

Clinical and Monitoring Approach to The Management of Chronic Pelvic Pain Syndrome in Women with Gynecological Diseases

D. A. Najmitdinova

PhD Assistant, Department of Obstetrics and Gynecology, ASMI, Andijan State Medical Institute, Andijan, Uzbekistan

D. R. Abduvakhidova

1st year Master's student, Department of Obstetrics and Gynecology, ASMI, Andijan State Medical Institute, Andijan, Uzbekistan

Article Received: 25/03/2026, Article Accepted: 22/04/2026, Article Published: 13/05/2026

Abstract

Chronic pelvic pain syndrome (CPPS) in women with gynecological diseases is a complex and multifactorial clinical condition characterized by persistent or recurrent pelvic pain lasting for at least 6 months. Despite advances in gynecology, CPPS remains a diagnostic and therapeutic challenge due to its heterogeneous etiology, involving gynecological, urological, gastrointestinal, musculoskeletal, and psychosomatic factors. The condition significantly affects the quality of life, reproductive health, psychological status, and social functioning of patients. Modern studies emphasize the importance of a multidisciplinary and individualized approach in the diagnosis and management of CPPS. The prevalence of chronic pelvic pain among women of reproductive age varies widely, reaching up to 15-20% depending on population and diagnostic criteria. CPPS is commonly associated with endometriosis, adenomyosis, pelvic inflammatory disease, postoperative adhesions, and pelvic floor dysfunction. Contemporary literature highlights the role of neurogenic inflammation, central sensitization, and chronic pain syndromes in its pathogenesis. This review summarizes current data on epidemiology, etiopathogenesis, clinical manifestations, diagnostic approaches, and modern principles of monitoring and treatment of chronic pelvic pain syndrome in women with gynecological pathology. Special attention is given to differential diagnosis and individualized therapeutic strategies.

Keywords: Chronic pelvic pain syndrome, gynecology, pelvic pain, endometriosis, diagnosis, clinical management, multidisciplinary approach.

Introduction

Chronic pelvic pain syndrome (CPPS) in women with gynecological diseases is considered an important and complex clinical problem in modern gynecology. It represents a multifactorial condition characterized by persistent or recurrent pelvic pain lasting for at least six months and associated with functional, inflammatory, neurogenic, and psychosomatic mechanisms. CPPS is frequently encountered in clinical practice and significantly affects reproductive health, quality of life, and psychological well-being of women.

Although chronic pelvic pain may initially be related to identifiable gynecological conditions, in many cases pain persists even after treatment of the primary pathology.

This suggests the involvement of central sensitization and long-term neuroplastic changes in pain processing pathways. CPPS is commonly associated with gynecological disorders such as endometriosis, adenomyosis, chronic pelvic inflammatory disease, pelvic adhesions, and uterine fibroids.

The condition has gained increasing attention due to its complex pathogenesis, diagnostic difficulties, and limited effectiveness of standard treatment approaches. Modern literature emphasizes the importance of a multidisciplinary approach in evaluation and management, including gynecological, neurological, psychological, and rehabilitation aspects.

The aim of this review is to summarize contemporary literature data regarding the clinical manifestations, diagnostic features, and modern approaches to monitoring and management of chronic pelvic pain syndrome in women with gynecological diseases [1,2].

Epidemiology

The epidemiological distribution of chronic pelvic pain syndrome (CPPS) in women demonstrates considerable variability across different populations worldwide, with reported prevalence ranging approximately from 5% to 25%. Such significant differences may be explained by multiple factors, including heterogeneity of diagnostic criteria, variations in study design, differences in healthcare access, and population-specific characteristics. In addition, the presence of underlying gynecological diseases, psychosocial conditions, and comorbid systemic disorders further contributes to epidemiological variability [1,3].

Recent epidemiological studies indicate that chronic pelvic pain is one of the most common complaints in gynecological practice and represents a major cause of medical consultations among women of reproductive age. In particular, population-based studies have shown that a significant proportion of women experience chronic or recurrent pelvic pain associated with gynecological pathology, with endometriosis being one of the most frequently identified underlying causes.

Age-related analysis demonstrates that CPPS is predominantly observed in women of reproductive age, especially between 20 and 45 years. However, it may also persist in perimenopausal and postmenopausal women, particularly in cases associated with chronic inflammatory conditions, postoperative adhesions, or long-standing gynecological disorders. The higher prevalence in reproductive age may be related to hormonal activity, cyclical uterine and ovarian function, and increased incidence of gynecological diseases during this period of life [4,5].

