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CHRONIC PELVIC PAIN SYNDROME

Methodical guide for medical students

For 4th – year students

of the Faculty of Medicine

Urology and andrology

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I. LITERATURE REVIEW

1.1. Overview

The term "pelvic pain" came into domestic medicine from foreign medical publications. According to the guidelines of the European Association of Urology (2009), chronic pelvic pain syndrome persistent or recurrent pelvic pain that lasts for at least 6 months.

"Pelvic" refers to pain localized in the lower abdomen below the navel, in the lower back and sacrum, as well as in the perineum, in the area of the external genitalia, vagina, rectum. Irradiation often observed along the anterior-inner surface of the thighs and the lower edge of the buttocks. Typically, patients cannot indicate the exact location of pain and separate the epicenter of pain from the irradiation zone.

In recent years, the theory of the so-called functional somatic syndrome been actively developing, one of the manifestations of which CPPS [29].

The condition may include irritable bowel syndrome, chronic headache and atypical facial pain, dorsalgia, non-coronary chest pain, fibromyalgia, and chronic fatigue syndrome. In contrast to chronic pain syndromes of other localization, a number of peculiar development mechanisms characterizes CPPS due to the peculiarities of the structure, functions and innervation of the pelvic organs. The pelvic organs themselves innervated similarly to the pelvic floor muscles, which perform the functions of support, contraction and relaxation. Neurons located at the level of the spinal cord and brainstem perform the functions of control and regulation of the activity of various organs located in the pelvic cavity [20].

The flow of excess nociceptive afferentation leads to an increase in the excitability of the segmental structures of the spinal cord. The level of excitation in the segmental links of the reflex arc, which is involved in the regulation of muscle tone, increases even more. Most muscles not adapted to function under conditions of prolonged tonic tension. This leads to the appearance of a large number of under-oxidized metabolic products in the muscle tissue, which cause the development of pain [11].

Once the pain appears, it can acquire a chronic character due to insufficient activity of the sympathetic pathways descending from the periaqueductal nuclei, projecting onto the intercalary neurons of the posterior horn of the spinal cord and capable of modulating the passage of pain signals to the thalamus [31].

Pathological impulses from the affected pelvic organs play an important role in the occurrence of myotonic and myodystrophic changes in the muscles of the pelvic floor (coccygeal and internal obturator muscles, levator anus) [11].

The studies have demonstrated a significant predominance of biomechanical pathway disorders of the pelvis in patients with CPPS over those in the control group of patients without symptoms of pelvic pain. It suggested that both these disorders and postural imbalance involved in the pathogenesis of pain syndrome [12, 13].

The role of increased muscle tone in the formation and maintenance of chronic pain syndromes of various localization through the formation of a vicious circle been established: pain - muscle spasm - prolongation of pain - maintenance of muscle spasm, etc. - or similarly: muscle spasm - pain, etc. [41].

With the long-term existence of CPPS, it far from always possible to find out what primary: either pain and, as a result, muscle spasm with the development of functional blockages of the sacroiliac joints, in turn, aggravating pain, or, conversely, muscle spasm and functional blockages of the sacroiliac joints that cause pain that aggravates muscle tension [22].

In addition, long-term hypertonicity of the musculo-ligamentous apparatus of the pelvis, in addition to pain, can cause or aggravate existing functional blockages of the sacroiliac joints, which also often accompanied by algic manifestations and can form an additional link in a vicious circle.

With CPPS, it difficult to determine which of these factors primary, but any of them can trigger the formation of a vicious circle.

1.2. Etiology

The classical development of chronic pain syndrome occurs, as a rule, gradually, sometimes after a long time from the onset of the action of certain damaging factors [1, 7, 9].

There three stages in the pathogenesis of CPP.

1. Organ - pain occurs in the pelvic region, lower abdomen, often combined with dysfunctions of the genital and neighboring organs. These phenomena largely depend on circulatory disorders (hyperemia, blood stasis).
2. Over-organ - there a reflected pain in the upper abdomen. In one of the paravertebral ganglia, a secondary focus of irritation formed. There no was demonstrated connection between the pain syndrome and the reproductive organs, and it is usually difficult to explain the pain, therefore, diagnostic errors uncommon.
3. Polysystemic - trophic disorders spread to organs outside the pelvis; characterized by violations of the menstrual, secretory and sexual functions, intestinal disorders, and metabolic changes. At the stage, the pathological process becomes widespread; the pain becomes more intense, which further complicates the diagnosis.

It is important for the clinician to understand that there two main pathogenetic mechanisms of CPP in various gynecological diseases:

Disorders of regional and pelvis hemodynamics and tissue gas exchange with the formation of an excess of non-physiological metabolites;

Inflammatory, dystrophic and functional changes in the peripheral nervous system and autonomic sympathetic ganglia [7].

Clinical and algological phenomenology of pelvic pain:

1. Nociceptive pain caused by generation from non-innervated tissues by activating nociceptors (sensory receptors of the peripheral nervous system that can transform and transmit an impulse from an external stimulus). Nociceptive pain can be visceral or somatic.
2. Neuropathic pain caused by excitation of nerve fibers in the somatosensory system.
3. Central pain caused by changes in the activity of the hypothalamic-pituitary-adrenal axis the autonomic nervous system without irritation of the nociceptors [10, 11].

1.3. Epidemiology

Chronic pelvic pain syndrome a complex of signs that signal the development of diseases of the pelvic organs. The main symptom pain below the navel, in the suprapubic and iliac regions, sacrum and perineum. The syndrome can occur in women and men. To confirm de positive diagnosis of CPPS at females if discomfort in the pelvis persists for six months. In men, the condition diagnosed if pain been present for 3 months in the last six months.

The development of pelvic pain syndrome based on inflammatory processes in the small pelvis. Metabolic, dystrophic and hemodynamic changes in tissues provoke an imbalance between substances that activate and suppress inflammation. As a result, persistent functional disorders develop in the peripheral nerve endings of the sympathetic nervous system. As a result, an excessive number of pathological impulses sent to the central nervous system.

Disorders also occur in the spinal cord, the sensitivity of the structures increases. Any impulses, even non-painful ones, begin to perceived as painful.

The central nervous system reacts incorrectly to them, maintaining congestion in the small pelvis. As a result, peripheral nerve fibers undergo even greater changes. In fact, a vicious circle arises, which consists of inadequate nerve impulses and inadequate responses to them.

CPPS occurs in almost half of women aged fom 20 till 50 years old.

The disease diagnosed in males of the age category from 45 till 50 years ol. Pathology has a negative impact on the patient's quality of life. In addition to constant discomfort, it provokes the development of neurological disorders. Patients often develop oncophobia, depression, and sexual dysfunction.

The International Association for the Study of Pain (IASP) defines it as "an unpleasant sensory and emotional experience associated with actual or possible tissue damage and described

in terms of such damage." Pelvic pain syndrome in the lower abdomen and / or back, and / or in the pelvis / perineum [1].

If acute pain characterized by localization, paroxysmal or sudden onset, significant intensity, often proportional to organ or tissue damage, then chronic pelvic pain (CPP), on the contrary, a pathological condition with constant or cyclical pain in the lower abdomen and lower back, lasting at least 6 months [2, 3].

CPP reduces the quality of life of women in several aspects at once, causing functional disorders, psychosocial disorders and sexual dysfunction [4, 5].

Localization of pain in the small pelvis, in contrast to other forms of chronic pain syndrome, has a somewhat compromising connotation, lowers the woman's self-esteem, and gives rise to a feeling of stigmatization and social maladjustment [3-5].

According to the WHO, CPP in the world observed on average in 15% of women of reproductive age; it is the reason for every tenth visit to a gynecologist [1, 4].

CPP is experienced by 4% to 25% of Russian women of childbearing age, regardless of ethnicity and social status [4, 6, 7]. In the USA, 5–15% of women report the presence of pain syndrome, in the UK - 38 women out of 1000 [3, 7]. It because of CPP, according to the International Society for the Study of Pelvic Pain, that up to 27% of all laparoscopies and up to 15% of hysterectomies performed [1, 7].

1.4. Cause and risk factors

Chronic pelvic pain is associated with dysfunctions such as irritable bowel syndrome, interstitial cystitis, as well as other nonspecific chronic fatigue syndromes. Chronic pelvic pain is also associated with mental health disorders, including posttraumatic stress disorder and major depressive disorder. The relationship between chronic pelvic pain and comorbid conditions is often the primary focus of its diagnosis and management. In over half of cases of chronic pelvic pain, there is comorbid endometriosis, pelvic adhesions, irritable bowel, or interstitial cystitis.[4] Furthermore, multiple comorbidities can be present simultaneously alongside chronic pelvic pain. [6] Chronic pelvic pain is a form of reflex dystrophy, where there is both a neurological component to symptoms, as well as a psychological component.[8] The pathophysiology of chronic pelvic pain is likely that of centralized pain. Patients with chronic pelvic pain develop hyperesthesia and allodynia as a result of pelvic floor dysfunction. [8] Many comorbidities can lead to chronic pain; chronic cystitis, endometriosis, adhesions, or musculoskeletal injury are but a few associated with chronic pelvic pain.[9] Many women have pain symptoms for over two years before seeking medical care.[10] The persistent nature of the pain is what puts the patient at risk for centralization and the development of chronic pelvic pain.

