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Persistent dysuria in women: etiological diagnostics and treatment

© Margarita N. Slesarevskaya, Yurii A. Ignashov, Igor V. Kuzmin, Salman Kh. Al-Shukri

Academician I.P. Pavlov First St. Petersburg State Medical University, Saint Petersburg, Russia

INTRODUCTION: Dysuria is a painful urination combined with its frequency and/or difficulty. Dysuria is observed in many urological diseases and is one of the most common reasons for treatment for urological cause.

AIM: The aim of the study is to identify the etiological factors of dysuria in women and to evaluate a personalized approach to their treatment.

MATERIALS AND METHODS: We analyzed the data of 368 women with chronical cystitis. The inclusion criteria for the study were the presence of dysuria (painful and frequent urination more than 8 times a day with or without difficulty), the prescription of urination disorders over one year old and age 18 and over. All patients underwent a comprehensive urological examination to identify the causes of urinary disorders.

RESULTS: The Bacterial cystitis was confirmed only in 78 (21.2%) patients among all 368 women. In the remaining 290 (78.8%) patients, the causes of persistent dysuria were other diseases: bladder leukoplakia in 154 (41.8%), bladder pain syndrome/interstitial cystitis in 38 (10.3%), viral cystitis in 34 (9.3%), paraurethral formations in 29 (7.9%), neurogenic urinary dysfunction bladder in 25 (6.8%), urethral pain syndrome in 5 (1.4%) patients. Dysuria was also caused by postradiation cystitis (2 patients), secondary stones in the urinary bladder (2 patients), and one patient had extragenital endometriosis.

CONCLUSIONS: The variety of reasons for the development of persistent dysuria in women requires careful examination of patients. Treatment should be carried out only after accurate verification of the diagnosis.

Keywords: dysuria; chronic cystitis; recurrent cystitis; viral cystitis; bladder leukoplakia; painful bladder syndrome / interstitial cystitis.

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Стойкая дизурия у женщин: этиологическая диагностика и лечение

© М.Н. Слесаревская, Ю.А. Игнашов, И.В. Кузьмин, С.Х. Аль-Шукри

Первый Санкт-Петербургский государственный медицинский университет им. акад. И.П. Павлова, Санкт-Петербург, Россия

Введение. Дизурия — болезненное мочеиспускание, сочетающееся с его учащением и/или затруднением. Дизурия наблюдается при многих урологических заболеваниях и является одной из самых частых причин обращения за урологической помощью.

Цель исследования — выявление этиологических факторов дизурии у женщин и разработка персонифицированного подхода к их лечению.

Материалы и методы. Проведено обследование 368 женщин, обратившихся за медицинской помощью с диагнозом направления «хронический цистит». Критериями включения в исследование были наличие дизурии (болезненное и учащенное более 8 раз в сутки мочеиспускание с или без его затруднения), давность нарушений мочеиспускания более одного года и возраст 18 лет и старше. Всем пациентам проведено комплексное урологическое обследование для выявления причин нарушения мочеиспускания.

Результаты. Из 368 женщин диагноз направления «бактериальный цистит» подтвержден только у 78 (21,2 %) из них. У остальных 290 (78,8 %) пациенток причинами стойкой дизурии были другие заболевания: лейкоплакия мочевого пузыря — у 154 (41,8 %), синдром болезненного мочевого пузыря / интерстициальный цистит — у 38 (10,3 %), вирусный цистит — у 34 (9,3 %), парауретральные образования — у 29 (7,9 %), нейрогенные дисфункции мочевого пузыря — у 25 (6,8 %), уретральный болевой синдром — у 5 (1,4 %) человек. Причинами дизурии также послужили постлучевой цистит (2 пациентки), вторичные камни в мочевом пузыре (2) и у одной пациентки выявлен экстрагенитальный эндометриоз.

Выводы. Многообразие причин развития стойкой дизурии у женщин требует тщательного обследования больных. Лечение должно проводиться только после точной верификации диагноза.

Ключевые слова: дизурия; хронический цистит; рецидивирующий цистит; вирусный цистит; лейкоплакия мочевого пузыря; синдром болезненного мочевого пузыря/интерстициальный цистит.

