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Master's Thesis

**DIAGNOSTICS AND TREATMENT URINARY INCONTINATION IN
ADULTS**

Master of Science in Nursing

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ABSTRACT

Urinary incontinence is widespread throughout the world. This research project aims to study the etiological factors and pathogenetic mechanisms of various forms of urinary incontinence, to develop directions and methods for diagnosing, effective treatment of incontinence in adults. The data for this project was collected through: epidemiological, clinical (observation, comparison, measurement), statistical methods. **All patients** with symptoms of urinary incontinence require constant medical supervision, careful hygiene care and organization of life to improve the quality of life. For timely effective treatment of incontinence in adult patients, medical personnel should develop a plan of diagnostic measures, which should take into account all the risk factors for the formation of urinary incontinence in each patient individually, taking into account the characteristics of his age, gender, underlying disease, functional characteristics of the body. It should include a thorough history taking, physical, modern laboratory, instrumental diagnostic methods. A complex of therapeutic measures for urinary incontinence in adults should include mandatory non-drug methods of therapy (bladder training, exercises for the pelvic muscles, normalization of physical activity, a diet that promotes weight loss), drug treatment using modern drugs (anticholinergics, drugs of mixed actions, antagonists of α -adrenergic receptors, antidepressants (tricyclic or serotonin and norepinephrine reuptake inhibitors)). In case of ineffectiveness of non-drug and drug treatment, surgical (surgical) intervention is indicated. The volume of the operation is determined individually, taking into account gender, age, underlying disease. **The ultimate goal** of treating incontinence in adults is to normalize urination and improve the quality of life.

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INTRODUCTION

The relevance of research. Urinary incontinence (incontinence) is the involuntary leakage of urine that cannot be controlled by willpower. Pathology is widespread throughout the world. Data on the prevalence of urinary incontinence are contradictory, which is explained both by differences in the choice of studied populations and by the fact that only a small part of patients suffering from various forms of urinary incontinence go to medical institutions [7].

Urinary incontinence can occur at any age, but the causes of this disorder tend to be different in different age groups. The likelihood of its occurrence increases markedly with age. On average, a third of people in the older age group have one or another urinary control disorder, and in women they occur 2 times more often than in men [17].

Urinary incontinence is observed in more than half of the people served at home by medical personnel. This disorder may be the basis for hospitalization of the elderly. It contributes to the development of bedsores, bladder and kidney infections, depression. Urinary incontinence depresses a person and leads to psychological uncertainty [18].

The kidneys are constantly producing urine, which flows through two long tubes (ureters) to the bladder, where it is stored. The lowest part of the bladder (neck) is surrounded by a muscle (sphincter) which is in a state of contraction, closing off the urethra (urethra) through which urine is expelled from the body; as a result, urine accumulates in the bladder until it is full. When this happens, a signal is sent along the nerves from the bladder to the spinal cord, which is then transmitted to the brain, and the person feels the urge to urinate. As a result, a person can consciously and voluntarily determine the moment when urination begins [19].

When a person decides to urinate, the sphincter muscle relaxes, allowing urine to flow through the urethra, and the muscles in the bladder wall contract to help empty the bladder. This emptying can be increased by contraction of the abdominal and pelvic muscles, resulting in increased pressure on the bladder [16].

Averaged data suggests that about 20% of the world's population suffers from urinary incontinence in one form or another. Russian researchers in the field of urology claim that urinary incontinence occurs in 12-70% of children and 15-40% of adults. At the age of 20-24 years, 15% suffer from this disease, by the age of 45-54 - 30%, in nursing homes - 42-56% of the surveyed patients [7].

With age, the incidence of urinary incontinence increases in both men and women. In the group of people under forty years of age, incontinence is more common in women. Symptoms of urinary incontinence occur in 58.8% of patients due to the onset of menopause. In the older age group, the proportion of men increases due to age-related changes in the prostate. Urinary incontinence affects 25% of all patients over 65 years of age [20].

Shyness, as well as the attitude of women to urinary incontinence as an integral sign of aging, lead to the fact that the values given do not reflect the real prevalence of the disease. It should be taken into account that 50% of patients hide this problem [26].

Urinary incontinence dramatically worsens the quality of life of patients, leads to the development of psycho-emotional disorders, professional, social, family and household maladaptation. Urinary incontinence is not an independent disease, but only a manifestation of pathological processes of various origins [29].

The approach to the treatment of urinary incontinence should be determined taking into account the underlying disease. A complex of diagnostic and therapeutic measures in this condition should be formed taking into account the individual characteristics of the patient's body [28].

- Purpose of the study. To study the etiological factors and pathogenetic mechanisms of various forms of urinary incontinence, to develop directions and methods for diagnosing, effective treatment of incontinence in adults.
- Research assignments.
 - 1. To study the role of various etiological factors in the occurrence of all forms of urinary incontinence.
 - 2. Investigate the pathogenetic mechanisms of incontinence in adults.
 - 3. Study the clinical symptoms of urinary incontinence.
 - 4. Define a diagnostic algorithm for urinary incontinence in adults.
 - 5. Investigate the diagnostic value of physical, laboratory, instrumental methods for diagnosing various forms of incontinence.
 - 4. Investigate the most effective treatments for urinary incontinence in adults.

- Object of study. Regulation and violation of urination in adults with the formation of urinary incontinence.
- Subject of study. Factors in the formation of urinary incontinence in adults, possible methods of diagnosis and treatment.
- Research methods: epidemiological, clinical (observation, comparison, measurement), statistical.
- Scientific and practical significance of the research. The results of the study deepen theoretical knowledge about the role of various etiological factors in the pathogenesis of urinary incontinence in adults. This experimental study opens up new prospects for using the acquired knowledge to develop diagnostic and therapeutic measures for incontinence. Popularization of the data obtained in medical institutions, as well as among relatives and friends of the patient contributes to the widespread use of various methods for the timely diagnosis and treatment of urinary incontinence in adults.

CHAPTER 1.
ETIOLOGICAL FACTORS AND
PATHOGENETIC MECHANISMS OF VARIOUS FORMS
URINARY INCONTINENCE (LITERATURE REVIEW)

1.1. CLASSIFICATION OF URINARY INTENTION

The International Society for the Diagnosis and Treatment of Urinary Incontinence (ICS) considers the following forms of urinary incontinence [7]:

1. Urgent urinary incontinence is a complaint of involuntary leakage of urine that occurs immediately after a sudden urge to urinate.
2. Stress urinary incontinence (stress incontinence - SUI) - involuntary leakage of urine during stress, sneezing or coughing.
3. Mixed urinary incontinence - involuntary leakage of urine along with a sudden sharp urge, as well as due to effort, exertion, sneezing or coughing.
4. Persistent urinary incontinence is a complaint of constant leakage of urine.
5. Enuresis - any involuntary loss of urine.
6. Nocturnal enuresis - a complaint of loss of urine during sleep.
7. Other types of urinary incontinence. They can occur in various situations (for example, during sexual intercourse).

For practical purposes, it is better to use a simpler classification of urinary incontinence [16]:

- imperative urinary incontinence (urgent);
- stress urinary incontinence;
- mixed (combined) urinary incontinence;
- other forms of urinary incontinence.