With regard to gender distribution, chronic pelvic pain syndrome (CPPS) is exclusively observed in women due to its close association with gynecological anatomy and reproductive system function. However, the prevalence and severity of CPPS may vary among different subgroups of women depending on age, reproductive status, and the presence of underlying gynecological or systemic diseases. These variations may also reflect differences in study populations, diagnostic criteria, and methodological approaches used in clinical research.

Etiology and Pathogenesis

The exact etiology and pathogenesis of chronic pelvic pain syndrome in women with gynecological diseases have not yet been fully elucidated. Contemporary literature considers CPPS to be a multifactorial condition resulting from the interaction of gynecological, neurological, endocrine, immunological, and psychosomatic factors.

Among gynecological causes, endometriosis, adenomyosis, chronic pelvic inflammatory disease, pelvic adhesions, and uterine fibroids are regarded as the most

significant contributors to chronic pelvic pain. These conditions may induce persistent inflammatory processes and structural changes in pelvic tissues, leading to long-term pain generation. Neurogenic mechanisms play a central role in the development of CPPS. Peripheral and central sensitization, along with dysregulation of pain modulation pathways, contributes to pain persistence even after resolution of the primary pathological process. Hormonal and endocrine factors are also important in the pathogenesis of CPPS. Fluctuations in estrogen and progesterone levels may influence inflammatory responses, uterine contractility, and pain perception, thereby contributing to symptom chronicity.

In addition, psychological and psychosocial factors, including chronic stress, anxiety, and depression, are frequently associated with CPPS and may exacerbate pain perception through neuroendocrine and autonomic nervous system mechanisms. Local pelvic factors such as adhesions, pelvic floor muscle dysfunction, venous congestion, and postoperative changes may further contribute to the development and persistence of chronic pelvic pain over time [6,7].

Chronic inflammatory processes within the pelvic organs are considered important pathogenetic factors in chronic pelvic pain syndrome (CPPS) in women with gynecological diseases. Persistent low-grade inflammation in conditions such as endometriosis, adenomyosis, and chronic pelvic inflammatory disease may induce structural and functional alterations in pelvic tissues, leading to sensitization of nociceptive pathways and the development of chronic pain.

Hormonal and metabolic factors are also involved in the pathogenesis of CPPS. Endocrine disturbances, particularly those affecting estrogen and progesterone balance, may influence inflammatory activity, uterine contractility, and pain perception. In addition, metabolic conditions such as obesity and insulin resistance may contribute to a pro-inflammatory state, thereby exacerbating pelvic pain symptoms.

Neurogenic mechanisms represent another key component in CPPS development. Peripheral and central sensitization, along with altered pain modulation in the central nervous system, may result in persistent pain even after resolution of the primary gynecological pathology. These mechanisms contribute to the chronification and amplification of pain signals.

Psychosocial factors, including chronic stress, anxiety, and depressive disorders, are frequently associated with CPPS. These factors may enhance pain perception and contribute to dysregulation of the hypothalamic–pituitary–adrenal axis, further maintaining chronic pain states.

Local pelvic factors such as mechanical adhesions, postoperative scarring, pelvic floor muscle dysfunction, and venous congestion may additionally contribute to the persistence and exacerbation of pelvic pain [8].

Histopathological examination of tissues in CPPS-associated gynecological conditions often reveals chronic inflammatory infiltration, fibrosis, vascular changes, and neurovascular remodeling. These findings support the

multifactorial nature of CPPS, involving inflammatory, neuroendocrine, neurogenic, and structural components.

A particularly strong association has been consistently documented [10] between CPPS and gynecological disorders such as endometriosis and chronic pelvic inflammatory disease. Many patients present with overlapping conditions, suggesting a common pathogenetic mechanism involving chronic inflammation, tissue remodeling, and central sensitization processes.

Clinical Manifestations

Clinically, chronic pelvic pain syndrome (CPPS) in women is characterized by persistent or recurrent pain localized in the lower abdomen, pelvic region, or pelvic floor, lasting for at least six months. The pain may vary in intensity, duration, and character, ranging from dull, aching discomfort to sharp, cramping, or stabbing sensations. In many cases, the pain demonstrates a cyclical pattern, often exacerbating during menstruation, sexual activity, or prolonged physical exertion.

The clinical presentation of CPPS is highly heterogeneous and may differ significantly among patients depending on the underlying gynecological pathology. In cases associated with endometriosis or adenomyosis, deep pelvic pain and dysmenorrhea are commonly observed, often accompanied by dyspareunia and dyschezia. In chronic pelvic inflammatory disease, pain may be accompanied by signs of persistent inflammation and pelvic tenderness. Postoperative adhesions may contribute to chronic, localized, and movement-related pain due to mechanical traction on pelvic structures.

