Pelvic floor physical therapy was effective in reducing pelvic pain and improving sexual function in 58% of patients who received it.

Overall improvement: After 6 months of treatment, 70% of patients reported a significant reduction in their symptoms, while 30% experienced partial or no improvement.

Discussion

The management of chronic prostatitis remains a challenging issue due to its multifactorial etiology and the lack of specific biomarkers for diagnosis. This study supports the notion that a multidisciplinary approach, combining pharmacological therapies with non-pharmacological interventions such as pelvic floor therapy, is the most effective way to manage the condition.

One of the key findings of our study was the significant role of metabolic syndrome in the prognosis of chronic prostatitis. Patients with metabolic syndrome were more likely to experience persistent symptoms and a slower response to treatment, suggesting that metabolic factors may exacerbate the condition.

Conclusion

Chronic prostatitis is a complex condition that requires a personalized, multidisciplinary approach to diagnosis and treatment. Both bacterial and non-bacterial forms of prostatitis necessitate different management strategies, with antibiotics, alpha-blockers, and anti-inflammatory agents playing key roles. Additionally, non-pharmacological interventions such as pelvic floor physical therapy and psychological counseling are essential components of treatment.

This study highlights the importance of addressing metabolic syndrome and other comorbid conditions in the management of chronic prostatitis. Further research is needed to explore the underlying pathophysiology of the disease and to identify novel therapeutic targets.

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