Stress urinary incontinence (synonym: stress urinary incontinence) is the most common urological disease. The International Society for the Diagnosis and

Treatment of Urinary Incontinence (ICS) defines stress urinary incontinence as a symptom, a sign, and a condition [12].

- Symptom - a feeling of loss of urine during exercise.
- The sign is urine output from the urethra immediately after an increase in abdominal pressure (cough).
- Condition - involuntary loss of urine with an increase in intravesical pressure above the maximum urethral pressure with detrusor inactivity.

Stress incontinence is always associated with pelvic floor insufficiency - it creates conditions for pathological mobility and insufficiency of the sphincters of the bladder and urethra. With a traumatic injury to the pelvic floor, perineal tissues and urogenital diaphragm, the walls of the vagina are displaced, along with them the uterus and bladder.

- Subject of study. Factors in the formation of urinary incontinence in adults, possible methods of diagnosis and treatment
- Research methods: epidemiological, clinical (observation, comparison, measurement), statistical.
- Scientific and practical significance of the research. The results of the study deepen theoretical knowledge about the role of various etiological factors in the pathogenesis of urinary incontinence in adults. This experimental study opens up new prospects for using the acquired knowledge to develop diagnostic and therapeutic measures for incontinence. Popularization of the data obtained in medical institutions, as well as among relatives and friends of the patient contributes to the widespread use of various methods for the timely diagnosis and treatment of urinary incontinence in adults.

INTERNATIONAL CLASSIFICATION

STRESS INTCONTINATION

Type 0. At rest, the bottom of the bladder is located above the pubic symphysis. When coughing in a standing position, a slight rotation and dislocation of the urethra and the bottom of the bladder are determined. When opening his neck, spontaneous excretion of urine is not observed.

Type 1. At rest, the bottom of the bladder is located above the pubic symphysis. When straining, the bottom of the bladder descends by approximately 1 cm, when

the neck of the bladder and urethra open, involuntary release of urine occurs. A cystocele may not be identified.

Type 2a. At rest, the bottom of the bladder is located at the level of the upper edge of the pubic symphysis. When coughing, a significant prolapse of the bladder and urethra below the pubic symphysis is determined. With a wide opening of the urethra, spontaneous excretion of urine occurs. A cystocele is identified.

Type 2b. At rest, the bottom of the bladder is located below the pubic symphysis. When coughing - a significant prolapse of the bladder and urethra with a pronounced spontaneous release of urine. Determined cystourethrocele.

Type 3. At rest, the bottom of the bladder is located slightly below the upper edge of the pubic symphysis. The bladder neck and proximal urethra are open at rest - in the absence of detrusor contractions. Spontaneous excretion of urine due to a slight increase in intravesical pressure.

Type 3a. The combination of dislocation of the urethrovesical segment and damage to the sphincter apparatus.

The use of this classification allows not only to establish the type of urinary incontinence, but also to develop an adequate tactic for the surgical treatment of stress incontinence. It can be seen from the classification that types 1 and 2 of stress urinary incontinence are a consequence of violations of the anatomy of the pelvic floor, in which dislocation and deformation of the urethrovesical segment occur in combination with involvement of the bladder with the possible development of a cystocele. The basis for the treatment of stress urinary incontinence of types 1 and 2 is the surgical restoration of the altered topographic and anatomical ratios of the organs of the small and urethrovesical segment.

Type 3 stress incontinence is caused by a non-functioning bladder sphincter that may be scarred. In addition, in type 3 stress urinary incontinence, sphincter pathology is accompanied by funnel-shaped dilatation of the urethra [24].

During surgical elimination of incontinence, it is necessary to create conditions for urinary retention in such patients by giving additional support to the urethra and additional compression of the urethra, since the function of the sphincter in these patients is completely lost [31].

There are also other classifications of urinary incontinence:

There are three degrees of urinary incontinence according to severity:

- easy,
- average,
- heavy.
- Neuroreceptor urinary incontinence, conduction urinary incontinence and urinary incontinence are also distinguished due to a violation of the integrity of the neuromuscular structures of the supporting apparatus of the bladder, urethra and pelvic floor.

The classification developed by R.C. Bump (1997) [17]. There are three types of urinary incontinence:

- ◆ Incontinence due to loss or impairment of continence; Distinguish between periodic or permanent (this includes stress) urinary incontinence.
- ◆ Incontinence due to insufficient bladder emptying function (overfilling syndrome) - with detrusor paralysis or infravesical obstruction.
- ◆ Incontinence due to lack of urinary control, expressed in involuntary urination due to a lack of coordination between the reflex activity of the detrusor and impulses that suppress the urge to urinate from the central nervous system.

Depending on the causes leading to urinary incontinence, it is necessary to distinguish the following concepts:

- ◆ Stress incontinence - due to pathological mobility of the bladder neck and urethra as a result of weakness of the pelvic floor muscles.

Urinary incontinence - instability of the detrusor with normal function of the sphincter of the bladder and urethra, the absence of pathological mobility of the bladder neck and urethra and nervous diseases.

- ◆ Neurogenic urinary incontinence - with neurogenic bladder dysfunction of an overactive type, when the urethral sphincter is not subject to voluntary control, but provides normal urethral closure pressure (active neurogenic urinary incontinence).
- ◆ Passive neurogenic urinary incontinence - with insufficiency of the sphincter of the bladder and urethra - is observed with damage to the spinal center of urination and the underlying nerve pathways.
- ◆ Congenital false urinary incontinence - with malformations of the urinary tract.

- ◆ Acquired false urinary incontinence - in the presence of fistulas of iatrogenic origin.
- ◆ Paradoxical ischuria due to urinary retention and bladder overflow.
- ◆ Post-traumatic urinary incontinence - with fractures of the pelvic bones, damage to the sphincters of the bladder and urethra during surgical interventions [16].

1.2. CLINICAL SYMPTOMS OF URINARY INTINCONTINENCE

Urinary incontinence characterizes a number of clinical syndromes:

- Overactive bladder is a clinical syndrome characterized by a number of symptoms: frequent urination (more than 8 times a day), urgency with/without urge incontinence, nocturia [8].
- Urgent urinary incontinence is one of the manifestations of an overactive bladder - involuntary leakage of urine due to a sudden urgent urge to urinate due to involuntary contraction of the detrusor during the filling phase of the bladder. Detrusor hyperactivity is due to neurogenic causes and idiopathic, when neurogenic pathology is not established, as well as due to a combination of them [9].
- Idiopathic causes include: age-related changes in the detrusor, myogenic and sensory disorders, and anatomical changes in the position of the urethra and bladder.
- Neurogenic causes - the result of suprasacral and supraspinal injuries: the consequences of circulatory disorders and damage to the brain and spinal cord, Parkinson's disease, multiple sclerosis and other neurological diseases leading to a violation of the detrusor innervation.
- Mixed urinary incontinence is a combination of stress and urgency urinary incontinence [7].

Urgency.

Classifications that consider the symptoms of urgency from the perspective of a doctor and a patient:

- Scale for assessing the severity of clinical manifestations of imperative symptoms:

- 0. No urgency;
- 1. Easy degree;
- 2. Average degree;
- 3. Severe degree.
- R. Freeman classification:
 - 1. Usually I cannot hold urine;
 - 2. I hold my urine if I immediately go to the toilet;
 - 3. I can “finish” and go to the toilet.

This scale is actively used to assess the symptoms of detrusor overactivity.

