

## ETIOLOGY STRUCTURE OF OVERACTIVE BLADDER IN MODERN UROLOGY

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**Abstract.** *Goal of work was studying of etiological factors, occurrence frequency and structure of OBS.*

**Keywords:** *overactive bladder syndrome (OBS), stress urinary incontinence (SUI), urinary incontinence (UI), extragenital diseases (EGD).*

Relevance. Overactive bladder syndrome (OBS) is a clinical syndrome with or without urgency 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 [2, 6, 15-17].

Excessive activity of the bladder is not a life-threatening condition, but it has a negative impact on its quality, leads to social adaptation and even disability [4, 6, 15, 20].

Recently, assessment of the role of the functional component in the development of urinary disorders such as stress urinary incontinence (SUI) combined with urge incontinence in the form of overactive bladder has become especially relevant. Urodynamic examinations together with overactivity of the detrusor also reveal signs of SUI [3, 5, 9].

C. Hampel and co-authors, after examining data from 21 epidemiological studies conducted worldwide, found that the prevalence of UI in the group of women aged 30 to 60 years was 21.5%, and in the group of women over 60 years of age it was 44 reported that it constituted % [12].

In short, the lack of a clear algorithm for the diagnosis of this disease makes it difficult to understand the causes of urinary incontinence and the occurrence of OBS and, accordingly, complicates the choice of treatment tactics.

Purpose of work. Study of etiological factors structure of OBS.

Materials and methods of research. The object of research is 50 patients with OBS who applied to the urology department during 2021-2024. The criteria for the inclusion of patients in the study were the presence of urgency urinary incontinence, early stages of stress urinary incontinence, mixed urinary incontinence. Exclusion criteria are the presence of prolapse of urogenital organs, late stages of stress urinary incontinence, anatomical anomalies leading to urinary incontinence.

The age of the examined patients was from 38 to 65 years. The average age of patients in the comparison group was 48.2±3.4 years, and in the main group it was 49.03±4.12 years. 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.

The data obtained during the study were subjected to statistical processing using the Microsoft Office Excel-2012 software package on a personal computer, including the use of built-in statistical processing functions. The arithmetic average value (M), standard deviation ( $\sigma$ ), standard error of the average (m), relative values (frequency, %), statistics of the measurements obtained when comparing the average values of the studied indicator significance was determined by calculating the probability of error (P) in testing the normality of the distribution (according to the kurtosis) with Student's test (t) and equality of common variances (F - Fisher's test).

Research results and discussion. Urinary incontinence symptoms occurred after performing daily activities: laughing, coughing, prolonged or strenuous physical work (86.7% in the main group, 60% in the comparison group, RR = 2.13 ), changes in body position during sleep (10% in the main group, 15% in the comparison group RR = 1.52), lifting heavy objects (23.3% in the main group, 20% in the comparison group RR = 1.62 ), during intercourse (10% in the main group, 15% in the comparison group, RR=0.61).

We analyzed patient anamnesis to identify risk factors for the development of OBS. The frequency of extragenital diseases (EGD) in the examined patients played an important role in the development of UI. Determination of the presence of EGD was carried out by us with the participation of narrow specialists (Table 1).

**Table 1**

***Frequency of extragenital diseases in the anamnesis of patients with urinary disorders***

Indicators	Main group (n=30)		Control group (n=20)		RR	P
	abs	%	abs	%		
Children's infections	30	100,0	20	100,0	1,00	-
acute respiratory viral infection	30	100,0	20	100,0	1,00	-
Anemia	12	40,0	9	45,0	0,86	>0,05
Otolaryngological diseases	4	13,3	3	15,0	1,38	>0,05
Kidney diseases	3	10,0	2	10,0	0,41	>0,05
Thyroid disease	5	16,7	4	20,0	1,23	>0,05
Cardiovascular diseases	6	20,0	8	40,0	1,07	>0,05
Pneumonia	7	23,3	3	15,0	0,79	>0,05
Gastrointestinal diseases	6	20,0	4	20,0	0,67	>0,05
Viral hepatitis	2	6,7	1	5,0	0,92	>0,05
Getting fat	18	60,0	9	45,0	0,66	<0,05

It is noteworthy that a high index of infectious diseases was noted in all examined groups. It was found that almost all patients had ARVI 2-3 times 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 both the main and comparison groups (23.3% in the main group and 25% in the comparison group) had at least 3 comorbidities. 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%) RR = 1.94 in women).

Menstrual dysfunction was observed in most of the 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.

Prostatitis was found in almost all men (main group - 87.5%, comparison group - 80%), prostate adenoma was found in more than half of men (7 out of 13 - 53.8%).

All women were pregnancy and childbirth. When the survey was conducted, 40% of the comparison group noted up to 2 births, in the main group, the majority of women had 3 births in their anamnesis - 16 (72.7%) of those in the comparison group - 5 (33.3%) is significantly more  $P < 0.001$ . At the same time, every fifth patient in the main group had a history of 4 or more births - 4 (18.2%),  $P < 0.001$ .

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 UI 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 UI 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 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.

**Conclusion.** Etiological risk factors leading to the development of GAQS include inflammatory diseases (RR = 2.31), damage to the genitals (RR = 3.21), spontaneous abortion (RR = 2.69), history of more than 3-4 births weight (RR=6.40), high birth weight (RR=3.2), obesity (RR=3.04), pelvic floor muscle damage (RR=2.23), pelvic floor muscle weakness and low tone (RR=2.48) can be included. The frequency of this pathology depends on age, and it is more common in older people.

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