As chronic pain develops, the central nervous system undergoes a systemic change and becomes persistently in a state of high activity. When this occurs, the central nervous system responds to various stimuli as if they were painful. Chronic pelvic pain's etiology is likely secondary to comorbidities that caused chronic pain.[11] There is a synergistic effect of pain that can develop. As one organ system becomes dysfunctional, as in the case of interstitial cystitis, another organ can also develop pathology, such as in irritable bowel syndrome. As comorbidities develop, the chronic nature of symptoms leads to centralized pain, only enhancing the pain more. Collectively, persistent and increased sensitivity to pain becomes chronic pelvic pain.[12] In addition to pain, patients may note increased irritability, sleep disturbances, decreased performance, loss of interest in the world around them ("withdrawal into pain"), depressed mood up to depression [7, 10, 11].

Pain usually occurs or increase 1-2 days before menstruation (in contrast to pelvic venous congestion, in which the culmination of pain falls on the 14-15th days of the cycle) and pulling in nature. Patients describe a sharp, shooting pain, sometimes with irradiation to the external genitalia, rectum [4, 7, 14].

The triad of CPP a combination of three clinical manifestations.

1. *Dyspareunia.* Pain during coitus most often observed in patients with external genital endometriosis when heterotopies located on the sacro-uterine ligaments or in the posterior space, somewhat less often - with fixed retrodeviation of the uterus, chronic salpingo-oophoritis, any adhesions in the small pelvis. It characteristic that with adhesions after the cessation of intercourse due to dyspareunia, the pain independently stopped (which distinguishes this type from dyspareunia with pelvic venous congestion).

2. *Dyschezia.* Violation of the act of defecation due to discoordination of the pelvic floor muscles and anal sphincters characteristic of deep infiltrative endometriosis, endometriosof the vagina and cervix, extensive adhesions in the small pelvis.

3. *Dysuria.* Violation of urination most often a sign of external and internal genital endometriosor interstitial cystitis [7, 12, 15].

With uterine leiomyoma, patients complain of pulling pains in the lower abdomen and lower back; at the same time, as a rule, there no irradiation to other anatomical areas. Abnormal menstrual bleeding observed menstruation often profuse, clotted, lasting 6–8 days. Most women experience pain during menstruation. A distinctive feature of leiomyomas is that pain persists in postmenopausal women. However, dyspareunia, as well as a feeling of heaviness and discomfort in the lower abdomen, rarely observed [4, 7, 14].

CPP caused by PID(pelvic inflammatory disease) characterized by algological monotony with pain radiating to the sacrum. Interestingly, every second woman complains of heaviness and

discomfort in the left and right iliac regions. The pain can be aggravated at the beginning of menstruation, with physical exertion, gynecological examination.

In some patients, dyspareunia occurs due to the adhesions, but, unlike pain in varicose veins, in chronic salpingo-oophoritis, dyspareunia disappears after intercourse stopped. In the majority of patients with exacerbation, there abundant mucous or serous discharge from the genital tract, a temperature reaction [4, 7, 14].

CPP due to varicose veins of the small pelvis - usually pulling, dull, "baking", burning. Irradiation to the lower extremities noted by about 80% of women. The most common provoking factor is long-term static and dynamic loads. In the majority of patients (70–80%), the pain intensifies in the second phase of the menstrual cycle. It should be noted that the pain may be relieved by lying down with the legs up.

Dyspareunia occurs quite often (in 60–70% of women) and can persist up to 7 days after sexual intercourse. Menses may be prolonged (5-7 days). Reception of phlebotonic drugs usually reduces the intensity of pain syndrome, which can serve as an independent differential diagnostic test [4, 7, 14].

CPP caused by Allen-Masters syndrome characterized by spontaneous orthostatic pain in the lower abdomen and in the pelvic region, rectal tenesmus, pollakiuria against the background of general weakness and rapid fatigue [14].

With CPP, which has arisen due to benign neoplasms of the uterine appendages, the main symptom pulling pain in the lower abdomen, mainly on the side of the lesion, occasionally radiating to the lower back. [4, 7, 14].

CPP of psychogenic nature can be difficult to distinguish from that caused by somato-visceral factors. Pain provoked by endogenous or exogenous damage to the affective sphere combined with emotional experience [4, 7, 14].

CPP accompanies delusional formations or a hallucinatory component in schizophrenia, but most often accompanies neurotic anxiety-phobic and affective disorders with a depressive component (cyclothymia, dysthymia, manic-depressive psychosis) [11].

Scientists claim that chronic pelvic pain syndrome in women and men develops when immune, neurological and endocrine dysfunctions combined with psychological factors. However, in the advantage of cases, the prerequisite for the development of the disease is the real pathology of the internal organs. The causes of CPPS in women are:

- Diseases of an inflammatory nature. Lesions of the female reproductive organs accompanied by acute pain. Without proper treatment, inflammation and its manifestations become chronic.

- Adhesions. Inflammatory changes often trigger the proliferation of connective tissue between organs. Pain is the result of tissue tension and microcirculatory disorders.
- Neoplasias. Volumetric neoplasms able to squeeze the surrounding organs, which manifested by pain without a specific localization.
- Endometriosis Endometriotic foci formed in the reproductive organs and outside the genitals. Cyclic cell rejection provokes persistent inflammation.
- Excessive vascular overflow can cause inadequate stimulation of nerve endings.

Non-gynecological causes of CPPS can be diseases of the urinary and digestive systems, neurological pathologies, kidney tumors, joint and bone lesions. In about 2% of patients, it not possible to find out the objective cause of the development of the syndrome.

In men, infectious diseases that occur latently (mycoplasmosis, chlamydia, trichomoniasis, viral infections) most often cause pelvic pain syndrome. In a number of cases, there aseptic inflammation of the prostate against the background of microcirculatory disorders due to the lack of regular sex life, varicose veins, constipation, overweight, and a sedentary lifestyle. Damage to the peripheral nerves can be the result of a previous surgery or neurological pathology. Ischemic changes in tissues aggravate poor nutrition, alcohol abuse, coffee, obesity.

1.5. Symptoms and comorbidities

Chronic pelvic pain syndrome in men classified according to the UPOINT system based on the prevailing symptoms:

- U - there signs of pathological changes in the urinary system;
- P - manifestations mainly affect the psychoemotional state of the patient;
- O - signs of organic damage to the prostate gland revealed;
- I - clinical manifestations indicate the infectious nature of the disease;
- N - neurological symptoms affect areas other than the pelvic;
- T - muscle symptoms, trigger points, excessive tension of the pelvic floor muscles revealed.

Patients with CPPS tend to have pain in the sacrococcygeal region, perineum, spreading to the gluteal region, genitals, back or inner thigh. Strengthening of unpleasant sensations and pain occurs under the influence of statodynamic effects, cooling, exacerbation of diseases of internal organs, during the act of defecation, at the time of verticalization, in the premenstrual and menstrual periods.

Due to the peculiarities of the localization of pain, patients often undergo long-term repeated treatment with gynecologists, urologists, proctologists and other specialists for the diseases of the pelvic organs they suspect. Often, only the failure of this treatment prompts the doctor to think about a possible lesion of the musculo-ligamentous apparatus of the pelvis [11].

Pain recognized as a common manifestation of the syndrome for women and men. The characteristics of discomfort in CPPS differ from those in organic lesions of internal organs. Features of chronic pelvic pain are:

- lack of clear localization;
- dull, aching, pulling, pressing sensations (not acute pain);
- pain spreads to the perineum, anus, thighs, buttocks, less often to the abdomen and chest;
- pain crises periodically occur (pain intensifies for no apparent reason);
- discomfort becomes the cause of hypochondria, apathy.

CPPS characterized by variability in symptoms. Men more likely to develop dysuria disorders similar to chronic prostatitis.

Digestive disorders, lack of appetite possible. In some cases, there sensory disturbances in the genital area, a tingling sensation or coldness.

In women, pain often given to the buttocks, thighs, perineum, labia. They intensify during physical exertion, a static position, when lifting weights, during intercourse, during ovulation and menstruation. Against the background of chronic pain, irritability, insomnia, and decreased performance often observed. Depression develops gradually. The subjective perception of pain changes. Patients often describe it as unbearable, burning, and exhausting.