Symptoms of an overactive bladder and urge incontinence must be differentiated from stress urinary incontinence, urolithiasis, bladder cancer, and interstitial cystitis [33].

1.3. ETIOLOGY OF URINARY INTENTION

The development of symptoms of the disease is impossible without the occurrence of violations of the anatomical relationships of the pelvic organs. Thus, stress incontinence is characterized by displacement of the proximal urethra and urethrovesical segment.

Close anatomical connections between the bladder and the vaginal wall contribute to the fact that against the background of pathological changes in the pelvic diaphragm, the anterior wall of the vagina is lowered, which entails the wall of the bladder. The latter becomes the contents of the hernial sac, forming a cystocele. The active contractility of the sphincters of the bladder is lost when the muscle fibers are destroyed. They are replaced by scar tissue, which prevents hermetic closure of the lumen of the vesicourethral zone [19].

Stress incontinence is associated with genital prolapse in 82% of cases. About 47.9% of patients over the age of 50 have mixed incontinence, when dishormonal disorders and various somatic and gynecological diseases affect the state of the tissues. All patients had from 1 to 5 deliveries in history. The frequency of perineal tears during childbirth was 33.4% [20].

1.4. PATHOGENESIS OF URINARY INTENTION

Pathological childbirth plays a major role in the development of urinary incontinence in women. Involuntary excretion of urine often occurs after difficult childbirth, which was protracted or accompanied by obstetric operations. A constant companion of pathological childbirth is trauma to the perineum and pelvic floor. At the same time, the occurrence of urinary incontinence in nulliparous women and even those who did not live sexually forced to reconsider the issues of pathogenesis. Numerous studies have shown that with urinary incontinence there is a pronounced violation of the closure apparatus of the bladder neck, changes in its shape, mobility, and the bladder-urethra axis [6].

Urinary incontinence is divided into two main types:

- a disease associated with dislocation and weakening of the ligamentous apparatus of the unchanged urethra and urethrovesical segment - anatomical urinary incontinence;
- a disease associated with changes in the urethra itself and the sphincter apparatus, leading to dysfunction of the closing apparatus.

The condition for urinary retention is a positive urethral pressure gradient (pressure in the urethra exceeds intravesical pressure). In violation of urination and urinary incontinence, this gradient becomes negative.

The disease progresses under the influence of physical activity and hormonal disorders (decrease in estrogen levels in menopause, and in women of reproductive age, fluctuations in the ratio of sex and glucocorticoid hormones and their indirect effect on α - and β -adrenergic receptors play a significant role). Connective tissue dysplasia plays an important role [25].

1.5. RISK FACTORS FOR INCONTINENCE

The definition of risk factors for incontinence is currently a controversial issue, since non-standardized research methods are used for this. There are many classifications of risk factors for urinary incontinence in women. They can be subdivided into urogynecological, constitutional, neurological and behavioral. In the genesis of urinary incontinence, three factors play the main role: heredity, social factor, lifestyle of the patient [26].

It is possible to identify risk factors for the development of urinary incontinence: predisposing, provoking and contributing.

Predisposing factors:

- ◆ genetic factor;
- ◆ features of labor (more often occurs in women engaged in physical labor);
- ◆ the presence of neurological diseases;
- ◆ anatomical disorders.

Provoking factors:

- ◆ childbirth;
- ◆ surgical interventions on the pelvic organs;
- ◆ damage to the pelvic nerves and/or pelvic floor muscles;
- ◆ radiation (radiation) impact.

Contributing factors:

- ◆ bowel disorders;
- ◆ irritating diet;
- ◆ overweight patient;
- ◆ menopause;
- ◆ lower urinary tract infections;
- ◆ taking certain medications (α -blockers and α -agonists);
- ◆ pulmonary status;
- ◆ mental status.

CHAPTER 2

DIAGNOSTICS OF VARIOUS FORMS OF URINARY INTINCONTINENCE

2.1. CLINICAL PICTURE OF URINARY INTENTION

The combination of organic pathology with the disposition of the pelvic organs determines the variety of clinical manifestations. The most frequent complaints:

- sensation of a foreign body (in the vagina, in the urethra);
- imperative urge to urinate;
- Urinary incontinence with an imperative urge, urinary incontinence during physical exertion;
- nocturia;
- feeling of incomplete emptying of the bladder.

The course of the underlying disease exacerbates the presence of various extragenital diseases in patients. Most often, patients with complex and mixed incontinence have diseases of the cardiovascular system - 58.1%, chronic diseases of the gastrointestinal tract - 51.3% and respiratory organs - 17.1%, endocrine pathology - 41.9%. The frequency of osteochondrosis of various parts of the spine is 27.4%, in addition, neurological diseases (cerebrovascular atherosclerosis, Alzheimer's disease) are detected in 11.9%. A fairly high frequency of varicose disease - in 20.5% of patients, hernias of various localization - in 11.1% - evidence of systemic failure of the connective tissue in patients with mixed incontinence [7].

Combined pathology of the genitals is detected in 70.9% of patients. Most often, women are diagnosed with uterine myoma - 35.9%, adenomyosis - 16.2%, prolapse and prolapse of internal genital organs - 100% [6].

2.2. DIAGNOSTIC ALGORITHM FOR VARIOUS FORMS OF URINARY INTINCONTINENCE

The purpose of diagnostic measures is to establish the form of urinary incontinence, determine the severity of the pathological process, assess the functional state of the lower urinary tract, identify possible causes of incontinence,

and choose a correction method. It is necessary to focus on the possible relationship between the onset and intensification of symptoms of incontinence during the perimenopausal period [7].

2.3. THE SIGNIFICANCE OF HISTORY, PHYSICAL EXAMINATION IN THE DIAGNOSIS OF URINARY INTINCONTINENCE

When collecting an anamnesis, special attention should be paid to elucidating risk factors: in women - childbirth, especially pathological or multiple, hard physical work, obesity, varicose veins, splanchnoptosis, somatic pathology, accompanied by an increase in intra-abdominal pressure (chronic cough, constipation, etc.), previous surgical interventions on the pelvic organs, neurological pathology.

Examination of patients with urinary incontinence is carried out in three stages. At the first stage, a clinical examination of the patient is performed. Most often it occurs in patients with genital prolapse, therefore, it is especially important at the first stage to assess the gynecological status of women - examining the patient in the gynecological chair, when it becomes possible to identify the presence of prolapse and prolapse of the internal genital organs, to assess the mobility of the bladder neck during a cough test or straining (Valsalva test), the condition of the skin of the perineum and the mucous membrane of the vagina [6].

2.4. LABORATORY STUDIES IN THE DIAGNOSTICS OF URINARY INTINCONTINENCE

Clinical examination of patients with incontinence must necessarily include laboratory methods of examination (primarily clinical urinalysis and urine culture for microflora).

The patient should be encouraged to keep a urination diary for two days, which records the amount of urine excreted per urination, the frequency of urination in 24 hours, note all episodes of urinary incontinence, the number of pads used and physical activity. The diary of urination allows you to evaluate it in the usual environment for the patient, and filling out the diary for several days allows you to get a more objective assessment of the degree of urinary incontinence [14].

2.5. INSTRUMENTAL STUDIES IN THE DIAGNOSIS OF INCONTINENCE

At the second stage, ultrasonography is performed [28].

