OPTIMIZATION OF OVERACTIVE BLADDER SYNDROME DIAGNOSTIC METHODS

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Abstract. *Overactive bladder syndrome (OBS) is a clinical syndrome with or without urge incontinence, usually associated with frequent urination and nocturnal urination. To date, it has been established that detrusor hyperactivity is the cause of frequent and urgent urination in most patients. The problem of diagnosis and successful treatment of patients with OBS is a problem that requires the involvement of doctors of various specialties, primarily urologists, neurologists and neurosurgeons. In many cases, attention is paid to the fact that it is impossible to determine the real cause of the development of OBS, which requires the continuation of research aimed at determining the etiological factors of OBS.*

Keywords: *overactive bladder (OAB) syndrome, Valsalva test, cough test, Diaper test, urinary incontinence (UI), USE (ultrasound examination), stress urinary incontinence (SUI), urgent urinary incontinence (UUI).*

The aim of the study. To determine optimal methods for diagnosis of overactive bladder syndrome.

Relevance. Excessive activity of the bladder is not a life-threatening condition, but it has a sharp negative effect on its quality, leads to social adaptation and even disability [5, 7, 14].

Recently, assessment of the role of the functional component in the development of urinary disorders such as stress urinary incontinence (UI) combined with urge incontinence in the form of overactive bladder has become especially relevant. Urodynamic examinations together with detrusor overactivity also reveal signs of SUI [3, 8, 11].

The International Committee on Urinary Incontinence defines this disease as "forced urination that is a social or hygienic problem when there are objective manifestations of urinary incontinence" [1, 6, 12]. To date, there are three main forms of the disease: stress UI, urgent (imperative) UI and mixed type UI.

As can be seen from the above, bladder overactivity is an urgent problem in modern medicine. A detailed study of the etiological factors contributing to the development of OBS is required, as well as the development of measures for early diagnosis and prevention of OBS.

Materials and methods. The study was based on the clinical and laboratory examination of 50 patients with hyperactive bladder syndrome who applied to the urology department of the Samarkand State Medical University in Samarkand and were hospitalized for treatment in 2021-2024.

Inclusion criteria for the study:

- written consent of patients;
- patients with urgent urinary incontinence (UUI);
- early stages of stress urinary incontinence (SUI)

- mixed type of urinary incontinence
- patients of comparable age without severe extragenital pathology;

Exclusion criteria from scientific research:

- presence of descent of urogenital organs
- late stages of stress incontinence
- anatomical abnormalities that cause urinary incontinence
- cystocele 2-3 degrees
- severe extragenital diseases
- oncological diseases
- acute infectious processes

The examined patients were divided into 2 groups depending on treatment methods (Fig. 1):