For a gynecologist, it is important whether CPP corresponds to certain gynecological diseases, or if the patient with CPP does not have them [7-9].

For the first version of the IASP, the definition of "pelvic pain associated with a specific disease" proposed - pelvic pain itself, in which pain in the lower abdomen, groin areas, lower back bothers the patient almost constantly and intensifies on certain days of menstruation, with hypothermia, prolonged static load, etc. [1, 9].

The second variant - CPP syndrome - characterized by behavioral disorders, cognitive, psycho-emotional and sexual disorders as a consequence of neurobiological, physiological and anatomical changes in the central nervous system [1, 7, 9].

In the ICD-10 in the XIV class (Diseases of the genitourinary system), category N94 allocated - Pain and other conditions associated with female genital organs and the menstrual cycle [2, 4] (from 0 to 9):

N94.0. Pain in the middle of the menstrual cycle;

N94.1. Dyspareunia (psychogenic dyspareunia excluded, F52.6);

N94.2. Vaginismus (excludes psychogenic vaginismus, F52.5);

N94.3. Premenstrual tension syndrome;

N94.4. Primary dysmenorrhea;

N94.5. Secondary dysmenorrhea;

N94.6. Dysmenorrhea unspecified;

N94.8. Other specified conditions associated with female genital organs and menstrual cycle;

N94.9. Conditions associated with female genital organs and menstrual cycle, unspecified.

The main causes of pelvic pain due to gynecological diseases are:

- chronic, subacute inflammation of the internal genital organs;
- adhesions in the small pelvas a result of the postponed inflammatory process;
- tuberculosof the internal genital organs;
- endometriosis (external genital endometriosis, adenomyosis);
- defect / rupture of the posterior leaves of the wide, cardinal and round ligaments of the uterus (Allen-Masters syndrome);
- uterine fibroids;
- benign and malignant ovarian tumors;
- primary dysmenorrhea;
- cancer of the body and cervix;
- varicose veins of the small pelvis (congestive
- syndrome);
- foreign body in the small pelvis;
- ovarian remnant syndrome;
- adhesive process in the small pelvdue to endometriosand serosocele;
- postoperative traumatic neuropathy;
- prolapse of the genitals;
- developmental anomalies (aplasia of the vagina, uterus, functioning rudimentary uterus, one-horned uterus, doubling of the uterus and vagina);
- Ovulatory syndrome (Mittelschmerz) [2, 4].

Non-gynecological causes of pelvic pain:

1) Urological origin:

- urinary tract infections;
- suburethral diverticulitis;
- urethral syndrome;
- urolithiasdisease;

2) Intestinal origin:

- chronic appendicitis;
- Crohn's disease;
- diverticulosis;

- colitis;
- bowel cancer;
- irritable bowel syndrome;

3) Vertebrogenic etiology:

- osteocondritof the spine;
- Schmorl's hernia;
- symphysiolysis, symphysiopathy;
- retroperitoneal ganglioneuroma [2, 4].

1.6. Diagnosis. Assessment and investigations.

There no universal algorithm for examining patients with CPPS. Diagnostics planned on an individual basis, taking into account the patient's complaints and anamnesis, objective data identified during the examination. With persistent pelvic pain, women should consult a gynecologist, and men should consult a urologist. If necessary, the doctor will refer you to other specialists.

The laboratory stage of the examination mandatory, which allows you to assess the state of the body and the functioning of all systems. General and biochemical blood tests, urine tests prescribed. To assess the condition of the reproductive organs, a microscopic examination of smears in women and prostatic secretions in men carried out.

Basic instrumental diagnostic methods:

- Ultrasound of the pelvic organs and kidneys;
- Doppler ultrasonography of blood vessels;
- X-ray of the lumbar and sacral spine;
- CT or MRI;
- Excretory urography.

If an adhesive or neoplastic process suspected, diagnostic laparoscopy often prescribed, in which it possible to conduct a biopsy. For patients with symptoms of nervous system involvement, counseling with a psychotherapist and special tests indicated.

A specific algological history should determine the localization, intensity, dynamic and possible pathophysiological and etiological characteristics of pain.

The scheme of the primary algological survey of a patient with CPP given below [15].

1. What is the localization of pain?
2. How intense is the pain?
3. How would you describe the pain (eg, burning, sharp, cutting, shooting, throbbing, etc.)?
4. How did the pain appear?
5. How does pain change over time?

6. What relieves pain?

7. What makes the pain worse?

8. How does pain affect sleep, physical activity, ability to work, mood, family life, social activity, sexual activity?

9. What treatment did you receive? What its effectiveness and side effects?

10. Are you constantly depressed?

11. Are you worried about the outcome of your pain condition and your health?

Visual analogue scales have become widespread in gynecological practice, which make it possible to study the dynamics of pain syndrome over a certain period, including during treatment. There also specially designed questionnaires that assess both the subjective intensity of pelvic pain and related conditions [15, 16].

Algological examination allows to assess the intensity of pain sensations using a visual analogue scale, proposed by the rheumatologist from the UK Dr. Huskisson (EC Huskisson) back in 1982. The patient asked to mark the level of pain intensity with a dot on a straight line 10 cm long with marked divisions of 1 cm (1 cm = 1 point). The beginning of the line corresponds to the absence of pain - 0 points, the end of the line - 10 points. Pain considered mild if a woman marks her sensations in the range of 1–4 points, moderate - 5–7 points, strong - 8–10 points [4, 7, 15].

For the sensory and affective characteristics of pain syndrome, the McGill Pain Questionnaire, developed in Canada in 1975 and quite convenient, is used. The patient offered 78 adjectives, grouped by meaning in 20 blocks, and she marks the words that most accurately reflect pain - 7 definitions in total (one word can be used twice) [7, 15].

There specialized scales for assessing neuropathic pain, for example, the Leeds Assessment of Neuropathic Symptoms and Sign [15].

The Pain Quality Assessment Scale a more delicate tool for differentiating nociceptive and neuropathic pain conditions [15].

The physical examination must necessarily include:

- General physical examination;
- Specific pain assessment;
- Neurological examination;
- Examination of the musculoskeletal system;
- Assessment of psychological status [9, 15].

Physical examination begins with examination of the patient and palpation of the abdomen. Attention should be focused on areas of hyperesthesia (changes in the skin itself or in the deeper layers of the anterior abdominal wall); it also possible to identify abdominal, umbilical, inguinal, epigastric hernias.

Gynecological examination makes it possible to presumably classify the patient into one of two groups: those with CPP caused by diseases of a gynecological nature, or those with pain syndrome of some other genesis. Examination of the external genitalia, cervix in the mirrors performed, a bimanual gynecological or rectovaginal examination performed.

Instrumental methods required to verify and clarify the diagnosis [4, 7, 15]:

1. Ultrasound of the pelvic organs - routine screening to exclude organic diseases of the internal genital organs and urinary system;
2. MRI, CT - to exclude diseases of the lumbosacral spine and pelvic bones, as well as internal genital organs;
3. densitometry - to exclude osteoporosof the spine;
4. X-ray (irrigoscopy, colonoscopy) and endoscopic methods (cystoscopy, urethrocystoscopy, hysteroscopy);
5. diagnostic laparoscopy - to detect peritoneal and infiltrative forms of endometriosis, Allen-Masters syndrome, chronic inflammation of the uterine appendages, adhesions in the small pelvis, varicose veins of the small pelvis [17].

The most important aspect of helping patients with CPP a full-fledged differential diagnosis, since the tactics of therapy fundamentally depend on the correctness of the established diagnosis [7, 18–20].

The goal of treating pelvic pain is to suppress the over activity of nociceptive neurons by destroying the generators of pathologically enhanced excitation, which can ensure partial or complete elimination of the pathogenic algic system. Treatment of CPP syndrome entirely depends on the underlying disease and summarized. It is important that in a number of situations, primarily in endometriosis, a syndromic approach to treatment also makes sense, since the elimination of pain and an improvement in the quality of life will be the main clinical result [4, 7, 14].

1.7. Management and therapies

To help patients of category, it proposed to carry out a variety of therapeutic measures, including the elimination of existing local pathological foci, the use of anti-inflammatory therapy, the widespread use of antidepressants and antiepileptic drugs [23, 24].

Treatment of chronic pelvic pain carried out taking into account the causes of condition, developing a program separately for each patient. The therapy carried out in a comprehensive manner, includes drug treatment, physiotherapy procedures, psychotherapeutic techniques. In some cases, if chronic pelvic pain associated with serious organic changes in the small pelvis, surgical treatment required.