- Ultrasound performed by perineal or vaginal access provides data consistent with clinical symptoms and, in most cases, allows you to limit the use of x-ray studies (in particular, urethrocytography).
- The diagnostic capabilities of transvaginal ultrasonography are quite high and are of independent importance for clarifying the dislocation of the urethrovesical segment and diagnosing sphincter insufficiency in patients with stress incontinence. With perineal scanning, it is possible to determine the localization of the bottom of the bladder, its relation to the upper edge of the womb, measure the length and diameter of the urethra throughout, the posterior urethrovesical angle (β) and the angle between the urethra and the vertical axis of the body (α), evaluate the configuration of the bladder neck, urethra, the position of the neck of the bladder in relation to the symphysis.
- With a three-dimensional reconstruction of an ultrasound image, it is possible to assess the state of the internal surface of the mucous membrane, the diameter and cross-sectional area of the urethra on transverse sections in the upper, middle and lower third of the urethra, to examine the neck of the bladder "from the inside", to visualize the internal "sphincter" of the bladder.
- Stress urinary incontinence with two-dimensional scanning gives an ultrasound symptom complex:
 - ◆dislocation and pathological mobility of the urethrovesical segment - rotation of the angle of deviation of the urethra from the vertical axis (α) - 20° or more and the posterior urethrovesical angle (β) during the Valsalva maneuver;
 - ◆reduction of the anatomical length of the urethra, expansion of the urethra in the proximal and middle sections;
 - ◆an increase in the distance from the neck of the bladder to the womb at rest and during the Valsalva maneuver.
- Characteristic signs of sphincter insufficiency in three-dimensional reconstruction: the diameter of the urethra section is more than 1.0 cm in the proximal section, the decrease in the width of the muscle sphincter is up to 0.49

cm or less, deformation of the sphincter of the urethra, the ratio of the numerical values of the cross-sectional area of the urethra and the width of the sphincter is more than 0.74.

The picture of funnel-shaped deformity of the urethrovesical segment with a minimally pronounced sphincter, with a maximum ratio of the urethral cross-sectional area and sphincter width (up to 13 at a rate of 0.4-0.7) is also characteristic.

At the third stage, a complex urodynamic study (CUDI) is performed [2].

Indications for a comprehensive urodynamic study:

- symptoms of urge urinary incontinence;
- Suspicion of the combined nature of disorders;
- lack of effect of the therapy;
- discrepancy between clinical symptoms and the results of the studies;
- obstructive symptoms;
- neurological pathology;
- urination dysfunction that occurred in women after operations on the pelvic organs;
- "relapses" of urinary incontinence after surgical treatment;
- intended surgical treatment of urinary incontinence.

A comprehensive urodynamic study is a non-alternative method for diagnosing urethral instability and detrusor hyperactivity. The method allows developing the correct treatment tactics and avoiding unnecessary surgical interventions in patients with overactive bladder [10].

Urodynamic study includes uroflowmetry, cystometry, profilometry.

- Uroflowmetry - measurement of the volume of urine excreted per unit of time (usually in ml / s) - an inexpensive and non-invasive research method. This method is a valuable screening test for the diagnosis of urinary dysfunction, which should be performed first. This study can be combined with simultaneous recording of bladder pressure, abdominal pressure, detrusor pressure, sphincter electromyography and registration of cystourethrograms.

- Cystometry - registration of the relationship between the volume of the bladder and the pressure in it during its filling. The method provides information about the adaptation of the bladder with an increase in its volume, as well as the control of the urination reflex by the central nervous system.
- The assessment of the urethral pressure profile assesses the function of the urethra. The function of continence is due to the fact that the pressure in the urethra at any time exceeds the pressure in the bladder. The urethral pressure profile is a graphic expression of the pressure inside the urethra at successively taken points along its length.
- Cystoscopy is indicated to rule out inflammatory and neoplastic lesions of the bladder, and is used as an additional research method [23].

CHAPTER 3

DIFFERENTIAL DIAGNOSTICS OF URINARY INCONTINENCE

For the differential diagnosis of stress and urge urinary incontinence, it is necessary to use a specialized questionnaire P. Abrams, A.J. Wein (1998) for patients with urinary disorders (Table 2.).

Table 2. Questionnaire for patients with urinary disorders

(P. Abrams, A. J. Wein, 1998)

Symptoms of overactive urinary bladder stress incontinence urine

Frequent urges (more than 8 times a day) Yes No

Imperative urge (sudden urge to urinate) Yes No

Repeated interruption of nighttime sleep due to the urge to urinate Usually Rare

Ability to get to the toilet on time after urging No Yes

Incontinence during exercise (coughing, laughing, sneezing, etc.) No Yes

Functional tests allow you to visually prove the presence of urinary incontinence.

Cough test. A patient with a full bladder (150-200 ml) in the position on the gynecological chair is offered to cough - 3 cough shocks 3-4 times with intervals between series of cough shocks for a full breath.

The test is positive for urine leakage when coughing. This test has gained wider acceptance in clinical practice as a positive cough test has been shown to be associated with internal urethral sphincter failure. If there is no leakage of urine when coughing, the patient should not be forced to repeat the test, but other tests should be performed.

Valsalva test, or straining test: a woman with a full bladder in the position on the gynecological chair is offered to take a deep breath and, without releasing the air, strain: with stress incontinence, urine

CHAPTER 4

TREATMENT OF VARIOUS FORMS OF URINARY INCONTINENCE

The goal of treatment is to reduce the frequency of urination, increase the intervals between micturitions, increase the capacity of the bladder, and improve the quality of life.

Nowadays, urinary incontinence is treated both conservatively (drug and non-drug therapy) and surgically. The therapeutic technique is selected by the urologist individually after a detailed examination of the patient, determining the causes and degree of urinary incontinence [22].

The indication for surgical treatment of urinary incontinence is the ineffectiveness or insufficient effect of conservative therapy.

4.1. FEATURES OF THE ORGANIZATION OF CARE FOR PATIENTS WITH URINARY INCONTINENCE

In mild cases, the problem of urinary incontinence can be eliminated with the help of various methods of treatment, and its manifestations can be hidden by good hygiene and special urological pads. Able-bodied patients can manage on their own. They are advised to go to the toilet every 2 hours to keep their bladder from filling up.

Fluid intake is not limited, since concentrated urine irritates the walls of the bladder and urethra, causing inflammation. It is necessary to consume liquids (soups, compotes, water, etc.) in the amount of 2 liters per day evenly throughout the day, and in the evening limit or completely exclude about 4 hours before bedtime.

It is recommended to exclude alcohol (reduces the sensitivity of sphincters) and caffeinated drinks (diuretic). An oilcloth is spread on the bed and a diaper on top of it, just in case. Every day, at least twice (in the morning and in the evening), they take a hygienic shower or wash with warm water, a weak pink solution of potassium permanganate or a decoction of chamomile. After that, the perineum is blotted dry with a soft towel, if necessary, lubricated with a protective or moisturizing gel. It is recommended to take walks twice a day.

Care for bedridden patients with urinary incontinence falls on the shoulders of loved ones. For example, urinary incontinence after surgery requires special attention and meticulous care. If the patient has involuntary urination, you need to

wrap the mattress or sheathe it with a large oilcloth, and cover it with a sheet on top. Sheets are changed frequently as they get dirty. If a small amount of urine flows out, you can put another smaller oilcloth on top of the sheet and cover it with a diaper so that only the diaper is changed often.