A common clinical feature of CPPS is the presence of referred pain, where pain may radiate to the lower back, lumbosacral region, hips, or inner thighs. This phenomenon is associated with shared neural pathways and complex pelvic innervation. In addition, many patients report urinary and gastrointestinal symptoms, including urinary frequency, urgency, bloating, and bowel discomfort, which further complicate the clinical picture.

In the majority of cases, CPPS is associated with significant functional impairment, including reduced physical activity, sexual dysfunction, sleep disturbances, and decreased quality of life. Psychological manifestations such as anxiety, irritability, and depressive symptoms are frequently observed and may be both a consequence and a contributing factor to chronic pain perception [11].

Classification of Clinical Forms

Several clinical forms of chronic pelvic pain syndrome (CPPS) in women with gynecological diseases have been described based on the predominant pain characteristics, anatomical localization, and associated clinical features.

The cyclic form is characterized by pain that is closely related to the menstrual cycle. In this type, symptoms typically worsen during menstruation and are commonly associated with hormonally dependent gynecological conditions such as endometriosis and adenomyosis.

The non-cyclic (continuous) form is characterized by persistent pelvic pain that is not directly related to the menstrual cycle. This form is often associated with chronic inflammatory processes, pelvic adhesions, or postoperative changes, and tends to demonstrate a more stable but long-lasting clinical course.

The deep pelvic pain type is characterized by pain localized in the lower pelvis with possible radiation to the lower back, sacral region, or inner thighs. This form is frequently observed in patients with endometriosis or deep infiltrating pelvic pathology and is often associated with dyspareunia.

The superficial or musculoskeletal type is characterized by pain originating from pelvic floor muscle dysfunction. It is often accompanied by muscle tenderness, spasm, and increased pain during physical activity or prolonged standing.

The mixed type represents a combination of two or more pain mechanisms, including inflammatory, neurogenic, and musculoskeletal components. This form is considered the most common in clinical practice due to the multifactorial nature of CPPS.

Among these variants, the mixed and cyclic forms are most frequently encountered in gynecological practice. The clinical presentation may change over time, reflecting the progressive and multifactorial nature of CPPS and its underlying gynecological disorders [12].

Symptoms

In many cases, chronic pelvic pain syndrome (CPPS) in women with gynecological diseases presents as a persistent or recurrent pain condition without clearly identifiable acute clinical signs. Therefore, the syndrome is frequently recognized only after extensive clinical evaluation, and in some cases, patients may initially attribute symptoms to normal menstrual discomfort or transient functional disorders. The chronic and multifactorial nature of CPPS often contributes to delayed diagnosis and underestimation of symptom severity.

Nevertheless, symptomatic manifestations of CPPS vary significantly depending on the underlying gynecological pathology and involved pain mechanisms. Patients commonly report persistent dull, aching, or pressure-like pain localized in the lower abdomen or pelvic region. The pain may be constant or intermittent and is often exacerbated by menstruation, sexual intercourse, physical activity, or prolonged standing.

One of the most frequently reported symptoms is dysmenorrhea, particularly in patients with endometriosis or adenomyosis. This symptom may be associated with severe menstrual cramps, increased pelvic tenderness, and significant impairment of daily activities during the menstrual period.

Dyspareunia is another common complaint in CPPS, especially in cases involving deep infiltrating endometriosis, pelvic adhesions, or pelvic floor muscle dysfunction. Pain during or after sexual intercourse may

significantly affect sexual function and psychological well-being.

Urinary and gastrointestinal symptoms are also frequently observed. These may include urinary urgency, increased frequency, dysuria, bloating, constipation, or discomfort during defecation. Such symptoms often reflect the involvement of adjacent pelvic organs or shared neurogenic pathways.

In addition, many patients report referred pain radiating to the lower back, sacral region, hips, or inner thighs, which is associated with complex pelvic innervation and central sensitization mechanisms.

Psychological symptoms, including fatigue, anxiety, irritability, sleep disturbances, and depressive mood, are commonly present and may both contribute to and result from chronic pain. These manifestations significantly reduce quality of life and functional capacity in affected women [13].

The development of symptoms in chronic pelvic pain syndrome (CPPS) is generally associated with persistent nociceptive input arising from affected pelvic organs, as well as central and peripheral sensitization mechanisms. Ongoing inflammatory activity in gynecological conditions such as endometriosis, chronic pelvic inflammatory disease, and adenomyosis may maintain continuous activation of pain pathways, leading to chronic pain perception even in the absence of active tissue damage. In addition, secondary aggravating factors such as pelvic adhesions, pelvic floor muscle dysfunction, and venous congestion may further intensify pain by creating mechanical traction and local ischemia. Psychosomatic factors, including chronic stress and anxiety, may amplify pain perception through neuroendocrine dysregulation and impaired central pain inhibition.