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ЭКО•ВЕКТОР

INTRODUCTION

Dysuria refers to painful urination with increased frequency and/or difficulty. Dysuria can be noted in many urological diseases and is one of the most common conditions in urology, although it is not an independent nosological unit. Every year, up to 25% of adult women report dysuric disorders of varying severities [1]. Dysuria is one of the most frequent complaints of women seeking urological help [2].

Long-term and persistent dysuria appears to be a significant medical and social problem. This is due not only to its high prevalence but also to a significant deterioration in the quality of life of women. Persistent dysuria has a negative effect on nearly all aspects of the quality of life, including the emotional sphere, sexual function, professional, and family relations [3, 4].

In women, persistent dysuria has varied causes. These include infectious and inflammatory diseases of the urinary tract and genital organs (cystitis, urethritis, vulvovaginitis, and cervicitis), endometriosis, painful bladder syndrome/interstitial cystitis (PBS/IC), bladder leukoplakia, dermatological diseases (contact dermatitis, lichen sclerosus, or lichen acuminatus), neoplasms (cancer of the bladder, vagina or vulva, and paraurethral leiomyoma), paraurethral cystic formations, traumatic factors associated with surgeries on the pelvic organs or radiation therapy, varicose veins of the small pelvis, neurogenic dysfunction of the lower urinary tract, bladder hyperactivity, foreign bodies, and calculi in the bladder [5–10]. Psychogenic dysuria is also distinguished, in which there are no changes in the urinary tract, but symptoms characteristic of dysuria are detected [11]. Thus, dysuric syndrome in women can be confidently characterized as a polygenic pathological condition.

Despite the variety of causes of dysuria, this syndrome is based on an increase in the sensitivity of the bladder due to irritation of afferent nerve fibers in the submucosal layer of its wall. Urothelium dysfunction plays an important role in it. The urothelium was believed to only act as a barrier; however, at present, the urothelium is considered a structure capable of perceiving mechanical, physical, and chemical stimuli and releasing biologically active substances in response to them [12, 13].

Several studies have focused on the diagnostics and treatment of urinary disorders in women; however, many aspects of this problem have not been adequately explored. Undoubtedly, the exact identification of the cause of dysuria becomes the main condition for the prescription of adequate treatment. However, this task is often quite complex and can be accompanied by diagnostic errors, as a result of both objective and subjective causes. The first include the combined nature of the disorders, when, for example, in one patient, lower urinary tract infections are combined with neurogenic dysfunctions, which require special therapeutic approaches. Insufficient examination of patients can be considered subjective factors, which inhibited making the correct diagnosis and prescribing adequate treatment [14]. Most often, in real clinical practice, when examining women with dysuric disorders, overdiagnosis of infectious and inflammatory diseases of the bladder is noted with the prescription of appropriate antibacterial therapy. In addition to the lack of clinical efficacy, unjustified use of antibiotics can cause the emergence of antibiotic-resistant strains of microorganisms [15]. In addition, even with correctly diagnosed bacterial cystitis, inadequate treatment contributes to the chronicity of the infectious process and development of recurrent diseases [16, 17].

This study aimed to identify the etiological factors of persistent dysuria in women and to develop a personalized approach to their treatment.

MATERIALS AND METHODS

This retrospective and prospective study is based on the results of examination of 368 women with dysuric disorders, performed in the period from 2014 to 2020. The inclusion criteria were as follows: presence of dysuria, namely, painful and frequent (>8 times a day) urination with or without its difficulty, >1 year of urinary disorders, and age ≥18 years. All patients included in the study visited the Consultative and Diagnostic Center of the Department of Urology of the Pavlov First State Medical University of Saint Petersburg with a referral diagnosis of chronic cystitis. Women with inflammatory diseases of the female genital organs, sexually transmitted diseases, human immunodeficiency virus infection, and signs of pronounced estrogen deficiency and pregnant and lactating women were excluded.