Pharmacies sell disposable absorbent sheets (diapers) - they prevent the spread of urine throughout the mattress, as they have a multilayer structure with a bottom waterproof layer. Seriously ill people wear diapers. Adult diapers are sold in pharmacies, they are sized according to the weight and waist of the patient. The patient's bed needs to be remade 1-2 times a day, straightening the folds and sweeping away the crumbs. If this is an elderly person or just a bedridden patient, then they roll him to the edge of the bed, cover the vacated part of the bed, then roll or shift it together on the covered part and finish replacing the sheet. If necessary, use urinals: male or female. The edge of the bed, where the legs are, is raised.

Patients with urinary incontinence are given a glass urinal or a rubber vessel in bed. Urine bags should be emptied of urine 3-4 times a day and washed with warm water and soap. Once a day, they need to be rinsed with a weak solution of potassium permanganate (1: 5000) appears from the external opening of the urethra. The nature of urine loss from the urethra is fixed visually and compared with the force and time of straining.

In patients with genital prolapse, the cough test and the Valsalva test are performed with a barrier. The back spoon of a Simps mirror is used as a barrier.

One Hour Pad Test (60 Minute Walk Test): First determine the initial weight of the pad. Then the patient drinks 500 ml of water and alternates between different types of physical activity (walking, picking up objects from the floor, coughing, going up and down stairs) for an hour. After one hour, the pad is weighed and the data is interpreted as follows:

- weight gain less than 2 g - no urinary incontinence (stage I);
- 2–10 g weight gain – mild to moderate urine loss (stage II);
- increase in body weight by 10–50 g – severe loss of urine (stage III);
- weight gain of more than 50 g - very severe loss of urine (stage IV).

A test with a swab-applicator inserted into the vagina in the region of the bladder neck. The results are evaluated in the absence of urine leakage during provocative

tests with an inserted applicator. "Stop test": the patient, whose bladder is filled with 250-350 ml of sterile saline, is offered to urinate. When a jet of "urine" appears after a maximum of 1-2 seconds, the patient is asked to stop urinating.

The amount of excreted "urine" is measured. Then they offer to finish urination and again measure the amount of excreted "urine". In this modification of the stop test, it is possible to evaluate: the actual effectiveness of the activity of the inhibitory mechanisms - if more than $2/3$ of the injected fluid remains in the bladder, then the mechanisms are functioning normally; if less than $1/3$ - $1/2$, then slowly; if "urine" remains in the bladder less than $1/3$ of the injected amount, then practically the mechanisms that inhibit the act of urination are violated; the complete absence of inhibitory reflexes is manifested in the fact that a woman is not able to stop the act of urination that has begun [28].

The ability to spontaneously interrupt the act of urination makes it possible to judge the ability to contract the striated muscles of the pelvic floor involved in the formation of the sphincter system of the bladder and urethra (these are m. bulbocavernosus, m. ishiocavernosus and m. levator ani), as well as the state of the sphincter apparatus of the urinary bubble. "Stoptest" may indicate not only the inability of the sphincter to voluntary contraction, but also the inability of the overactive detrusor to retain a certain amount of urine [6].

In the presence of diseases of the central and / or peripheral nervous system, a consultation with a neuropathologist, an endocrinologist, and in some cases a consultation with a psychologist is indicated.

Giles of hydrochloric acid to dissolve the dense sediment formed on the walls of the urinal, emitting an ammonia smell. The rubber vessel needs to be emptied and washed even more often, since the rubber partially absorbs urine and it is often impossible to eliminate the smell. There are glass urinals for women, but they are more difficult to adapt to.

For walking patients with urinary incontinence, there are special urinals made of elastic, easy-to-clean material: rubber, polyethylene, nylon, nylon, etc. They are fixed on the patient's body so as not to interfere with movement and work.

Bedridden patients need to be washed several times a day, as the remains of urine and feces irritate and corrode the skin, this leads to the formation of bedsores and can cause an ascending infection. You can wash it with a warm pink solution of potassium permanganate, chlorhexidine or herbal decoctions. When washing, the

solution is poured from above, above the pubis, and a vessel (enamelled or rubber) is placed under the buttocks to collect the liquid. At home, it is convenient to use Esmarch's mug for washing.

Currently, special products are produced for the care of bedridden patients - cleansing lotions and liquids, remedies for bedsores. Bedsores are easily formed in debilitated patients, usually in the area of the sacrum, shoulder blades, elbows. This happens due to squeezing of soft tissues under its own weight (and even in thin ones!), Therefore, it is recommended to turn patients over several times a day, and if possible, lift them up.

The results of treatment or, in milder forms, social adaptation depend on the quality of care for patients with urinary incontinence.

When organizing the life and hygiene of a patient with urinary incontinence, the following should be considered:

it is necessary to maintain a sufficient amount of fluid to drink (1.5 - 2 liters) and in no case reduce the amount of fluid, motivating this with urinary incontinence, since concentrated urine has a strong irritant effect on the mucous membranes and skin;

- if there is an urge to urinate, it is necessary to help the patient quickly get to the toilet or give him a ship or a duck;
- Patients should be encouraged to go to the toilet more often and given enough time and privacy to do so;
- find out the patient's usual urination regimen and offer his help at the right time, taking him to the toilet at least every 2 hours;
- it is necessary to train the muscles of the sphincter of the bladder;
- in case of involuntary urination, one should not express one's disapproval, disgust or other emotions that embarrass and depress the patient;
- Wet linen must be immediately replaced with dry;
- the patient needs to be reassured and encouraged;
- for walking patients with urinary incontinence, you can use special urinals (from 500 ml for daytime use and up to 1500 ml for night use), which are fixed to the thighs and emptied as urine accumulates in them;

- for men, different systems of urinals are used to divert urine, having tips on the penis (in the form of a condom), a system of tubes that divert urine, and a urine reservoir, which is fixed either on the thigh or lower leg of the patient, or at the bed of a bedridden patient;
- Patients should monitor the accumulation of urine, the cleanliness of the urinal, wash and disinfect it frequently to avoid the smell of urine;
- for bedridden patients it is possible to use modern absorbent disposable materials in the form of shorts, anatomically shaped liners, absorbent pads, elastic fixing panties and bedding;
- in bedridden patients with urinary incontinence under the sheet on the mattress should be an oilcloth that protects it from contamination; if possible, the patient is placed on a special mattress, in the middle part of which there is a place for the vessel;
- an inflatable rubber vessel is placed under the sacrum for bedridden patients, which also serves as a backing circle; the penis in men can be placed in the urinal - "duck", which is constantly between the legs;
- Patients should be washed frequently and pressure ulcers should be prevented;
- after washing, the skin in the inguinal region is thoroughly wiped and lubricated with vaseline or sunflower oil, baby cream, etc.). You can powder the skin with talcum powder.
- linen is changed as often as possible so that the smell of urine does not come from the patient;
- The rubber pad is washed with a disinfectant solution, and the glass urinals are washed with a solution of potassium permanganate (1:5000) or a clarified solution of bleach [28].