Poor general health status, delayed diagnosis, inadequate treatment of underlying gynecological diseases, and the presence of comorbid conditions such as urinary or gastrointestinal dysfunction may also contribute to symptom persistence and increased disease burden. Therefore, early identification of etiological factors and a multidisciplinary approach to management play a crucial role in reducing symptom severity and improving patient outcomes.

Conclusion

Chronic pelvic pain syndrome (CPPS) represents a common and clinically significant condition in women with gynecological diseases, characterized by persistent or recurrent pelvic pain with a multifactorial origin. The condition demonstrates considerable clinical heterogeneity depending on the underlying gynecological pathology, including endometriosis, adenomyosis, chronic pelvic inflammatory disease, and pelvic adhesions. In most patients, CPPS is not a single-organ disorder but rather a complex pain syndrome involving inflammatory, neurogenic, hormonal, and psychosomatic mechanisms. Central sensitization and long-term alterations in pain processing pathways play a key role in the chronification of symptoms, which often persist even after treatment of the primary disease.

Modern evidence indicates that CPPS significantly affects physical, reproductive, sexual, and psychological health, leading to a substantial reduction in quality of life. Therefore, accurate diagnosis based on comprehensive clinical evaluation is essential for identifying underlying etiological factors and associated comorbidities.

Despite advances in understanding CPPS, many aspects of its pathogenesis remain incompletely clarified. Further research focusing on neurobiological mechanisms, immunological changes, and interdisciplinary treatment strategies is necessary to improve diagnostic accuracy and therapeutic outcomes. A multidisciplinary approach involving gynecologists, pain specialists, psychologists, and rehabilitation professionals is essential for effective management of this complex condition.

References

1. Zondervan KT, Yudkin PL, Vessey MP, Dawes MG, Barlow DH, Kennedy SH. Prevalence and incidence of chronic pelvic pain in primary care: evidence from a national general practice database. *Br J Obstet Gynaecol.* 1999;106(11):1149–1155.
2. Latthe P, Latthe M, Say L, Gülmezoglu M, Khan KS. WHO systematic review of prevalence of chronic pelvic pain: a neglected reproductive health morbidity. *BMC Public Health.* 2006;6:177. doi:10.1186/1471-2458-6-177.
3. Ahangari A. Prevalence of chronic pelvic pain among women: an updated review. *Pain Physician.* 2014;17(2):E141–E147.
4. Aredo JV, Heyrana KJ, Karp BI, Shah JP, Stratton P. Relating chronic pelvic pain and endometriosis-associated pain. *Am J Obstet Gynecol.* 2017;216(6):482–490. doi:10.1016/j.ajog.2017.02.034.
5. Tu FF, Hahn D, Steege JF. Pelvic congestion syndrome-associated chronic pelvic pain: a systematic review of diagnosis and management. *Obstet Gynecol Surv.* 2010;65(5):333–343. doi:10.1097/OGX.0b013e3181e0598a.
6. Fall M, Baranowski AP, Elneil S, et al. European Association of Urology guidelines on chronic pelvic pain. *Eur Urol.* 2010;57(1):35–48. doi:10.1016/j.eururo.2009.08.020.
7. Howard FM. Chronic pelvic pain. *Obstet Gynecol.* 2003;101(3):594–611.
8. Tu FF, As-Sanie S. Chronic pelvic pain in women: diagnosis and management. *Obstet Gynecol Clin North Am.* 2014;41(3):389–402. doi:10.1016/j.ogc.2014.05.002.
9. Horne AW, Vincent K, Hughes C, et al. Endometriosis-associated pain: epidemiology and mechanisms. *Hum Reprod Update.* 2019;25(5):569–590. doi:10.1093/humupd/dmz007.
10. Speer LM, Mushkbar S, Erbele T. Chronic pelvic pain

in women. *Am Fam Physician*. 2016;93(5):380–387.

11. Daniels JP, Khan KS. Chronic pelvic pain in women. *BMJ*. 2010;341:c4834. doi:10.1136/bmj.c4834.
12. Fall M, Baranowski AP, Elneil S, et al. Classification and terminology of chronic pelvic pain. *Pain*. 2012;153(6):1385–1389.
13. Zondervan KT, Becker CM, Missmer SA. Endometriosis. *N Engl J Med*. 2020;382:1244–1256. doi:10.1056/NEJMra1810764.