In this study, patients' age ranged from 18 to 75 years, and the disease duration was 1–15 years. All women underwent a comprehensive urological examination to identify the causes of urinary disorders. Thus, the nature of urination disorders, intensity of pain sensations, and circumstances of their appearance or intensification were clarified in detail. Anamnesis data of daily life, disease, and factors influencing the severity of urination disorders (physical activity, diet, volume of fluid consumed, emotional stress, alcohol and medication intake, etc.) were assessed. All patients underwent

physical examination, which included gynecological examination and assessment of pelvic reflexes, laboratory tests (general and bacteriological urine tests and clinical and biochemical blood tests). To rule out infectious and inflammatory diseases of the vaginal mucosa, as well as vaginal dysbiosis, all patients underwent a culture study of vaginal discharge with a quantitative determination of lactobacilli, as well as polymerase chain reaction (PCR) tests from two loci (urethra and cervical canal) for chlamydia, ureaplasma, genital mycoplasma, types I and II herpes simplex viruses, cytomegalovirus, and human papillomavirus.

For an objective assessment of existing urination disorders, all patients completed a urination diary for 3 days, which is a simple and informative method for assessing the nature and severity of urination disorders. The patients underwent ultrasound examination of the kidneys and bladder, with determination of the residual urine volume, and uroflowmetry. In cases where, according to the data of noninvasive studies, the cause of dysuria is not identifiable and a neurogenic nature of urination disorders was suspected, a comprehensive urodynamic study was prescribed. Cystoscopy was performed in cases of suspected bladder neoplasms, PBS/IC, hematuria of unknown origin, as well as to women aged >40 years with recurrent (chronic) cystitis. When pathological changes in the bladder mucosa were detected, a biopsy of suspicious areas was performed, followed by morphological examination. In the case of severe pain syndrome, cystoscopy was performed under general anesthesia.

Statistical analysis of the study results was performed using Statistica 10.0, with commonly used methods of medical statistics. Differences were considered significant at $p < 0.05$.

RESULTS AND DISCUSSION

All patients examined had frequent urination (100%), urinary urgency (93%), pain during urination in the projection of the bladder and/or urethra (76%), neurovegetative disorders (100%), and dyspareunia (25%).

In 368 women with an initial diagnosis of recurrent (chronic) bacterial cystitis in the acute stage, the diagnosis on referral was confirmed only in 78 (21.2%), while the remaining 290 (78.8%) had other diseases as the cause of persistent dysuria (Table). Leukocyturia in the general urine analysis (>10 leukocytes/μL) was detected in 129 (35.1%) women, and in the microbiological urine analysis, clinically significant bacteriuria ($\geq 10^3$ CFU/ml) was detected only in 78 (21.2%) patients, which was regarded as a manifestation of bacterial cystitis. The predominant uropathogens in these patients were *Escherichia coli* in 56 (71.8%), *Klebsiella pneumoniae* in 8 (10.3%), *Enterococcus faecalis* in 9 (11.5%), *Staphylococcus aureus* in 3 (3.8%) cases, and *Proteus mirabilis* in 2 (2.6%) cases. A microbial association was revealed in 7 (8.9%) women.

In 34 (9.2%) patients, viruses were found in scrapings from the urethra and in the middle portion of urine, including herpes simplex virus types I and II in 16 cases, cytomegalovirus in two cases, Epstein–Barr virus in one case, and virus human papillomas in 29 cases. Among human papillomaviruses, virus types 16 (47.1%),

Table. Characteristics of patients with persistent dysuria depending on the disease that caused it (n = 368)
Таблица. Характеристика пациенток со стойкой дизурией в зависимости от вызвавшего ее заболевания (n = 368)