4.2. NON-MEDUCATIONAL TREATMENT OF URINARY INTENTION

All patients with urinary incontinence are shown bladder training. Patients are advised to do exercises for the pelvic muscles. General measures are taken (normalization of physical activity, a diet that promotes weight loss).

Bladder training consists of three stages: learning, drawing up a plan for urination, and implementing this plan. A patient suffering from urinary incontinence for a long time develops a special pattern of urination. The patient is afraid that urination may occur at the wrong time, so he tries to empty the bladder in advance, when the first weak urge occurs.

Bladder training is carried out in order to gradually increase the time interval between urination. An individual urination plan is drawn up for the patient. If the urge to urinate appears at an inopportune time, the patient must restrain them, intensively reducing the anal sphincter. First, the minimum interval between urination is established. Every 2-3 weeks, this interval is increased by 30 minutes until it reaches 3-3.5 hours.

As a rule, bladder training is carried out simultaneously with a course of drug therapy. Treatment continues for about three months. After this period of time, the patient usually develops a new pattern of urination. With successful treatment, discontinuation of medication should not cause frequent urination or lead to urinary incontinence.

A special bladder training technique has been created for patients with severe intellectual disabilities - the so-called "prompted urination". The training is carried out in three stages. First, the patient is taught to determine when he is dry and when he is wet after urination. Then they are taught to recognize the urge and communicate it to others. At the last stage, complete control of the patient over urination is achieved.

Muscle training and educational therapy allow you to learn new ways to control the bladder and the muscles involved in the process urination. For women with stress urinary incontinence, the first step to recovery is usually Kegel exercises, which help strengthen the pelvic floor muscles.

The first exercise can be performed in any position, it is only important that the muscles of the abdomen, buttocks and legs are relaxed. It is necessary to make several compressive movements of the muscles around the anus, as if preventing the emptying of the intestines. It is performed several times a day at every opportunity.

Exercise while urinating. It is necessary to delay the jet for a while, and then start again. Thus, the anterior group of pelvic floor muscles is strengthened. One

variation of this exercise can be done in any situation: the woman only needs to imagine that she is trying to pinch a slipping tampon.

An exercise that combines the first and second exercises. It is necessary to start by relaxing, and then slowly contracting the muscles of the pelvic floor, starting with the back group, and then involving the front. One cycle of the exercise is done in four counts. Repeat for two minutes, at least three times a day. There are general recommendations, the implementation of which can significantly alleviate the situation, and in some cases help to completely get rid of the disease. Let's dwell on them in more detail:

It is advisable to reduce the amount of fluid consumed, exclude from the diet foods that have a diuretic effect, such as coffee, alcohol, grapefruit juice. Constipation must be dealt with. In some cases, constipation may be the only cause of urinary incontinence, but even if this is not the case, getting rid of constipation can significantly alleviate the situation with incontinence.

You need to quit smoking and lose weight. Nicotine excites the smooth muscles of the bladder, and due to weight loss, intra-abdominal pressure is significantly reduced, which can provoke unwanted urination [4].

4.3. MEDICAL TREATMENT OF URINARY INTENTION

The main method of therapy for overactive bladder is treatment with anticholinergics, mixed-action drugs, α -adrenergic receptor antagonists, antidepressants (tricyclic or serotonin and norepinephrine reuptake inhibitors) [11].

The most famous drugs are oxybutynin, tolterodine, trospium chloride. Anticholinergic drugs block muscarinic cholinergic receptors in the detrusor, preventing and significantly reducing the effect of acetylcholine on it. This mechanism leads to a decrease in the frequency of detrusor contraction when it is hyperactive. Five types of muscarinic receptors (M1–M5) are known, of which M2 and M3 are found in the detrusor [30].

□ Tolterodine is a competitive muscarinic receptor antagonist with high selectivity for bladder receptors over salivary gland receptors. The good tolerability of the drug allows it to be used for a long time in women of all age groups. Tolterodine is prescribed 2 mg twice a day.

□ Trospium chloride - an anticholinergic drug with ganglioblocking activity - a quaternary ammonium base, has a relaxing effect on the smooth muscles of the

bladder detrusor, both due to the anticholinergic effect, and due to a direct antispastic effect due to a decrease in the tone of the smooth muscles of the bladder.

□ The mechanism of action of this drug is competitive inhibition of acetylcholine binding to receptors on postsynaptic smooth muscle membranes. The active substance is more hydrophilic than tertiary compounds. Therefore, the drug practically does not penetrate the blood-brain barrier, which contributes to its better tolerability, ensuring the absence of side effects. Trospium chloride is prescribed 5-15 mg 2-3 times a day.

□ Oxybutynin is a drug with a combined mechanism of action, as it has (along with anticholinergic activity) antispasmodic and local anesthetic effects. The drug is prescribed 2.5-5 mg 2-3 times a day. The drug needs dose selection due to the severity of side effects - dry mouth, dysphagia, dyspepsia, constipation, tachycardia, xerophthalmia.

□ Solifenacin is one of the new drugs for the treatment of overactive bladder. Solifenacin, a muscarinic receptor antagonist, has a greater functional selectivity for the bladder compared to other organs. The drug is used for detrusor hyperactivity by the oral route.

A significant positive fact for women of reproductive age is that solifenacin has not been shown to interact with combined oral contraceptives (thus, their simultaneous use is possible).

After treatment with solifenacin for 12 weeks, the quality of life of patients, according to the King's Health Questionnaire (KHQ), which has received international recognition and covers almost all areas of a woman's life, improved by 35–48%; at the same time, an increase in activity, self-esteem and sexuality was noted.

α -blockers are indicated for infravesical obstruction and urethral instability.

- Tamsulosin 0.4 mg once a day in the morning or evening;
- Terazosin 1–10 mg 1–2 times a day (maximum dose 10 mg/day);
- Prazosin 0.5-1 mg 1-2 times a day;
- Alfuzosin 5 mg once a day after meals.

Tricyclic antidepressants: imipramine 25 mg 1-2 times a day.

Serotonin reuptake inhibitors: duloxetine.

The duration of therapy (usually long) for overactive bladder and urge incontinence determines the intensity of symptoms. After discontinuation of drugs, symptoms recur in 70% of patients, which requires repeated courses or permanent treatment [15].

The effectiveness of treatment is assessed according to the diaries of urination, the subjective assessment of her condition by the patient herself. Urodynamic studies are performed according to indications: in patients with negative dynamics against the background of ongoing therapy, in women with neurological pathology [32].

All postmenopausal patients simultaneously undergo hormone replacement therapy in the form of estriol suppositories in the absence of contraindications.

Features of the treatment of mixed urinary incontinence. A complex (mixed) form of urinary incontinence includes stress incontinence in combination with genital prolapse and detrusor hyperactivity, as well as recurrent forms of the disease. There is still no unambiguous approach to the treatment of patients with mixed incontinence and genital prolapse, which constitute the most severe group of patients [5].

In the absence of severe genital prolapse, treatment of patients with a mixed type of urinary incontinence begins with antimuscarinic drugs (see above). All postmenopausal patients simultaneously with these drugs are recommended hormone therapy in the form of topical application of suppositories or creams containing natural estrogen - estriol [29].

After conservative therapy, about 20% of patients note a significant improvement in their condition.

The combination of stress incontinence and detrusor instability should be treated medically, which may reduce the need for surgery.