Conservative therapy. Drug treatment selected taking into account the cause of the disease. With the help of medicines, infections eliminated, local metabolic and microcirculatory

processes normalized. In the complex therapy of pelvic pain syndrome in men and women, the following prescribed:

- Antibiotics;
- Antifungal agents;
- Antiprotozoal drugs;
- Anti-inflammatory;
- Pain relievers;
- Hormonal therapy ;
- Enzymes;
- Vitamins;
- improve blood flow in patients with circulation problems.

Drug treatment recommended to combined with physiotherapeutic techniques based on the action of an alternating magnetic field, electrical impulses, laser radiation, etc. Some patients recommended acupuncture, mud therapy, salt baths. In rare cases, to stop the arrival of pain impulses, one-time blockades performed.

In order to normalize the patient's mental state, psychotherapy is used (relaxing techniques, self-hypnosis, and cognitive-behavioral approach). Antidepressants, anxiolytics, or sedatives prescribed as needed.

Surgery. The patient may require surgery to relieve pelvic pain if there an organic cause. Men more likely to undergo a bladder neck dissection, removal of the prostate or its tumors. Women often require interventions to cut adhesions, remove neoplasms. Low-traumatic laparoscopic interventions preferable, which can reduce pain in the postoperative period and avoid infectious complications.

Prevention. To prevent chronic pelvic pain syndrome, it necessary to undergo profilactic preventative examinations and timely treat the identified diseases.

Rehabilitation. The terms of inpatient observation after surgical treatment depend on the patient's condition. After laparoscopic operations, the patient is in the clinic for up to 5 days. After discharge, it necessary to exclude physical activity, swimming in open reservoirs, hypothermia and overheating of the body. For 2-4 weeks, the patient shown sexual rest.

In most cases, the main etiological factor pelvic inflammation (chronic cystitis, prostatitis), since all the symptoms described by patients indicate the presence of an inflammatory process [3].

Taking into the multifactorial nature of the pathogenesis chronic pelvic pain, it possible to recommend a comprehensive treatment program, including the following key links [12]:

- Elimination of chronic pain (antidepressants, anticonvulsants);
- Psychological correction (antidepressants, psychotherapy);

- Correction of muscle-tonic pelvic syndromes (muscle relaxants, therapeutic exercises);
- Correction of path biomechanical disorders of the pelvis (manual therapy, remedial gymnastics).

In the treatment of chronic pain and, in particular, pelvic syndromes, special attention should paid to methods of physical rehabilitation.

To relax the pelvic floor muscles, patients with CPPS offered the use of exercises to contract the muscles of the perineum for 7–8 s with holding the breath while exhaling and then relaxing the muscles (also for 7–8 seconds) with holding the breath while inhaling. It recommended to 10 repetitions 5-6 times during the day while sitting or lying down. Was demonstrated a positive effect in 78.6% of patients with CPPS, expressed not only in a decrease in the intensity of pain syndrome, but also in a reduction of existing urinary disorders [25].

In the presence of hypertonicity of the piriform and gluteal muscles (often due to the development of a reflex reaction to intra pelvic "problems"), patients independently perform exercises for post-isometric auto relaxation of the listed muscles, described in manuals for physical therapy and manual therapy [16].

At present, manual therapy is widely used in the treatment of pain syndromes of various localization, the purpose of which not only to influence degenerative changes in the joints and reflex changes in muscles, but also to correct the pathological motor stereotype [16].

A regular course of treatment recommended, up to 10-12 procedures per course with a frequency of 1-2 times a week. In addition, patients need independently perform exercises for the auto mobilization of the sacroiliac joints and auto relaxation of the pelvic ligaments, which contribute to the elimination of existing and prevention of new functional blockages of the sacroiliac joints. Of particular difficulty is the therapy of pelvic myofascial syndromes due to limited access to the muscles located in the pelvic cavity.

II. MATERIAL AND METHODS

2.1. Material from research

A systematic literature search, using PubMed, Medline, Embase, PsychINFO, and Web of Science databases, with the terms and phrases: "Chronic pelvic pain", "painful bladder syndrome", and "therapeutic interventions".

Only publications in the most recent decade were searched for, and the date of publication set from 1st January 2010 to 31st January 2020.

A manual search conducted to identify additional potential eligible studies from the reference lists of the eligible articles.

Overall, we selected 56 publications. In threview, we tried to provide an overview of a large and complex topic to provide indications regarding the management of CPPS patients, since management requires a holistic approach in order to provide patients with proper care.

Examination of may find tension, rigidity, and sensitivity of the pelvic floor muscles or myofascial trigger points. PVD refers to pain at the entrance of the vagina, known as the vestibule, experienced as sharp or burning pain that lasts at least three months.

The diagnoscriteria for PVD may include severe pain when touched or when vaginal penetration attempted, soreness located in the vestibule without similar soreness in adjacent tissues, and ruling out other factors (infection, inflammation, skin disease, etc.)

Most patients report pain during sexual intercourse to the point that it is impossible, and mention pain during gynecological examinations, while inserting a tampon, or with direct contact such as while bicycle riding, horseback riding, or wearing tight clothing (Figure 2.1).

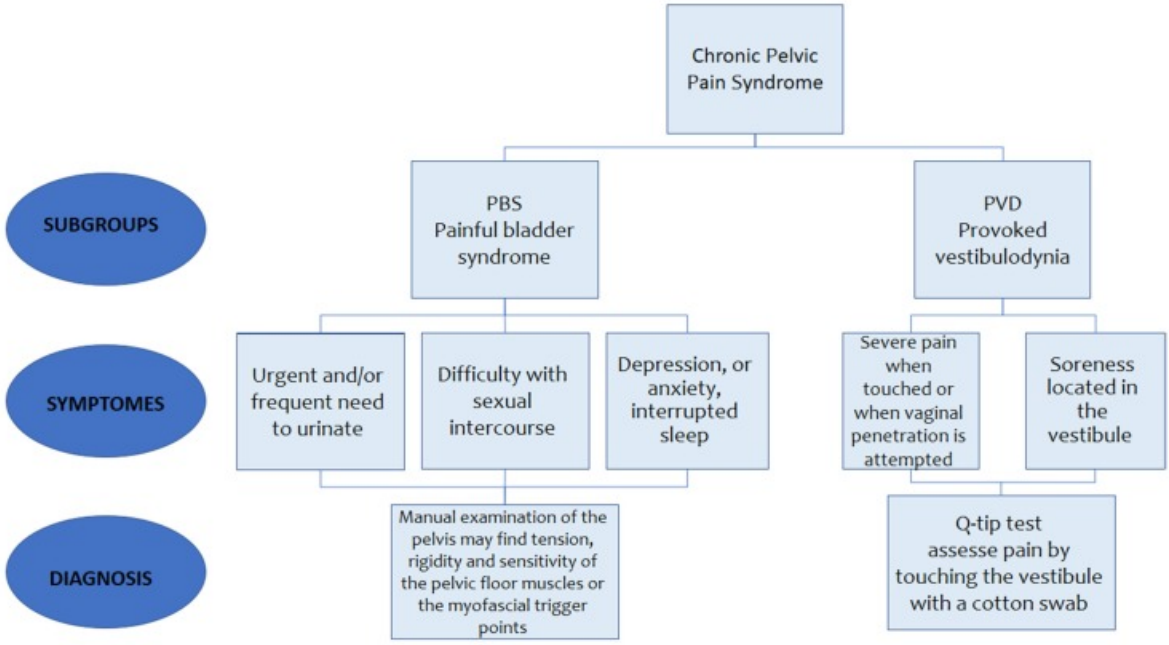


Figure 2.1. Symptoms and diagnosof subgroups of chronic pelvic pain syndrome (CPPS). European Association of Urology. EAU guidelines on chronic pelvic pain. Eur Urol. 2010

III. RESULTS and DISCUSSION

3.1. Results and Discussion

Long-term muscular-tonic syndrome can lead to the onset of muscle dysfunction with the development of myofascial syndrome, the appearance of trigger points characteristic of the latter and the corresponding reflected pain patterns. An increase in the tone of the muscles of the pelvic

floor and perineum in combination with pain can initiate dysuric disorders of both mechanical and reflex genesis.

Patients with CPPS characterized by the presence of emotional disorders (anxiety, depression) and the frequent occurrence of associated sexual disorders in the form of decreased libido, erectile dysfunction [15].

In order to assess the influence of psychological factors and an increase in the tone of the muscles of the pelvic floor and perineum, as well as their role in the pathogenesis CPPS, one should turn to phylogenies. As you know, emotions expressed by a complex of various motor reactions, which in higher animals manifested by mimic reactions of the facial muscles. However, in most animals, tail activity has a greater signal value for other individuals than mimic activity itself [16].

In humans, with negative emotions, it possible to increase the tone of the rudimentary muscles of the coccyx and pelvic floor, which manifested by a feeling of "tightness" in the perineum [16].

