

Monitoring Symptoms Of Lower Urinary Tract And Other Features Of Benign Hyperplasia Of Prostate In Patients With Tuberculosis

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1. INTRODUCTION.

There are publications in the literature on the prevalence of tuberculosis and associated diseases, as well as surgical care for patients with tuberculosis with urological pathology. The clinic of tuberculosis and the effectiveness of its treatment, including pulmonary tuberculosis, is largely determined by the presence of intercurrent diseases that aggravate a specific process and complicate its treatment. The prevalence of attendant pathology in patients with pulmonary tuberculosis ranges from 80% to 100% [1; 2; 3].

Thus, the indications for surgical curing of urological diseases in patients with tuberculosis do not differ from those in the absence of tuberculosis. Absence or insufficient duration of anti-tuberculosis chemotherapy is an absolute contraindication on the part of a specific process [4].

The study of the dispersion of urological diseases and its nature, especially in patients with tuberculosis in some regions, such as Bukhara region, located in the arid zone, showed a large proportion. Thus, urological pathology was detected up to 35.5% of the examined patients with tuberculosis, and designation of ICD was observed in 5.5% of those identified with urological pathology in the Bukhara region [5].

As preliminary data has shown, the elaboration of existing, the search for new, effective forms and methods of treatment and prevention of urological diseases, including in patients with tuberculosis, is of particular significance due to the need to amend the quality of life and reduce disability.

The aim of this study is to monitor the dispersion of urological pathology, including benign prostatic hyperplasia (BPH) with symptoms of the lower urinary tract (LUTS), in patients with tuberculosis.

2. MATERIAL AND METHODS

To achieve this goal, 936 patients with various forms of tuberculosis were examined. There were 447 (47.8%) men, 489 (52.2%) women, the age of the patients ranged from 17 to 96 years. Various forms of pulmonary tuberculosis exposed in 504 (53.8%), osteoarticular tuberculosis - in 196 (20.9%), MMT - in 124 (13.4%), intrathoracic lymph node tuberculosis - in 59 (6.3 %), tuberculous pleurisy - 35 (3.7%), peripheral lymph node tuberculosis - 14 (1.5%), skin tuberculosis - 1 (0.1%), abdominal tuberculosis - 2 (0.2%), tuberculosis of the eyes in -1 (0.1%) patients. We drew up a universal urological questionnaire developed by the Department of Urology of the Tashkent Medical Academy. The questionnaire included questions about LUTS, urinary tract infections, urinary incontinence, pathology of the male genital area. Pilot testing of the universal questionnaire was previously conducted among patients who applied to the treatment and diagnostic department of the Republican Specialized Scientific and Practical Medical Center of Urology (RSNPMTSU), which indicated its high information content.

In addition, a complex of clinical and instrumental examination was utilized, which also includes an objective examination, laboratory, echographic data of the genitourinary organs.

As a result of the examination of 936 patients with various forms of tuberculosis, urological pathology was revealed in 332 patients, which amounted to 35.5% of the examined patients. As the analysis of the structure of the identified urological pathology showed, 88 (26.5%) patients had benign prostatic hyperplasia (BPH), 47 (14.1%) had uncomplicated urinary tract infection (UUTI), 18 (5.5%) - urolithiasis (Urolithiasis), 34 (10.2%) - various forms of urinary incontinence, 7 (2.1%) - erectile dysfunction (ED), 5 (1.5%) - nephroptosis, 5 (1 , 5%) - hydronephrosis (ureterohydronephrosis) and in 124 (37.3%) - various forms of urinary tuberculosis (MRT).

In patients with tuberculosis with BPH, after the initial acquaintance and accumulation of anamnesis, answers were collected to the questions of the Questionnaire - International System for the Overall Assessment of Prostate Diseases (IPSS) and quality of life (QoL) in points. As a rule, the respondents filled in the answers themselves. Calculating the sum of points and assessing the determination of the quality of life makes it probable to select persons for additional diagnostic examination, to resolve the issue of the prevalence of BPH and the possibility of drug treatment. The degree of functional impairment was considered mild with a score not exceeding 7; moderate - from 8 to 19 and severe - from 20 to 35.

When evaluating the results of the study, it should be borne in mind that LUTS are very nonspecific, and may be caused by factors that have nothing to do with the status of the prostate, any diet, intake of large volumes of fluid, alcohol, drugs, etc. Based on the above, when making the diagnosis of BPH, the participation of a complex of symptoms confirming this particular disease was taken into account, such as indicators of the average urine flow rate, residual urine volume and prostate volume in BPH. After performing USS of the kidneys and bladder, complying the volume of urine in the bladder, making sure that it comprises at least 150.0 ml of urine, we began to measure the average urine flow rate. The average urine flow rate was determined by dividing the volume of released urine by the time of urination.

In addition, residual urine after urination was also determined. The information achieved was documented using specially designed survey cards. All the data attained were entered into a specially developed computer program for subsequent statistical processing and accounting.