Preliminary therapy with M-cholinolytics and nootropics (piracetam, nicotinoyl gamma-aminobutyric acid) creates the prerequisites for restoring the normal mechanism of urination by improving the contractility of the detrusor, restoring blood circulation in the bladder and urethra.

With severe prolapse and prolapse of the internal genital organs, obstructive urination and unrealized sphincter insufficiency, it is advisable to initially correct

genital prolapse and anti-stress surgery, and then decide on the need for drug treatment [3].

The optimal choice of treatment tactics, and consequently, obtaining the highest results depends on the quality of preoperative diagnosis and clarification of the primary investigation relationship of comorbidity.

4.4. BASIC PRINCIPLES OF SURGICAL TREATMENT OF VARIOUS FORMS OF URINARY INCONTINENCE

The most effective treatment for stress urinary incontinence is surgery. Currently, preference is given to minimally invasive sling operations using synthetic prostheses - urethropexy with a free synthetic loop (TVT, TVTO) [1].

When stress urinary incontinence is combined with cystocele, incomplete or complete prolapse of the uterus and vaginal walls, the main principle of surgical treatment is to restore the normal anatomical position of the pelvic organs and pelvic diaphragm through abdominal, vaginal or combined access (extirpation of the uterus using colpexy with own tissues or synthetic material). The second step is colpoperineolevatoroplasty and if necessary, urethropexy with a free synthetic loop (TVT, TVTO) [3].

The need for surgical intervention in patients with a mixed form is a debatable issue. Many believe that a long course of drug therapy with the use of anticholinergic drugs is necessary, while others argue the need for combined treatment - surgical correction of the stress component and subsequent drug treatment. Until recently, the effectiveness of correction of incontinence symptoms in such patients did not exceed 30–60% [21].

Etiologically, insufficiency of the closing apparatus of the urethra has much in common with the prolapse of the female genitalia and is almost always combined. According to domestic obstetrician-gynecologists, genital prolapse is diagnosed in 80% of patients with stress urinary incontinence and in 100% of cases in patients with mixed incontinence. Therefore, the principles of treatment should include the restoration of the sphincter mechanisms of the urethra, impaired anatomy of the small pelvis, and reconstruction of the pelvic floor [27].

The decision on the need for surgical treatment of patients with a mixed form of urinary incontinence occurs after 2–3 months of conservative treatment. This period is sufficient to assess the changes that occur during therapy.

The volume of the operation depends on the concomitant gynecological disease, the degree of genital prolapse, the age and social activity of the woman. The most preferred method for correcting stress incontinence is free synthetic loop urethropexy (TVTO). An important factor for achieving good functional results in patients with complex and mixed forms of incontinence is not only the timely diagnosis of unrealized sphincter insufficiency, but also the choice of gynecological surgery to correct genital prolapse. According to some researchers, the probability of disappearance of clinical manifestations of urge urinary incontinence after surgical correction of prolapse is almost 70% [1].

The effectiveness of surgical treatment in patients with mixed and complex forms of urinary incontinence should be assessed by the following parameters:

- elimination of symptoms of urgency;
- restoration of normal urination;
- restoration of disturbed anatomical relationships of the pelvic organs and the pelvic floor.

The criteria for a positive assessment of the operation include the patient's satisfaction with the results of treatment [13].

Ultrasonographic examination (two-dimensional scanning and three-dimensional reconstruction of the image) reveals signs of urethral sphincter failure (wide and short urethra, minimal bladder capacity, funnel-shaped urethra deformity). This is regarded as "unrealized" sphincter insufficiency, which is realized after correction of genital prolapse in 15.4% of patients with complete or incomplete uterine prolapse.

Ultrasound examination with three-dimensional reconstruction of the image allows you to avoid erroneous operational tactics. In cases where there is a combination of genital prolapse with a pronounced cystocele and sphincter insufficiency, clinically in such patients with a vaginal examination it is possible to determine only prolapse and prolapse of the internal genital organs, and according to a comprehensive urodynamic study, an obstructive type of urination. If we do not take into account the data of ultrasound and three-dimensional reconstruction of the image, then, as a rule, the volume of surgical intervention is limited to an operation that corrects genital prolapse. In the postoperative period, when the normal anatomical relationships of the organs are restored, the mechanism of urethral obstruction disappears and it becomes possible for the clinical

implementation of the symptoms of urinary incontinence during stress caused by sphincter insufficiency. The manifestation of symptoms of incontinence in this case is regarded as a relapse and insufficient effectiveness of surgical treatment [4].

Indications for surgical treatment of patients with a mixed form of incontinence are significant genital prolapse, the presence of a gynecological disease requiring surgical treatment, insufficient effectiveness of drug treatment, and the prevalence of symptoms of stress incontinence [5].

The main principles of surgical correction in patients with mixed and complex incontinence: the use of combined technologies with a low risk of recurrence of the underlying disease (genital prolapse and symptoms of stress urinary incontinence) and good functional results, correction of functional disorders of adjacent organs, primarily the pelvic floor, the creation of normal anatomical relationships between the pelvic organs, the use of modern synthetic materials, taking into account the failure of their own connective tissue.

Correction of genital prolapse is performed both by abdominal and vaginal access. If necessary, perform a hysterectomy as a "basic" operation. When performing abdominal surgery, the dome of the vagina is fixed with an aponeurotic, synthetic flap or due to the ligamentous apparatus of the uterus. Vaginopexy does not complicate the operation, it is physiologically substantiated, it allows you to simultaneously reposition the bladder and rectum, restore or improve the impaired functions of the pelvic organs. The operation does not lead to severe intra and postoperative complications, and can significantly reduce the recurrence rate [4].

Colpoperineolevatoroplasty is an obligatory second stage in the correction of genital prolapse; at the same time, an anti-stress operation (urethropexy with a free synthetic loop - TVT or TVTO) is performed [1].

Vaginal access allows you to simultaneously eliminate both genital prolapse and symptoms of urinary incontinence during stress.

When performing a vaginal hysterectomy, the use of synthetic prolene prostheses (Gynemesh soft, TVMtotal, TVManterior, TVMposterior) is recommended. Urethropexy with a free synthetic loop (TVT or TVTO) is performed simultaneously.

Symptoms of an overactive bladder persist after surgery in approximately 34% of patients. The effectiveness of combined surgical treatment using anti-stress

technology with a free synthetic loop was 94.2% with a follow-up period of up to 5 years [11].

FORECAST. The prognosis for life in various forms of urinary incontinence is favorable.

PROBLEMS OF TREATMENT AND PREVENTION OF URINARY INTENTION

Despite the widespread prevalence of urinary incontinence, only a small percentage of patients seek medical attention. Prejudices or false shame often become an obstacle. People of elderly and senile age sometimes perceive urinary incontinence as a natural age-related change. Prolonged suffering leads to the development of psycho-emotional disorders, deterioration in the quality of life and actual disability of patients.

Meanwhile, urinary incontinence, regardless of its etiology, is not a natural manifestation, it is caused by deviations in the structure or function of some organs and, in most cases, is eliminated when appropriate treatment methods are selected. It should be borne in mind that the effectiveness of therapeutic measures for urinary incontinence increases in the case of early treatment of the patient.