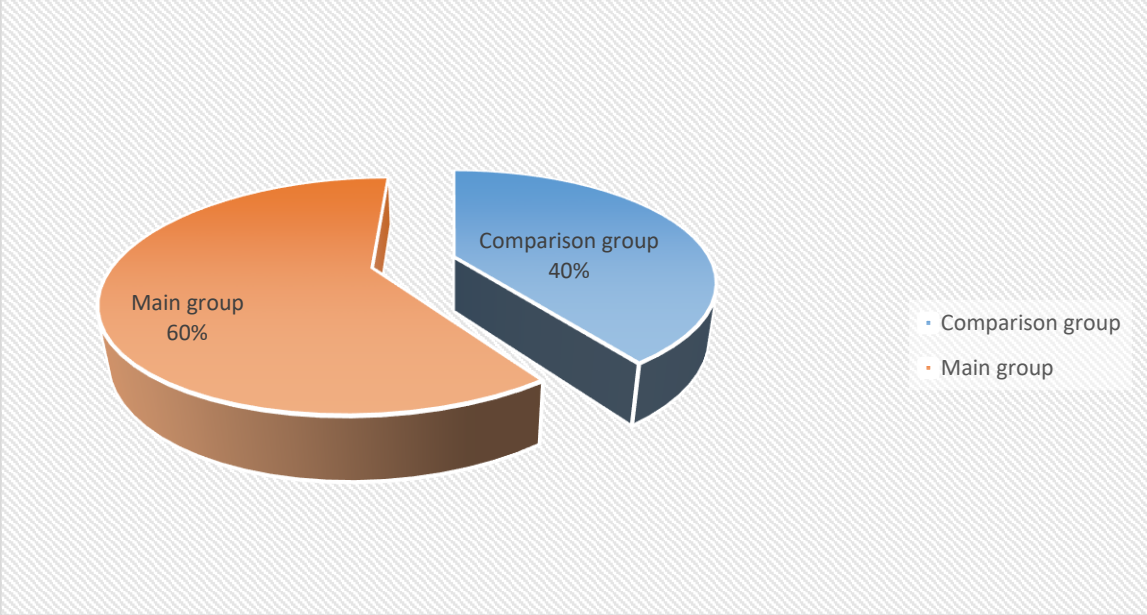

Figure 1. Distribution of patients with urinary disorders by group

The comparison group included 20 (40%) patients treated with conventional methods of diagnosis and treatment, and the main group included 30 (60%) patients treated with complex therapy.

All patients under observation underwent a thorough study of the somatic, urological, obstetrical and gynecological anamnesis, as well as a careful clinical examination, taking into account the age, the state of the reproductive system. General examination, external and internal urogynecological examination, general clinical analysis of blood and urine were performed. All laboratory analyzes were conducted in the laboratory department.

Special research methods:

• Valsalva test - a woman with a full bladder in the gynecological chair position is offered a hard strain. If drops of urine appear in the area of the external opening of the urethra, the test is considered positive;

• Cough test - a woman with a full bladder on the gynecological chair is offered to cough. If urine comes out when coughing, the test is positive;

• Diaper test - the weight of the diaper is determined after one hour of exercise. If the weight of the pillow increases by more than 1 g, then it is reasonable to think that there is urinary incontinence.

USE (ultrasound examination) - examination of small pelvic organs (uterus and its appendages) was carried out on devices such as "Sone-Scope-30" (Germany), "ALOKA" (Japan), "Interscan" (Japan). The condition of the internal genital organs was studied, the size of the uterus and its ratio with the neighboring organs, the condition of the uterine layers, and the condition of the excesses of the uterus were determined.

Physiotherapy treatments were carried out together with a qualified physiotherapist. For BQA-training, a standard electromyograph from the "Kolibri BeFit PRO" complex was used, the point signal display mode (X - Y - mode) of this myograph was used to obtain an integral myogram. The patient was asked to determine the position of the point on the electromyograph screen from the light beam of the oscilloscope. Graph electrodes were placed over the spastic muscles being exercised.

Results and discussion. It is noteworthy that a high index of infectious diseases was noted in all examined groups. It was found that almost all patients had 2-3 cases of ARVI a year and had infectious diseases in childhood. We can assume that the transferred somatic diseases contributed to the deterioration of the condition of various body systems, which are necessary for the proper development of the reproductive and urinary systems. In addition, the majority of subjects in the main and comparison groups (23.3% in the main group and 25% in the comparison group) had at least 3 of these disorders. Another important factor is obesity (60% in the main group and 45% in the comparison group), especially abdominal obesity. People with symptoms of obesity are 4-5 times more likely to have urinary incontinence than people of normal weight.

Analysis of the gynecological anamnesis in women showed that it was significantly aggravated in the main and comparison groups: in more than half of the main group of examined women - 12 (54.5%) colpitis was detected (in the comparison group 7 (46.7%) in women, RR = 1.94) (Table 1).

Table 1.