The rudiments of the muscles that ensure the movement of the tail in animals the sacro-tuberous, sacrospinous, sacroiliac, sacra-lumbar ligaments. Upon transformation into the ligamentous apparatus of the sacrum, these muscles retained the neurophysiological regulation and contractile properties characteristic of all muscles. It assumed that pathological tension of the sacroiliac and sacral spinal ligaments may be involved in the formation of functional blockages of the sacroiliac joints. [16].

Pain in the retropubic space due to the tension of the rectus abdominal muscles. The tension of the pubococcygeal muscle accompanied by the onset of pain, which projected onto the prostate gland. All types of increased tone of the pelvic floor muscles or nearby muscle formations can serve as a trigger for pelvic pain and explain the irradiation of pain into the rectum, bladder, head of the penis, and vagina [17].

There is evidence that a combination of psycho vegetative, pelvic muscular tonic and biomechanical disorders to one degree or another obligatory for CPPS [12, 18].

It known that chronic pain and depression have common links of pathogenesis in the form of insufficiency of the descending antinociceptive noradrenergic and especially serotonergic systems of the brain, disorders of the metabolism of substance P and neurokinins. Long-term pain syndrome can cause secondary depressive disorders, leading to a deterioration in pain tolerance and its intensification. Today, antidepressants (tricyclic derivatives and inhibitors of serotonin and norepinephrine reuptake), along with some antiepileptic drugs, the main agents in the treatment of chronic pain syndromes [21, 22].

In some cases, CPPS traces an analogy with a syndrome often encountered in neurological practice - tension headache, in the pathogens of which the reaction to psychosocial stress in the form of anxiety and depression plays a leading role, with the latter playing a leading role [21].

The existing long-term creates an additional afferent pain flow involved in symptom formation.

The presence of a number of common mechanisms of the formation of these two syndromes gave us reason to propose the term "chronic pelvic pain of tension" [12], the criteria of which as follows:

- the presence of persistent or recurrent pelvic pain (borrowed from the CPPS definition, 2002) lasting > 6 months;
- a leading role in the pathogenesis the considered distress syndrome and anxiety-depressive disorders;
- lack of structural changes in the pelvic organs;
- Exclusion of vertebral pain genesis if not existing clinical symptoms of urinary tract damage.

It should note that the severity of pelvic muscle-tonic and path biomechanical disorders not a diagnostic criterion.

According to the criteria described above, it seems expedient to isolate CPPS tension which can occupy a certain niche in the structure of chronic pelvic pain. The purpose of isolating syndrome is to streamline the classification of CPPS and, as a result, to develop a more differentiated approach to therapy.

In addition, it necessary to use a multidisciplinary approach to the management of patients with CPPS with the obligatory involvement of neurologists, chiropractors, psychiatrists and psychotherapists, urologists, gynecologists, proctologists in the problem, as well as to conduct larger-scale comprehensive studies of patients with the pathology, based on the relevant evidence base.

Patients with complaints of pelvic and perineal pain well known to practicing urologists.

These patients clearly focused on the existing symptoms, characterized by a negative psycho-emotional background, as a rule, they treated for a long time and without significant effect by various specialists [1] .

Diagnosis - **Chronic Pelvic Pain Syndrome (CPPS)**given to patients when the cause of pain not found, after examinations and treatment. It occurs in both men and women. In fact, this not independent diagnosis, since these pain sensations must be associated with something. In the

pelvic area there different organs: the urinary system and the reproductive and part of the intestine. In thpart of the body, there an increased risk of various infectious processes.

In addition, pain can be associated with the spine, muscles, joints, nerve endings. Psychosomatic reasons also possible. Doctors of different specialties engaged in all this. Indeed, sometimes it difficult to find the cause and prescribe treatment. Moreover, sometimes there several reasons, because if there violations in one system, thdoes not mean that they cannot be in the neighboring one.

Chronic pelvic pain syndrome one of the most difficult to diagnose and treat pathologies in urology. The diagnosis not a single disease, but constitutes a group of pathological conditions, the leading symptom of which p**rolonged pain in the pelvic area.**

To talk about chronic pain, it must be constant or intermittent for at least 6 months.

In addition to pain, CPPS includes other manifestations related to disorders of the pelvic organs. Such as increased urination, stool disorders, changes in the tone of the pelvic muscles, disorder in the sexual sphere, psycho-emotional disorders. These symptoms usually present to varying degrees in patients with the problem, complicating and sometimes confusing the causal relationship between them.

Laboratory tests and instrumental studies most often do not reveal significant deviations from the norm, and the forces patients to repeatedly consult doctors of different specialties, who do not find any cause of pain. The diagnosis of chronic pelvic pain syndrome is essentially a diagnosis of exclusion.

Since a person in the situation experiences pain for a long time, this inevitably affects **the emotional background**. Secondary depressive disorders can occur, which worsen and increase pain tolerance. The sensations of patients influenced not only by the pathological process underlying the pain, but also by psychological, behavioral characteristics. Therefore, successful treatment requires the efforts of several specialists, including psychotherapists.

In urology, the most common variants of chronic pelvic pain **syndrome chronic prostatic pain syndrome in men** and **painful bladder syndrome in women**. According to the modern classification, chronic prostatic pain syndrome one of the variants of **chronic prostatitis a**nd is established when no pathogen can be detected in the prostate gland. In the case, inflammation in the secret of the prostate may or may not be present.

When **the syndrome of chronic pain prostatic** characterized by pain in the perineum, sacrum, abdomen, scrotum or in the region of the urethra. Often, in addition to pain, patients worried about urinary disorders in the form of increased frequency, a sluggish stream of urine, difficulty urinating. These complaints cause constant emotional stress and anxiety, which leads to disorders in the genital area.

Painful bladder syndrome (the old term is interstitial cystitis) a painful syndrome in the bladder region that worsens when the bladder full, increased urinary frequency, and urgency to urinate. Pain sensations decrease after urination, but soon return. Often, the pain also increases with food and liquid intake.

The nature of pain currently not clearly established. Almost exclusively women suffer from painful bladder syndrome. At the same time, no inflammation found in urine analyzes, and according to the results of bacterial culture, no pathogen found.

Conventional therapies commonly used to treat chronic bacterial cystitis ineffective. For the drug treatment of the pathology, such groups of drugs as antihistamines, analgesics, antidepressants, muscle relaxants used. Other methods include intravesical drug administration, distension of the bladder under anesthesia, botulinum toxin administration, coagulation of ulcerative bladder lesions, and even, in extreme cases, removal of the bladder to create an artificial reservoir from the intestine.

Less common is **urethral pain syndrome**, when pain is located in the urethral region, which may not be associated with normal micturition. Urethral pain occurs in both men and women. Men may also experience chronic pain in the testicles and epididymis that does not have a clear organic basis.

It currently believed that successful management of chronic pelvic pain syndrome is impossible without a multidisciplinary approach and comprehensive treatment.

The management of such patients still an unsolved problem.

The stereotype that had previously developed in urological practice to interpret such symptoms as manifestations of chronic prostatitis has obviously outlived its usefulness for a long time. Chronic pelvic pain syndrome (CPPS) is widely discussed.

Acquaintance with the literature on this issue reveals at least two interpretations of this term. On the one hand, CPPS is, according to the accepted classification, one of the variants of chronic prostatitis (categories 3a and 3b), on the other, more modern position, CPPS considered as a major syndrome, one of the many causes of which may be chronic prostatitis [2, 3] .

Chronic pelvic pain depresses the patient's psych emotional state, sharply reduces the quality of life. It known that the effect of CPPS on the patient's mental sphere comparable to the effect of myocardial infarction, unstable angina pectoris, ulcerative colitis, and more of the effect of toothache and ear pain [4,5] . In the special literature there indications that 27% of patients with CPPS suffer from severe depression and drug dependence, 18% have significant emotional disorders during an exacerbation of pain syndrome, and almost 35% of patients have a history of indications of suicidal attempts or intentions, which once again confirms the medical and social significance [3, 6] .

In addition to pain, the concept of CPPS includes other manifestations related to disorders of the pelvic organs - increased urination, stool disorders, changes in the tone of the pelvic muscles, sexual dysfunction, psychoemotional disorders. These symptoms usually present in patients with complicating and confusing the causal relationship between them. That is why recently, more and more often in foreign literature, instead of the term "chronic pelvic pain syndrome", the term "chronic perineal-pelvic pain and dysfunction syndrome" used as a broader one.

It now recognized that chronic pelvic pain syndrome a collective name for many pathological conditions, united by the presence of pain in the pelvic area, including those when the prostate gland is involved in the pathological process only indirectly or not at all [27, 38, 53] .

Chronic, damage to the muscles of the pelvic floor and osteo-ligamentous apparatus, involvement of peripheral nerves, and can caused by psychological and other factors.