FINDINGS

- The study identified the main etiological risk factors for the development of various forms of urinary incontinence in adults, studied the leading pathogenetic mechanisms of their development, symptoms.
- All patients with symptoms of urinary incontinence require constant medical supervision, careful hygiene care and organization of life to improve the quality of life.
- For timely effective treatment of incontinence in adult patients, medical personnel should develop a plan of diagnostic measures, which should take into account all the risk factors for the formation of urinary incontinence in each patient individually, taking into account the characteristics of his age, gender, underlying disease, functional characteristics of the body. It should include a thorough history taking, physical, modern laboratory, instrumental diagnostic methods. It is always necessary to carefully conduct a differential diagnosis.
- A complex of therapeutic measures for urinary incontinence in adults should include mandatory non-drug methods of therapy (bladder training, exercises for the pelvic muscles, normalization of physical activity, a diet that promotes weight loss), drug treatment using modern drugs (anticholinergics, drugs of mixed actions, antagonists of α -adrenergic receptors, antidepressants (tricyclic or serotonin and norepinephrine reuptake inhibitors)). In case of ineffectiveness of non-drug and drug treatment, surgical (surgical) intervention is indicated. The volume of the operation is determined individually, taking into account gender, age, underlying disease. The ultimate goal of treating incontinence in adults is to normalize urination and improve the quality of life.

BIBLIOGRAPHY

1. Buyanova S.N., Popov A.A., Petrova V.D. et al. Operation TVT in gynecological practice // midwife. and gin. - 2004. - No. 1. - S. 36-39.
2. Vishnevsky E.L., Pushkar D.Yu., Loran O.B. etc. Uroflowmetry. - M.: Printing City, 2004. - 220 p.
3. Ishchenko A.I., Slobodyanyuk A.I., Chushkov Yu.V. et al. Combined surgical treatment of patients with uterine prolapse and stress urinary incontinence // Issues of gynecology, obstetrics and perinatology. - 2004. - T. 3. - No. 5.
4. Krasnopolsky V.I., Buyanova S.N. Diagnosis and choice of method for surgical correction of urinary incontinence with genital prolapse in women // Midwives. and gin. - 2000. - No. 1. - C. 29-32.
5. Krasnopolsky V.I., Popov A.A. Possibilities and prospects of minimally invasive methods of correction of stress urinary incontinence // Zhurn. obstetrics and women's diseases. - 2000. - No. 4. - C. 23-25.
6. Kulakov V.I., Apolikhina N.A. Urinary incontinence in women: new possibilities in diagnosis and treatment // Gynecology. - 2004. - V. 4, No. 3. - S. 103-105.
7. Laurent O.B. Epidemiology, etiology, pathogenesis, diagnosis of urinary incontinence. // Materials of the Plenum of the Board of the Russian Society of Urology. - M., 2001. - S. 21-41.
8. Mazo E.B., Krivoborodov G.G. Overactive bladder. - M.: VECHE, 2002. - 160 p.
9. Pushkar D.Yu. Overactive bladder in women. - M.: MedPressInform, 2003. - 230 p.
10. Romikh V.V., Sivkov A.V. Modern aspects of the use of urodynamic studies in urogynecology // Consiliummedicum. - 2004. - V. 6, No. 7. - S. 4-7.
11. Romikh V.V., Sivkov A.V. Pharmacotherapy of overactive bladder // Consiliummedicum. - 2002. - V. 4, No. 7. - P.5-8.
12. Savitsky G.A., Savitsky A.G. Stress incontinence in women. - St. Petersburg: ELBISPb., 2000. - P. 136.

13. Tevlin K.P., Pushkar D.Yu., Loran O.B. The function of the lower urinary tract in women after surgical treatment of stress urinary incontinence. and gin. - 2000. - No. 4. - C. 45–50.
14. Whitfield C.R. Dewhurst's Postgraduate Guide to Obstetrics and Gynecology. - M.: Medicine, 2003. - S. 648-686.
15. Abrams P. Describing bladder storage function: overactive bladder syndrome and detrusor overactivity // Urology. - 2003. - Vol.62, N 5 (Suppl 2). - R. 28-37.
16. Abrams P., Cardozo L., Fall M. et al. The Standardization of Terminology of lower urinary tract function: Report from the Standardization subcommittee of ICS // Neurourology and Urodynamics. - 2002. - Vol. 21. - R. 167-178.
17. Adedokun A.O., Wilson M.M. Urinary incontinence: historical, global, and epidemiologic perspectives // Clin. Geriatr. Med. - 2004. - Vol. 20(3). - R. 399-407.
18. Alvarez R.P., Pons E.M. Current status of the diagnosis and treatment of urinary incontinence in. // Arch. Esp. Urol. - 2003. - Vol.56 (7). - R. 755-774.
19. Aronson M.P. Anatomy and Biomechanics of incontinence and pelvic floor support // Global congress of gynecologic endoscopy. - Las Vegas, 1999. - R. 1-6.
20. Ballanger P., Rischmann P. Female urinary incontinence // Eur. Urol. - 1999. - Vol. 36(3). - R. 165-174.
21. Bezerra C.A., Bruschini H. Suburethral sling operations for urinary incontinence in women // Cochrane. database. Syst. Rev. - 2001. - Vol. 3.
22. Fitzgerald M.R., Brubaker L. Urinary incontinence symptom scores and urodynamic diagnoses.// Neurourol. Urodyne. - 2002. - Vol. 21. - R. 30-35.
23. Glazener C.M., Lapitan M.C. Urodynamic investigations for management of urinary incontinence in adults // Cochrane Database Syst. Rev. - 2002. - Vol. 3.
24. Gray M. Stress urinary incontinence in women // J. Am. Acad. nurse. Pract. - 2004. - Vol. 16(5). - R. 188-197.
25. Hannestad Y.S., Rortveit G., Hunskaar S. Helpseeking and associated factors in female urinary incontinence. The Norwegian EPINCONT Study. Epidemiology of Incontinence in the County of NordTrondelag // Scand. J. Prim. health. care. - 2002. - Vol.20(2). - R. 102-107.

26. Hirai K., Sumi T., Kanaoka Y. et al. Female urinary incontinence: diagnosis, treatment and patients' concerns // *Drugs. Today (Barc)*. – 2002 – Vol. 38(7). - R. 487-493.
27. Karram M.M., Segal J.L., Vassallo B.J. et al. Complications and untoward effects of the tensionfree vaginal tape procedure // *Obstet Gynecol.* - 2003. - Vol. 101(5). - R. 929-932.
28. Martan A., Cepicky P., Dvorak V. et al. Recommendations for diagnosis and therapy of urinary incontinence in women // *Ceska.Gynekol.* - 2002. - Vol. 67(5). - R. 305-306.
29. Prados V.F., Cozar Olmo J.M., Martinez Morcillo A. et al. Urinary incontinence. Evaluation and classification methods // *Arch. Esp.Urol.* - 2002. - Vol. 55(9). - R. 1015-1034.
30. Skorupski P., Tomaszewski J., Adamiak A. et al. Diagnosis of overactive bladder influenced by methods of clinical assessment– micturition diary vs. urodynamics // *Ginekol. Paul* - 2003. - Vol. 74. - R. 9018-9022.
31. Tsivian A., Mogutin B., Kessler O. et al. Tensionfree vaginal tape procedure for the treatment of female stress urinary incontinence: longterm results // *J. Urol.* - 2004. - Vol. 172(3). - R. 998-1000.