3. RESEARCH RESULTS

As the analysis indicates, among 447 male patients with tuberculosis, 88 (19.7%) were diagnosed with BPH. This shows a large proportion of people in the older age group with various forms of tuberculosis. When analyzing the structure of clinical forms of tuberculosis with concomitant BPH, it was found that BPH was most often observed in patients with infiltrative pulmonary tuberculosis (51.1%) and in osteoarticular tuberculosis (26.1%) (Table 1).

Table 1 The structure of clinical forms of tuberculosis in identified patients with BPH (%)

Clinical forms of BPH tuberculosis	n = 88
Infiltrative pulmonary tuberculosis	45 (51,1)
Disseminated pulmonary tuberculosis	4 (4,6)
Fibrous-cavernous pulmonary tuberculosis	2 (2,3)
Cirrhotic pulmonary tuberculosis	2 (2,3)
Tuberculous pleurisy	4(4,6)
Osteoarticular tuberculosis	23 (26,1)
Peripheral lymph node tuberculosis	1 (1,1)
MRT	7 (7,9)

Analysis of the questionnaire data reveals that all the surveyed had subjective signs of urinary disorders (Table 2). Thus, the average IPSS was 12.1 ± 1.1 points. When analyzing the severity of LUTS, depending on the age structure, in people 60-69 years old (group 1), they were observed within 6.8 ± 1.2 points, which corresponds to a mild severity of symptoms. In groups 2 (70-79 years) and 3 (80 years and older), LUTS corresponded to the average severity of symptoms. The assessment of the quality of life points QoL averaged 2.4 ± 0.1 , which is below the average severity (the limits are estimated from 0 to 6 points).

Table 2 Results Determining Summary Symptom Score (IPSS) and the quality of life (QoL) assessment index in points depending on age

Group, age, years	Number of check up	IPSS, score	QoL, score
1st., 60-69	34	$6,8 \pm 1,2$	$1,2 \pm 0,1$
2nd, 70-79	36	$12,5 \pm 1,5$	$2,1 \pm 0,2$
3rd, 80 and older	18	$17,1 \pm 3,2$	$3,9 \pm 0,5$
Total	88	$12,1 \pm 1,1$	$2,4 \pm 0,1$

It should be added that with age, the tendency to deteriorate subjective sensations is steadily significant. To obtain reliable results, it is generally accepted that at least 150.0 ml of

urine should be contained in the bladder. Under these conditions, normal values of the average urine flow rate (Q_{av}) is ≥ 11.3 ml / s, which corresponds to the generally accepted norm of 15 ml/s. As follows from Table 3, out of the total number of men examined, a decrease in the average flow rate was found in 66 (75%) of 88 patients.

Table 3

Indicators of the average flow rate of urine and their dynamics depending on age (%)

Group, Age of the examined, years	$Q_{cp} \geq 11$ ml / s		$Q_{cp} < 11$ ml / s	
	abs	%	abs	%
1st, 60-69, n =34	12	35,3	22	64,7
2nd, 70-79, n =36	10	27,8	26	72,2
3rd, 80 and older, n =18	-	-	18	100,0

The presence of residual (postmictional) urine (R) does not allow for reliable diagnosis of BPH, but indicates its pathogenetic effect on the mechanism of development of vesical obstruction (IVO). The presence and volume of residual urine was determined immediately after the act of urination (Table 4).

Table 4

Results of determining the presence and volume of residual urine in the bladder and the dynamics of these indicators depending on age (%)

Group, age of the examined, years	$R \leq 15,0$ ml		$R > 15,0$ ml	
	abs	%	abs	%
1st, 60-69, n =34	26	76,5	8	23,5
2nd, 70-79, n =36	21	58,3	15	41,7
3rd, 80 and older , n =18	-	-	18	100,0

In total, the presence of postmictional residual urine was detected in 41 (46.6%) of 88 examined men. On average, the volume of residual urine was 39.3 ± 3.2 ml, and the amount of residual urine increased with age (Table 5).

Table 5

The volume of residual urine in the bladder depending on the age of the examined patients with tuberculosis

Age, years	Number of patients with residual urine $R > 15.0$ ml		
	abs	%	mean residual urine volume, ml

1st, 60-69, n =34	8	23,5±5,7	22,3±4,3
2nd, 70-79, n =36	15	41,7±7,0	33,7±6,4*
3rd, 80 и старше, n =18	18	100,0±0,0	45,8±4,2*
Total	41	46,6±2,7	39,3±3,2

Note. * - P <0.05, the amount of residual urine increases with age.

To research age-related changes in the volume of the prostate and the prevalence of this sign, the method of trans abdominal US was utilized. Taking into account the indicators of the norm, we considered it to be increased if the volume of the gland (V) was not less than 30.0 ml. An increase in the volume of the prostate (V) is isolated as the main sign of its benign hyperplasia. It is considered a reliable and objective marker of BPH, although its value does not always correlate with the severity of LUTS and other signs of the disease.