The pelvic organs closely related to each other, often have a common innervation, blood circulation, musculo-ligamentous apparatus. In fact, the entire pelvic area an extensive reflexogenic zone, and the defeat of one organ often involves others in the pathological process.

The complexity and multifactorial factors in etiology of pain syndromes in the pelvic region reflected in the attempts of foreign authors to systematize these patients. The most famous and widely used is the so-called UPOINT clinical phenotyping system, which involves the assessment and summation of symptoms in 6 different diagnostic areas, called diagnostic domains in the original method. In particular, urinary, organ-specific (prostatic), infectious, neurological, psychosocial, and muscle soreness domains isolated. The system been shown to be effective in classifying patients with urologic pelvic pain syndromes in a clinically relevant manner for appropriate therapy [44] .

According to the literature, the point of view of a decrease in the role of inflammatory diseases in the pathogenesis of chronic pelvic pain syndrome is decreased. Currently, myofascial (spastic) syndromes of the pelvic floor muscles and neuropathies of the pudendal nerve play the main role[34] .

The involvement of the pelvic floor muscles and peripheral nerves in the pathological process can occur at various stages of pelvic organ diseases and an integral part of the process of chronicity of pelvic pain - that is, myofascial syndromes usually secondary. [44, 45, 47] .

The complexity of the situation is that in a number of cases, the primary disease of the pelvic organs regresses against the background of specific therapy, either spontaneously or passes into a latent, difficult-to-diagnose form, and pain in the pelvic region caused by secondary changes in the muscles and peripheral nerves of the pelvic region persists and even aggravated by "breaking away" from the root cause.

Long-term muscular-tonic syndrome can lead to the onset of muscle dysfunction with the development of myofascial syndrome, the appearance of trigger point's characteristic of the latter and the corresponding reflected pain patterns. An increase in the tone of the muscles of the pelvic floor and perineum in combination with pain can initiate dysuric disorders of both mechanical and reflex genesis [22, 27, 46] .

The pathophysiological mechanisms of the formation of chronic spasm of the musculo-ligamentous status presented as follows.

Any condition that causes pain for a more or less long time leads to a decrease in the pain sensitivity threshold - this is the so-called central sensitization, which develops when the neurons of the dorsal horns of the spinal cord receive a powerful "burst" of signals from pain receptors. In thcase, a progressive increase in neuronal activity occurs in the neurons of the posterior horns, known as the phenomenon of "wind-up", in which neurons become more sensitive to subsequent impulses. The next stage peripheral sensitization. In the affected organ, the production of nerve growth factor (NGF, NGF) increases. This leads to an increase in the number of receptors affiliated with demyelinated C-fibers, the main role of which is the transmission of chronic pain impulses. Respectively,

Considering that the pelvic organs have cross-innervation, the number of receptors for C-fibers increases not only in the "primary organ", but also in those with which it connected by cross-innervation - this cross-sensitization. Such cross-reaction is typical, for example, for endo- and myometrium, urothelium of the bladder [39]

However, most muscles not adapted to function under conditions of prolonged tonic tension, which a physiological response to pain stimulation. This leads to the appearance of a large number of under-oxidized metabolic products in the muscle tissue - secondary disorders arise in the muscle: vascular, metabolic, and inflammatory and, as a result, local spasmodic zones formed, which called "trigger points" (Janet Travell, 1942 proposed the term). These seals felt on palpation and formed by tense muscle fibers. Thus, the pathogenesof MFBS is very complex, but usually arising and existing pain for some time triggers a vicious circle of processes that make it self-sustaining even in the absence of a root cause.

The most common pelvic myofascial syndromes include levator syndrome, internal obturator syndrome, and piriformsyndrome.

Levator syndrome associated with a spasm of the levator muscle. According to J. Rigaud, the syndrome occurs in 100% of cases in patients with CPPS and characterized by pain in the anus and rectum worsening in the sitting position, pain on palpation of the sphincter. The syndrome of the internal obturator muscle caused by spasm of m. obturatorius internus and a feeling of a foreign body in the rectum, pain in the urethra and perineum [24, 39] .

At present, there no consensus on the treatment of CPPS, just as there no possibility in each specific case to accurately determine the pathophysiological causes of the disease [7, 16] .

Until recently, long-term courses of antibiotic therapy considered the mainstay in the treatment of CPPS. However, studies conducted with long-term use of a number of antibiotics have not shown a significant positive result. The results of studies on the use of alpha-blockers also are with different therapeutic response [15,17] .

Anti-inflammatory drugs and immunomodulators as monotherapy not recommended by many authors due to insignificant leveling of symptoms [2, 16,32] .

The use of a combination of corticosteroids with antibiotics proposed as a treatment method by Gyang [15, 28] .

Also, muscle relaxants and centrally acting analgesics, antidepressants, local anesthetics and anticonvulsants used to treat neuropathic pain appear in the literature as a means of complex therapy for CPPS [15] .

The cited literature data demonstrates the lack of a generally accepted approach to the diagnosis treatment of the syndrome, as well as to the etiopathogenic essence of pain in the pelvic region. It obvious that the final resolution of the complex of contradictions a matter for the future. However, a very practical question of treating patients with the symptomatology remains relevant.

3.3. Case studies

Clinical Case Nr. 1

Patient M.O. 41-year-old requested a second opinion with a 4-year history of suprapubic before micturition pain, which disappears after micturition, painful urination, nocturia (4-5 micturitions per night), micturition urgency. Past medical history, 1 natural birth 4 years ago.

Micturition /24h	
Time	Urine volume (ml)
06:00	450
10:00	300
12:00	200
15:30	250
17:15	200
18:30	100
19:45	50
21:30	150
22:00	150
24:30	200
02:00	100
03:30	50
04:50	50
05:30	50
06:00	50

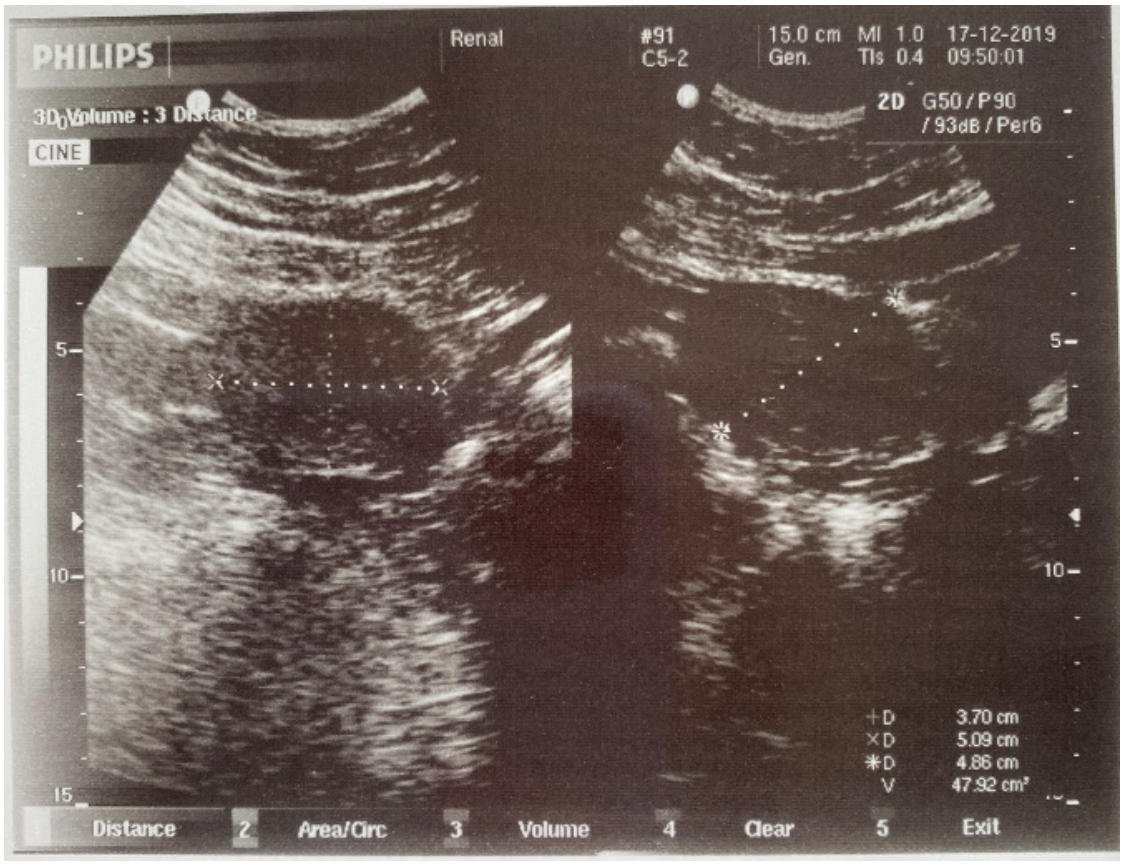
Laboratory investigation of urine culture:

Pathogenic and conditionally pathogenic microflora were not detected.