Group	Number of patients, *n*	Average age, years	Duration of illness	Postmenopausal period, *n*	Sexually active women, *n*
Bacterial cystitis	78 (21.2%)	43.4 ± 16.1	3.1 ± 2.7	25 (32.1%)	47 (60.3%)
Viral cystitis	34 (9.3%)	37.2 ± 10.6	3.4 ± 2.7	4 (11.7%)	30 (88.2%)
Bladder leukoplakia	154 (41.8%)	32.7 ± 3.4	2.8 ±1.9	30 (19.8%)	95 (61.7%)
Paraurethral lesions	29 (7.9%)	38.9 ± 10.0	2.3 ± 1.5	4 (13.8%)	21 (71.4%)
Post-radiation cystitis	2 (0.5%)	54.0 ± 12.7	4.0 ± 1.4	2 (100%)	1 (50%)
Painful bladder syndrome	38 (10.3%)	54.5 ± 8.7	5.3 ± 2.4	25 (65.8%)	8(21.1%)
Urethral pain syndrome	5 (1.4%)	38.4 ± 5.1	4.6 ± 2.1	0	3 (60%)
Secondary bladder stones (mesh prosthesis protrusion)	2 (0.5%)	48.5 ± 5.0	2.5 ± 0.7	1 (50%)	2 (100%)
Neurogenic bladder dysfunction	25 (6.8%)	52.8 ± 12.6	6.0 ± 3.9	14 (56%)	13 (52%)
Endometriosis	1 (0.3%)	39	5	1 (100%)	1 (100%)

18 (44.1%), 6 (38.2%), and 11 (26.5%) were predominant. Condylomas of the external genital organs were found in 7 (20.6%) women. Patients who had viruses in urethral scrapings or urine had no bacteriuria, and no changes were observed in the general urine analysis (microhematuria or hematuria combined with leukocyturia), which was the basis for the diagnosis of viral cystitis. A careful history taking of the disease is important, since most women with viral cystitis had a vesicular rash during the onset or intensification of dysuric phenomena. These rashes often occurred after intercourse. The cystoscopic presentation in these patients was very diverse and dependent on the severity of clinical manifestations. Thus, in some patients, changes in the mucous membrane were detected in the form of diffuse hyperemia and glomeruliations, while in others, flat, whitish, or papillary formations were found in the trigone of bladder and in the internal orifice area of the urethra. These patients should have a biopsy of the pathological areas of the bladder mucosa. Morphological examination revealed inflammatory changes in the urothelium of varying degrees of severity, squamous cell metaplasia with or without keratinization, as well as signs characteristic of papillomavirus infection, namely, coilocytes and diskeratocytes.

In 154 (41.8%) patients, cystoscopy revealed changes in the urothelium in the trigone of the bladder in the form of loose or dense whitish plaques with raised edges. The diagnosis is confirmed by a biopsy of the bladder mucosa. Biopsy results confirmed the presence of mucosal leukoplakia. Moreover, stage I (squamous cell modulation) was detected in 32 (20.8%) cases, stage II (squamous cell metaplasia) in 47 (30.5%) cases, and stage III (squamous cell metaplasia with keratinization) in 75 (48.7%) cases. The nature and stage of pathomorphological changes were dependent on the disease duration. Thus, with 2–4 years of duration, squamous cell metaplasia was detected in 60.2% and squamous cell metaplasia with keratinization in 39.8% of the cases, and with a duration of >4 years, squamous cell metaplasia with keratinization was found in 75% and squamous metaplasia in 25% of the cases. The average disease duration in this group was 2.8 ± 1.93 years. Generally, these women received chronic conservative therapy without significant clinical effect. These patients did not have leukocyturia and bacteriuria, and most often have moderate pain in the bladder and dysuria [18].

Paraurethral lesions were found in 29 (7.9%) women, including paraurethral cysts in 12 and dilated ducts of Skene glands with purulent discharge from the urethra (skeneitis) in 17. Symptoms of cystic diseases of the urethra are nonspecific and often resemble other urological diseases, including cystitis. Difficulty urinating, dripping of urine after urination (postmictional dribbling), and dyspareunia were typical complaints in this group. Some of them noted discharges from the urethra. With further development of the inflammatory process, pain in the small pelvis increases, there is a feeling of discomfort and a feeling of a "foreign body" in the urethra, the paraurethral zone becomes denser, and its sensitivity increases. With inflammation of the cysts, abscesses occur, which often erupt into the urethra with the subsequent formation of urethral diverticula [19]. Diagnostics of paraurethral cysts of the distal urethra is relatively simple, i.e., examination in the gynecological chair and general and bacteriological examinations of urine are often sufficient. The leading diagnostic method is transvaginal ultrasonography. Ultrasonography allows visualization of the anastomosis between the cyst and the urethra, stones, or a tumor in the cystic cavity. Ultrasound Doppler study can detect abnormal blood flow in the cyst area, which indicates a tumor formation. In some cases, urethrocystoscopy is required, which allows for examination of the lumen of the urethra and assessment of the localization and size of the orifices of the paraurethral glands, as well as the presence of defects in the urethral wall. The main contraindication for performing urethrocystoscopy is acute infectious and inflammatory diseases of the lower urinary tract. If these methods do not provide information sufficient for the diagnosis, magnetic resonance imaging of the small pelvis with contrast is indicated. MRI enables assessment of the anatomy, contents of the lesion, and its relationship with the surrounding tissues, to establish the required amount of surgical intervention.