Table 6

Indicators of changes in prostate volume depending on the age of patients

Group, age of the examined, years	V <30,0 ml		V ≥ 30,0 ml	
	abs	%	abs	%
1st, 60-69, n =34	13	38,2	21	61,8
2nd, 70-79, n =36	9	25	27	75
3rd, 80 and older, n =18	-	-	18	100,0

Of the 88 men 60 years and older examined by us, increased iron volume with signs of BPH was diagnosed in 66 (75%) patients (Table 6).

The majority of 57 (64.7%) patients with BPH and LUTS perceived their condition as optimistic or generally satisfactory, considering them to be due to age, and only 35.3% of them reacted negatively to the prospect of these symptoms in the future. This indicates that even with expressed forms of the disease, a certain part of patients neglects their condition or considers it natural, age-related and, as a matter of fact, does not turn to a urologist. In conducting this study, we set ourselves the goal of identifying among patients with tuberculosis, those patients with BPH who did not consider themselves to be such or did not attach significance to the prognostication of the disease that they had, and to carry out a set of therapeutic and preventive measures for them. The complex of therapeutic measures for BPH included:

- tamsulosin 0.4 mg once a day for 3 months;
- behavioral and expectant tactics;

The treatment group included 66 patients with predominantly irritative symptoms. The effectiveness of therapeutic and prophylactic measures was assessed as they were completed, according to the results of a repeated examination utilizing the same parameters and using the same methods as during the initial examination.

The dynamics of urination indicators, and other indicators during the course of a complex of therapeutic measures is presented in Table 7. After carrying out treatment and prophylactic measures in 53 (80.3%) of 66 men aged 60 years and older, the average urine flow rate increased. At the same time, the volume of the prostate in all patients remained the

same. In 48 (72.7%) of 66 patients, residual urine was no longer detected in the bladder. The IPSS level degrades by 4.5 points, or 34.1%, and as a result amounted to 8.7 ± 2.5 points, and the quality of life indicator - by 0.7 (25.0%). Table 7

Results of treatment of BPH patients depending on age (M ± m)

BPH sign	Group, age, years								
	1st group,, 60-69, n=21			2nd group, 70-79, n=27			3rd group, 80 years old and older, n=18		
	before	after	%	before	after	%	before	after	%
IPSS, score	6,9±2,1	4,6±3,5*	-33,3	15,5±3,9	9,9±5,8**	-36,1	17,1±3,9	11,8±5,9*	-31,0
QoL, score	1,8±0,4	1,2±0,2*	-33,3	2,8±0,4	2,1±0,3	-25,0	3,9±0,2	3,1±0,2*	-20,5
Q _{av.} , ml / s	9,1±0,2	14,2±0,6*	+34,1	7,6±0,2	11,8±0,7**	+42,1	6,8±0,4	9,3±0,4*	+36,7
R, ml / s	22,3±4,3	-	-100,0	33,7±6,4	-	-100,0	45,8±4,2	21,1±1,7**	-53,9

Note. * - P <0.05,- P <0.01. The effect of treating patients with BPH under the age of 80 years was accompanied by a statistically significant degrade in LBI, an enhance in the average urine flow rate, and the disappearance of residual urine.

This is especially essential, as, depending on age, the use of tamsulosin affected the improvement of urination: the average urine flow rate increased on average in each of the treated patients by 4.0 ml / s, or by 51.3%, reaching 11.8 ± 2.9 ml/s.

Elaboration in urination is a very important indicator of the effectiveness of treatment. An improvement in urinary function was also evidenced by the absence of residual urine in all treated patients under 80 years of age. In the group over 80 years of age, residual urine decreased by more than 2 times, and remained in 6 (33.3%) patients. All the mentioned indicators were significantly different from the initial ones.

As well as, 7 patients with tuberculosis and BPH, after the termination of drug treatment, required surgical treatment in the form of imposing a cystostomydrainage (5th percutaneous cystostomy and 2nd epicystostomy) due to urinary retention.

Conclusion. During the screening of tuberculosis patients, 332 patients with signs of urological diseases were identified, requiring preventive preventive measures, which amounted to 35.5% of the examined patients.

As the analysis indicated, among 447 male patients with tuberculosis, 88 (19.7%) were diagnosed with BPH. This indicates a large proportion of older men suffering from various forms of tuberculosis. When analyzing the structure of clinical forms of tuberculosis with concomitant BPH, it was found that BPH was most often observed in patients with infiltrative pulmonary tuberculosis (51.1%) and in osteoarticular tuberculosis (26.1%).

The drug treatment effects in 66 patients with tuberculosis with signs of BPH showed high efficiency. For treatment, the drug tamsulosin from the group of α -blockers was used. The course was 3 months. Already on the 6-7th day after taking the drug, patients began to notice a decrease in the severity of symptoms, especially with regard to the urgency of the

urge and the frequency of nighttime urination. The quality of urination has also improved. Control examination showed that after the start of treatment, the urine flow rate increased, and the residual urine volume decreased. The analysis of the effectiveness of treatment in general showed that it was successful in 53 (80.3%) men with tuberculosis. The lack of effect of treatment in 13 (19.7%) patients, apparently, is due to the large size of the prostate and the predominance of obstructive symptoms.

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