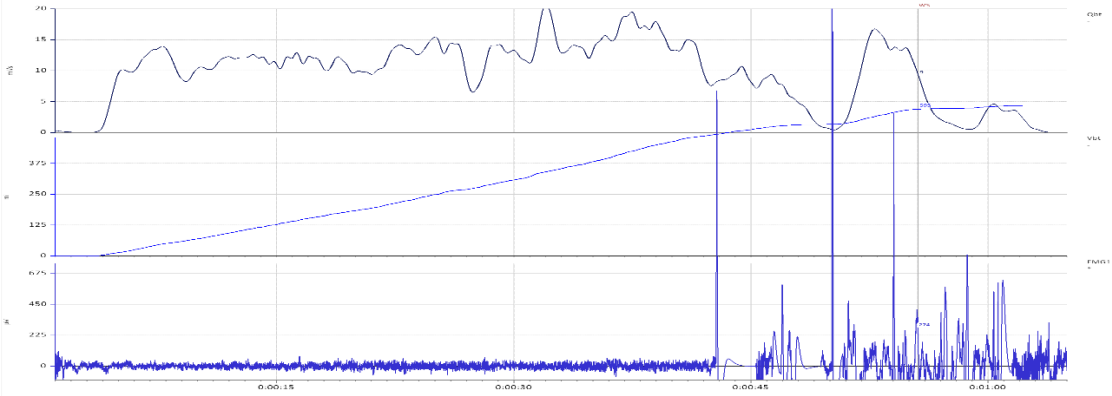
• Hormonal investigations: Progesterone = 0.50ng/mL; Total estradiol = 214.0 ng/mL.

• USG of the urinary bladder: volume formation, stones absent.

Post-micturition residual volume = 0ml.



Urodinamic Studies : ***A - FLW + EMG***



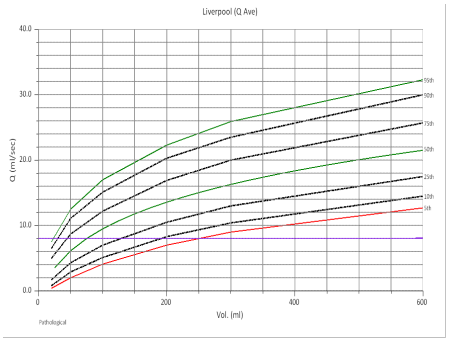
Analysis: Flowmetry

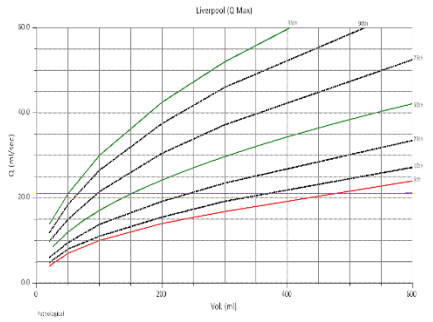
Waiting Time	0.1 s
Time to Maximum Flow	31.8 s
Time 5% -95% Vol.	47.5 s
Flow Time	80.9 s

Maximum Flow	20.7 ml/s
Mean Flow	7.5 ml/s
Residual Volume	0 ml
Voided Vol. at Max. Flow	338 ml

Voiding Time	80.8 s
Max. Detrusor Speed	8.6 mm/s
Descent Time	21.9 s
Initial Bladder Volume	615 ml

Voided Volume	610 ml
Acceleration	0.6 ml/s^2
Corrected maximum flow	0.8 (ml^1/2)/s

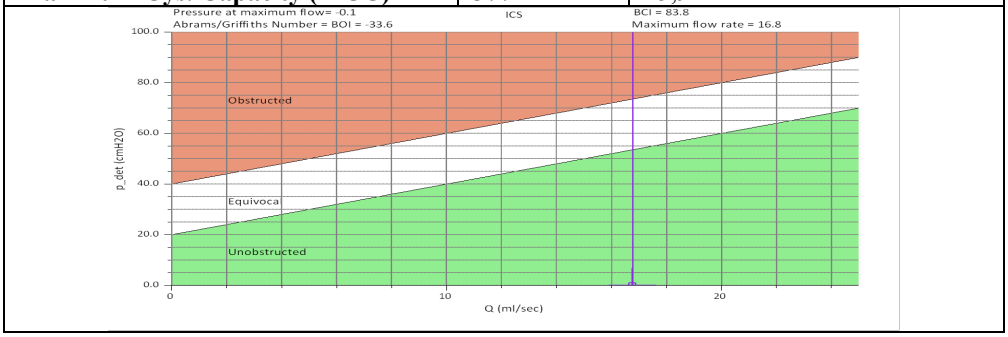




Analysis: Cystometry

Work in	0.01 J	**Leaked Volume**	7 ml
Infusion Speed	20 ml/min	**Infused Volume**	377 ml

	Vol (ml)	**Compl. (ml/cmH2O)**
1st Desire (FD)	164	20,3
Normal Desire (ND)	170	17,7
Strong Desire (SD)	338	16,5
Maximum Cys. Capacity (MCC)	377	15,9



Clinical Case Nr. 2

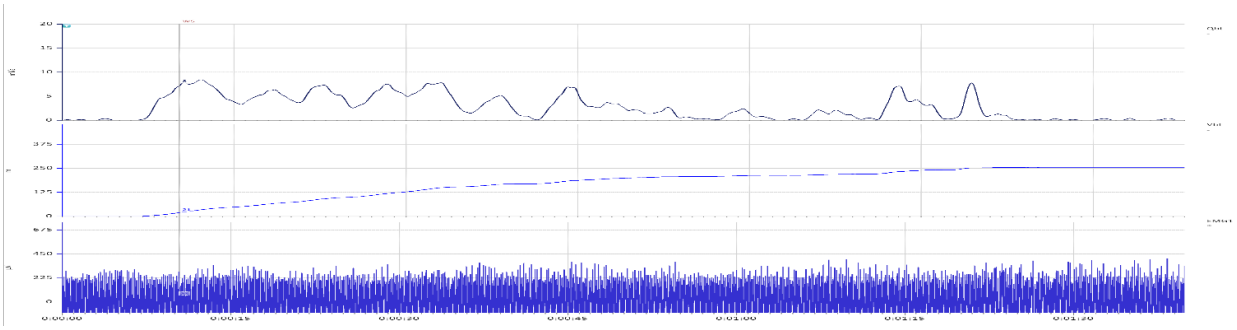
Patient C.M. at the age of 56, with complaints of pollakiuria, nocturia (5 micturitions per night), dysuria, micturition urgency, urinary incontinence. She is considered sick for about 6 years. She previously administered Solifenacin Succinate tablets 10 mg/day, without improvement in general condition.

Past medical history - 5 pregnancies (2 natural births, 3 surgical abortions), hysteroscopy surgery with the removal of uterine (endometrial) polyposis.

• Laboratory investigation of urine culture: Pathogenic and conditionally pathogenic microflora were not detected.

• USG of the urinary bladder: volume formation, stones absent. Post-micturition residual volume = 7ml.