Post-radiation cystitis was established in two patients, who had a history of radiation therapy for cervical cancer. Clinical manifestations in these women were similar to acute cystitis, subjectively manifested by a frequent, painful urge to urinate and pain in the suprapubic region. Moreover, the general test of urine detected hematuria, leukocyturia, increased amounts of the epithelium of the urinary bladder, and albuminuria. One of these patients was diagnosed with hemorrhagic cystitis. Cystoscopy revealed hyperemia of the mucous membrane, mainly on the posterior wall of the bladder. This patient underwent transurethral resection of the bladder wall and coagulation of bleeding vessels. The incidence of post-radiation hemorrhagic cystitis is very high; this complication can manifest itself both early (2 months)

after radiation therapy and much later (10 years after exposure) [20]. In our patients, the time interval from the moment of radiation therapy to the onset of dysuria was 4.0 ± 1.4 years.

Painful bladder syndrome/interstitial cystitis was diagnosed in 38 (10.3%) women. The average age of the patients was 55.9 ± 9.7 years, 13 women (34.2%) were of reproductive age, and 25 (65.8%) were postmenopausal. Disease duration varied from 1 to 10 years (average, 5.3 ± 2.4 years). For PBS/IC, a characteristic sign is severe pain in the projection of the bladder, which increases with its filling. Women with PBS/IC underwent cystoscopy and urinary bladder hydrodistention under intravenous anesthesia, during which a pressure in the bladder of 60 cm of water column was maintained for 2 min. The results of cystoscopy with hydrodistention of the bladder showed PBS/IC without Hunner's lesions in 25 patients and Hunner's lesions in 13 cases. The latter had more severe clinical symptoms.

Five (1.4%) women were diagnosed with urethral pain syndrome. Typical clinical manifestations in this group were pain in the urethra, frequent urination, and discomfort in the suprapubic region, while the patients noted a decrease in the severity of pain after urination. According to the data of general and bacteriological analyses of urine, no case showed significant deviations from the norm. Urethral pain syndrome is characterized by more severe symptoms at daytime than at night. Some authors believe that in a quarter of women without signs of urinary infection, the cause of lower urinary tract symptoms is urethral pain syndrome, which [5] etiology remains unclear.

In two women, the cause of persistent dysuria was secondary bladder stones formed on fragments of mesh prostheses during their protrusion into the bladder. A history of these patients included surgical interventions for stress urinary incontinence using mesh synthetic prostheses, that is, 2 years ago in one patient and 3 years ago in the other. In addition to complaints of frequent and painful urination, both women reported pain during intercourse (dyspareunia). Subsequently, these patients underwent successful laser lithotripsy and simultaneous extraction of the bladder fragment of the synthetic loop. According to the literature, the frequency of intravesical protrusion of the synthetic loop after tension-free vaginal tape surgery is 5.1% [21].

During the examination, one woman was diagnosed with endometriosis of the bladder. She complained of the frequent urge to urinate, pain, and burning sensation during urination and pain and discomfort in the suprapubic region. These complaints were cyclical in nature and intensified in the premenstrual period. Menuria, that is, hematuria coinciding with menstruation, was absent. Morphological manifestations of bladder endometriosis can vary depending on the phase of the menstrual cycle. The foci of the endometriosis in the bladder appear adenomatous or separate nodular formations of various shapes and colors, blue red, blue black, or blue brown. The urothelium is usually not ulcerated. Endometriotic lesions can be single or multiple, with a diameter of 1–3 cm and are located at the dome or base of the bladder. However, small lesions affecting only the adventitia of the bladder are usually not visible on cystoscopy [22]. During cystoscopy, we did not find any changes in the mucous membrane of the bladder of the patient. The diagnosis of endometriosis of the urinary bladder was established only after magnetic resonance imaging of the small pelvis with contrasting.