History of gynecological diseases in women with OBS

Indicators	Main group (n=22)		Comparison group (n=15)		RR	P
	abs	%	abs	%		
Colpits	12	54,5	7	46,7	1,94	>0,05
Services	3	13,6	3	20,0	1,54	>0,05
Cervical erosion	4	18,2	1	6,67	1,98	<0,05
Inflammatory diseases of the uterus	4	18,2	3	20,0	1,15	>0,05
Inflammatory diseases of the uterus	10	45,4	3	20,0	2,31	<0,001
Menstrual disorders	20	90,9	13	86,7	4,52	<0,05
Vulvit	12	54,5	5	33,3	0,64	<0,05

Menstrual dysfunction was observed in the most frequently examined women - 20 (90.9%) women from the main group and 13 (86.7%) women from the comparison group, relative risk RR = 4.52. Inflammatory diseases were also noted in many people.

When examining the state of the reproductive system in men, prostatitis was found in almost all (main group - 87.5%, comparison group - 80%), prostate adenoma was found in more than half of men (7 out of 13 - 53.8%).

The results of previous pregnancy and childbirth were important in women examined to determine the causes of urinary incontinence: spontaneous abortion was observed in 6.67% of women in the comparison group and in the main group - 9.09% of women, premature births - 2 (13.3%) in the comparison group and 4 (18.18%) in the main group, non-developing pregnancy occurred in 1 (6.67%) and 2 (9.09%), respectively.

Pelvic floor muscle weakness was also a risk factor in all examined (RR=2.48). Obstetrical complications are often associated with: multiple births and heavy fetuses and surgery. A large number of pregnancies and deliveries lead to a change in the position of the uterus, as well as surgeries performed in the uterus and abdomen lead to relaxation of muscle tone in the later period (RR = 2.52). High birth weight was observed in 40.0% of those with URI in the comparison group and 45.4% in the main group. In women, during the birth of a heavy fetus, the birth canal, pelvic muscles are damaged (RR = 2.23), there may be ruptures and tears in the intermediate area, which is a risk factor for the development of URI later (RR = 3 ,2) is considered.

We used 3 types of tests to evaluate and diagnose UI:

The Valsalva test was positive in 21 (70%) subjects in the main group and in 11 (55%) subjects in the comparison group;

cough test - 23 (76.7%) in the main group and 9 (45%) in the comparison group gave a positive result;

diaper test was positive in 18 (60%) and 10 (50%) individuals in the groups, respectively. In the study women, complete blood analysis revealed anemia in 45% of the control group and 40% of the main group, with mild anemia in 3 in both the main group and the comparison group, and moderate anemia in 7 (23.3 %) and 5 (25%) and severe anemia in 2 (6.7%) and 1 (5%), respectively. No significant changes were noted in other indicators. Average number of erythrocytes 3.33±0.78*1012, number of leukocytes 12.68±0.48*109, number of platelets 295.44±28.44*109, reticulocytes 1.11±0.57%, Color indicator 0.83±0.07; erythrocyte sedimentation rate was 15.4±2.7 mm/h.

In general urinalysis, significant changes from normal limits were almost not noted. Only 40% of the patients of the comparison group and 43.3% of the patients of the main group showed an increase in the number of inflammatory markers - epithelia and leukocytes. In the remaining cases, no changes were noted.

According to the smear analysis, non-specific microflora was detected in 46% of those examined, including gardnerella (48.3%), mycoplasma (36.4%), ureaplasma (38.2%), vibrios of the genus Mobiluncus (44.2%) and candidiasis (68.9%).

Conclusion. All patients underwent transabdominal and transvaginal/transrectal ultrasound examinations. In this case, the state of the bladder, its structure, the amount of urine in it and the amount of residual urine were checked in all patients, as well as the state of the prostate gland in men and the uterus and extras in women.

The average indicator of USE results in the main and comparison groups was as follows: almost all men (76.9%) had symptoms of chronic prostatitis. The average volume of residual urine was 25.8±6.13 ml. Symptoms of chronic cystitis were detected in 60% of the examined patients in the main group and 55% in the comparison group.

In conclusion, a reasonable combination of clinical, anamnestic and instrumental examination methods allows to assess the anatomical and functional condition of the lower urinary tract in patients with urinary incontinence. It allows to choose the right method of conservative or surgical treatment or their combination and evaluate the results.

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