• Urodynamic studies : A - FLW + EMG

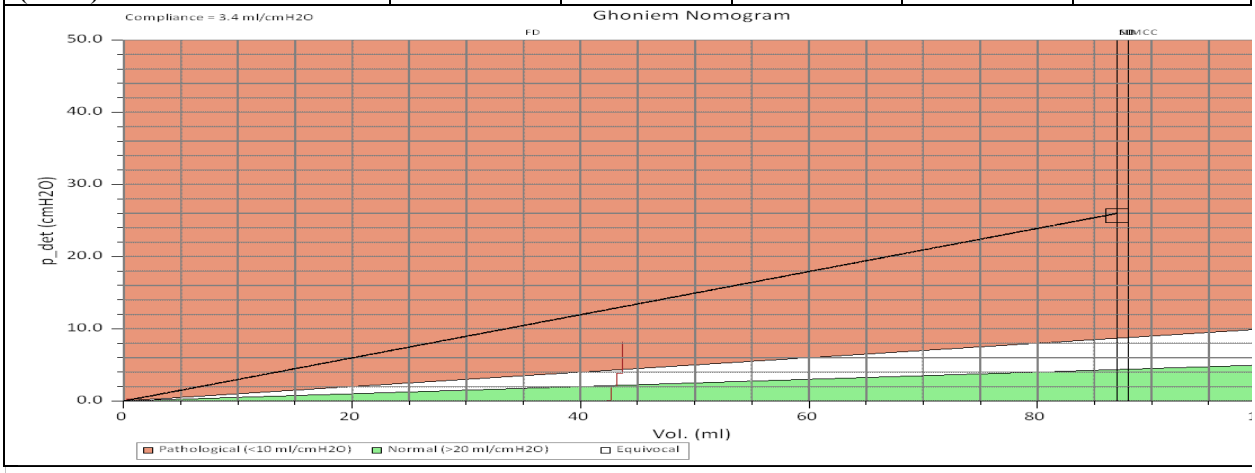


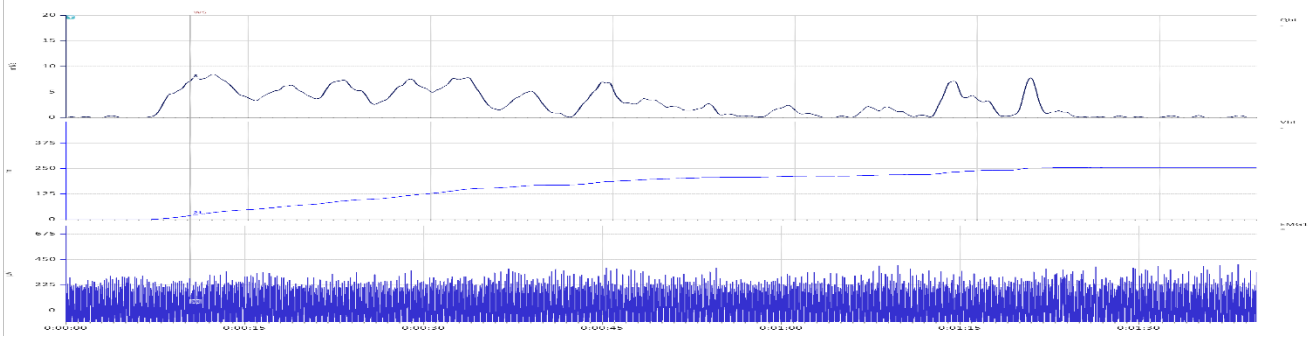
Analysis: Cystometry

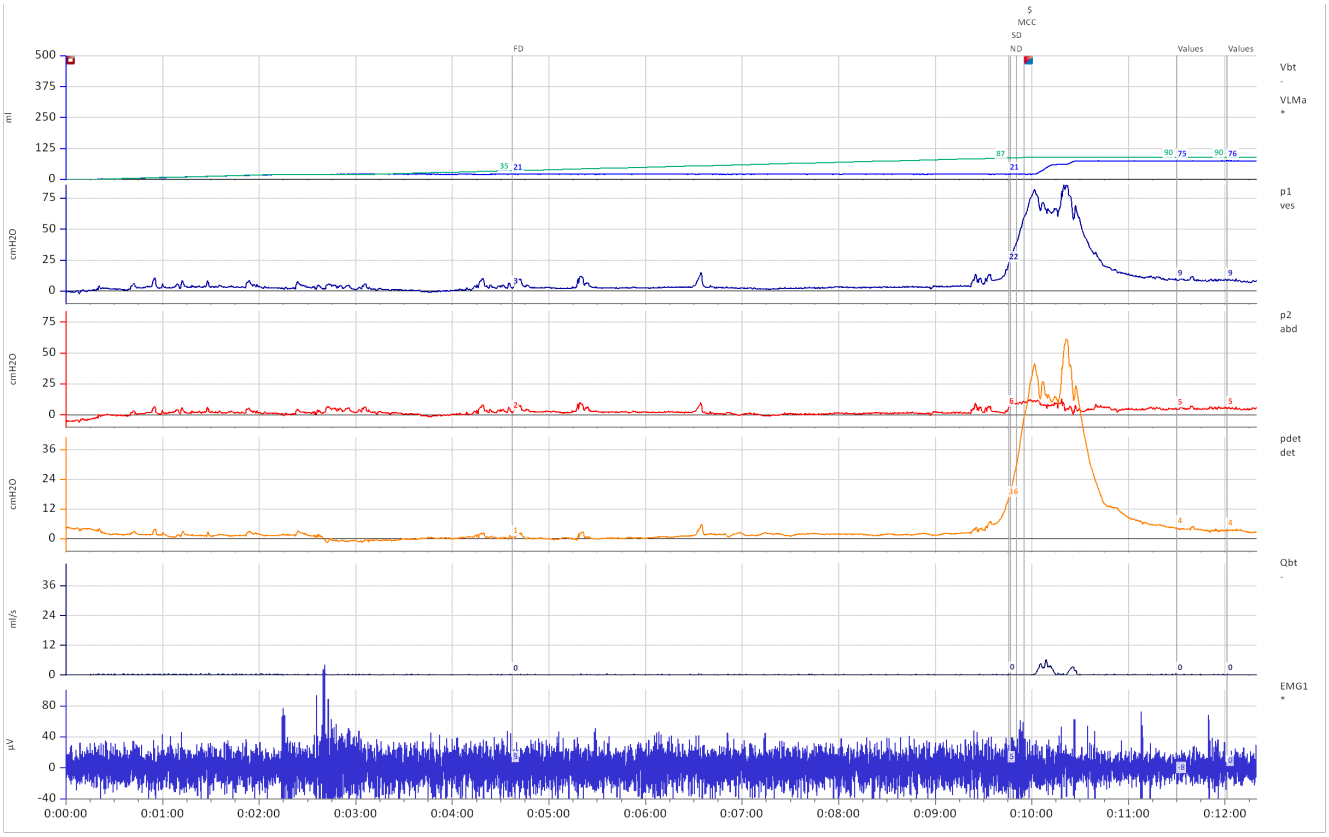
Work in	-0.02 J
Infusion Speed	20 ml/min

Leaked Volume	20 ml
Infused Volume	87 ml

	Pves (cmH2O)	**Pabd (cmH2O)**	**Pdet (cmH2O)**	**Vol (ml)**	**Compl. (ml/cmH2O)**
1st Desire (FD)	2.5	2.0	0.5	35	0.0
Normal Desire (ND)	22.1	5.8	16.3	86	6.8
Strong Desire (SD)	28.2	8.9	19.4	86	5.5
Maximum Cys. Capacity (MCC)	38.8	9.4	29.4	87	3.4







Analysis: Pressure Flow Study (Voiding Phase)

Waiting Time	5.30 s
Opening Time	/
Contraction Time	/
Time at Maximum Flow	8.40 s
Flow Time	30.60 s
Voiding Time	30.50 s
Time at Maximum Pressure	0.0 s
Maximum Flow	6.2 ml/s
Mean Flow	1.8 ml/s
Corrected Maximum Flow	0.8 (ml^1/2)/s
Max. Detrusor Speed	7.5 mm/s
Voided Vol. at Max. Flow	26 ml
Voided Volume	54 ml
Residual Volume	20 ml
BOI	45.7

Premicturition Pressure	48.9 cmH2O
Opening pressure	67.4 cmH2O
Pressure at Maximum Flow	58.1 cmH2O
Mean pressure	21.6 cmH2O
Maximum Pressure	80.7 cmH2O
Contraction Pressure	/
Closing pressure	48.9 cmH2O
URA	37.6 cmH2O
Opening Power	6.3 µW/mm²
Power at Maximum Flow	14.7 µW/mm²
Maximum Power	15.4 µW/mm²
Energy per Unit of Volume	6.04 mJ/ml
RV(WFMax)	0.06
WF80 - WF20	-0.9 µW/mm²
Pdet min. Void	/

GENERAL CONCLUSIONS

Chronic pelvic pain syndrome (CPPS) an urgent and widely discussed problem in the medical community. Despite the efforts made by a wide range of specialists, there currently no generally accepted universal approach to the diagnosis and treatment of the condition.

Pain sensations in CPPS most often localized in the perineum and in the groin areas, while the presence or absence of an inflammatory component in the prostate gland does not significantly

affect either the localization and degree of pain, or the assessment of the quality of life. Myofascial pelvic syndromes detected in the majority of patients with CPPS and their targeted correction within the framework of complex therapy has a positive effect on the results of patient treatment.

A careful evaluation of prior treatment and medical work-ups is performed, and all medical records are reviewed. The use of medications is discussed and recorded, as well as other symptoms besides pain.

However, already now the correction of muscle-tonic disorders, it should be recognized as an effective and safe method of treatment and recommended methods for inclusion in the complex therapy for CPPS.

Recommendations:

Successfully identify the cause of pelvic pain, a number of sequential steps required:

1. Analyze the history of the disease, the history of pain (conditions of occurrence, factors of its decrease and increase, duration, nature).
2. Clarify the topography of pain.
3. To clarify the mechanism of pain - nociceptive, caused by sympathetic, visceral, and other disorders.
4. Assess its nature and intensity in generally accepted terms.

In addition, it should remembered that irritable bowel syndrome and cystitis can quite common causes of pelvic pain.

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