In 25 (6.8%) women, the cause of persistent dysuria was neurogenic dysfunction of the lower urinary tract. The average age of the patients was 52.8 ± 12.6 years, and the average duration of dysuria was 6.0 ± 3.9 years. Dysuria due to neurogenic dysfunctions is characterized by severe urination disorders with relatively mild pain or no pain. In the analysis of data from urination diaries, the average frequency of urination in these patients was 14.5 ± 0.8 times a day, and the average number of urgencies was 4.6 ± 4.1 times a day. Moreover, the intensity of urgencies was quite high, and all 25 women rated >6 points on a 10-point scale (on average, 7.2 ± 1.5 points). Urgent urinary incontinence was registered in 19 (76%) women. According to the results of cystometry, detrusor hyperactivity was revealed in all patients. Anticholinergic therapy was effective in most of the treated patients.

Thus, a thorough collection of anamnesis and an assessment of the patient's complaints can determine correctly the direction of the diagnostic search; thus, the diagnostic stage is shortened and treatment is started directly. Knowledge of the symptoms of urological diseases can help establish a preliminary diagnosis and determine the examination scheme. For example, PBS/IC is characterized by pain in the projection of the bladder, which increases with its filling. A correctly collected anamnesis can help in obtaining information about the causes of the disease onset, time of its onset, duration, and course aspects and in identifying the factors that contributed to its development and progression. Specialized questionnaires and forms (e.g., Acute Cystitis Symptom Score and Pelvic Pain and Urgency/Frequency

Scale) can objectify patient complaints. Filling out urination diaries by patients is extremely important to assess the severity and nature of urinary disorders. Their analysis aids in the objective assessment of the frequency of urination, urgency, and episodes of urinary incontinence, average effective volume of urination, use of incontinence pads, calculate the daily and nighttime urine output, and dynamics of symptoms during treatment. Examination of the patient is an important component of the diagnostic and treatment process. In women with dysuria, an examination of the external genital organs is necessary to detect rashes on the mucous membranes, genital warts, and vaginal discharge and to assess the location of the external urethral orifice in relation to the anterior wall of the vagina. Rashes and genital warts on the perineum require ruling out of the viral nature of the disease. Discharge and soreness during vaginal examination are characteristic of diseases of the female genital organs (vaginitis, adnexitis, salpingitis, etc.). In a bimanual vaginal examination, attention should be paid to the condition of the urethra (especially in patients with recurrent lower urinary tract infection) and soreness in palpation of the bladder neck, and the presence of pelvic organ prolapse should be assessed. In the case of ectopia of the external opening of the urethra, tests must be performed according to the O'Donnell–Hirschhorn method.

A general urinalysis is a screening test and should be performed by all patients with urological disorders. In the presence of leukocyturia, a microbiological study of the urine for microflora and determination of sensitivity to antibiotics is indicated, since empirical therapy for recurrent cystitis is often ineffective. Microbiological examination of urine aids in identifying the pathogen and in selecting an antibacterial drug, taking into account the sensitivity of the uropathogen. Persistent leukocyturia in the absence of bacteriuria may be a sign of a specific lesion of the bladder (bladder tuberculosis) [23].

If discharges are observed from the female genital tract, a microscopic examination of a scraping from three loci (urethra, vagina, and cervical canal) is required, which rules out an infectious process in the genitourinary organs. If there is a connection between the appearance of dysuric disorders and sexual intercourse, examination for sexually transmitted infections is indicated. PCR test is a simple and informative method of molecular diagnostics that identifies fragments of the genetic material of the infectious agent in the biological material. Samples for PCR diagnostics must be obtained from two loci: the urethra and cervical canal. In the absence of sexually transmitted infections, viral pathogens should be ruled out, such as herpes simplex virus types I and II, cytomegalovirus, Epstein–Barr virus, and papillomaviruses, especially of the oncogenic type. Genital warts in the genital area and urethra indicate a current papillomavirus infection.

In women with prolonged and often uncontrolled intake of antibacterial drugs, dysbiotic changes in the intestines and vagina develop. Women with bacterial vaginosis caused by an overgrowth of anaerobes such as *Gardnerella vaginalis* have urinary tract infections more often than women with healthy microbial communities, mainly represented by *Lactobacillus* [24]. Temporary exposure to some strains of *G. vaginalis* triggers the activation of *E. coli* from latent intracellular reservoirs of urinary tract infections [25]. Thus, bacteriological analysis of vaginal discharge for flora, determination of sensitivity to antibiotics, and quantitative determination of lactobacilli should be included in the examination plan for such patients.

Ultrasonography of the kidneys, bladder, and pelvic organs by Doppler imaging can detect pathological formations in the urinary and reproductive systems, as well as the presence of varicose veins of the small pelvis, which can also cause urinary disorders [26]. All patients should be assessed for residual urine volume, and uroflowmetry should be performed in emptying symptoms. A comprehensive urodynamic study is indicated in patients with neurogenic dysfunctions of the lower urinary tract, with mixed forms of urinary incontinence, and ineffectiveness of conservative treatment of overactive bladder, to rule out detrusor overactivity when preparing patients for surgical treatment of stress urinary incontinence. Cystoscopy with biopsy appears to be an important diagnostic method for assessing the condition of the bladder mucosa and ruling out of other bladder diseases with similar clinical symptoms. If PBS/IC is suspected, cystoscopy should be performed under anesthesia and combined with urinary bladder hydrodistention.

CONCLUSIONS

The variety of causes of persistent dysuria in women requires careful examination of patients. Treatment should be performed only after verification of the diagnosis.

ADDITIONAL INFORMATION

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AUTHORS' INFO

***Margarita N. Slesarevskaya,** Cand. Sci. (Med.);
address: 6–8, Lva Tolstogo str., Saint Petersburg, 197022, Russia;
ORCID: https://orcid.org/0000-0002-4911-6018;
eLibrary SPIN: 9602-7775; Scopus: 57196117211;
e-mail: mns-1971@yandex.ru

Igor V. Kuzmin, Dr. Sci. (Med.), Professor;
ORCID: https://orcid.org/0000-0002-7724-7832;
eLibrary SPIN: 2684-4070; Scopus: 56878681300;
e-mail: kuzminigor@mail.ru

* Corresponding author / Автор, ответственный за переписку

ОБ АВТОРАХ

***Маргарита Николаевна Слесаревская,** канд. мед. наук;
адрес: 197022, Санкт-Петербург, ул. Льва Толстого, д. 6-8;
ORCID: https://orcid.org/0000-0002-4911-6018;
eLibrary SPIN: 9602-7775; Scopus: 57196117211;
e-mail: mns-1971@yandex.ru

Игорь Валентинович Кузьмин, д-р мед. наук, профессор;
ORCID: https://orcid.org/0000-0002-7724-7832;
eLibrary SPIN: 2684-4070; Scopus: 56878681300;
e-mail: kuzminigor@mail.ru

AUTHORS' INFO

Yurii A. Ignashov, Cand. Sci. (Med.);
ORCID: https://orcid.org/ 0000-0003-0773-0711;
eLibrary SPIN: 2243-0734;
e-mail: yuri.ignashov@gmail.com

Salman Kh. Al-Shukri, Dr. Sci. (Med.), Professor,
Head of the Department of Urology;
ORCID: https://orcid.org/0000-0002-4857-0542;
eLibrary SPIN: 2041-8837; Scopus: 6506423220;
e-mail: alshukri@mail.ru

ОБ АВТОРАХ

Юрий Анатольевич Игнашов, канд. мед. наук,
ассистент кафедры урологии;
ORCID: https://orcid.org/0000-0003-0773-0711;
eLibrary SPIN: 2243-0734; e-mail: yuri.ignashov@gmail.com

Сальман Хасунович Аль-Шукри, д-р мед. наук, профессор,
заведующий кафедрой урологии;
ORCID: https://orcid.org/0000-0002-4857-0542;
eLibrary SPIN: 2041-8837; Scopus: 6506423220;
e-mail: alshukri@mail.ru