Accompanying Diseases of the Respiratory System Pulmonary Tuberculosis

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Abstract: The article is devoted to the problem of coexistence of non-tuberculous lung diseases in patients with pulmonary tuberculosis: chronic obstructive pulmonary disease, bronchial asthma. Based on the data of an epidemiological study, the facts of under diagnosis of nonspecific lung diseases (NLD) in patients with tuberculosis were established. The article analyzes the causes of under diagnosis, as well as the mistakes made by phthisiatricians in the treatment of NLD in patients with pulmonary tuberculosis; own data of increasing the effectiveness of treatment of pulmonary tuberculosis with successful modern therapy of concomitant NLD are presented. The main reason for the diagnostic and therapeutic errors made by phthisiatricians is the lack of awareness of modern pulmonology issues, which is a consequence of interdepartmental disunity.

Keywords: tuberculosis, nonspecific lung diseases, treatment, diagnostics.

Relevance. A third of the world's population is infected with pulmonary tuberculosis. If a person is infected and has not received prophylactic treatment, he is at risk of getting sick throughout his subsequent life. Tuberculosis, as an infectious and socially significant disease, continues to be one of the serious health problems in Russia [1]. Every year, 3 million people die of TB worldwide, and another 8 million fall ill. Over the past few years, domestic doctors have recorded an explosion of this disease in our camp. Every year the number of patients increases by 25-30% and, which is especially alarming, children and adolescents often become victims. Last year, the tuberculosis incidence rate was 10.2 per 100,000 boys and girls. For comparison, in developed countries it ranges from 2.5 to 5.3. In a number of regions, this figure, alas, corresponds to the incidence in the developing countries of Asia and Africa - 65-70 per 100 thousand children.[2] The epidemiological failure in terms of tuberculosis suggests the need to improve the methods of prevention, diagnosis and treatment of this disease. The presence of pulmonary tuberculosis creates a number of prerequisites for the occurrence of concomitant diseases of the respiratory system: the duration of the inflammatory process in the respiratory system with corresponding morphological and functional consequences, drug aggression [3, 4]. At the same time, the symptoms of a coexisting or adjoining nonspecific lung disease (NLD), i.e., nontuberculous, are often regarded as a manifestation (complication) of the course of the underlying tuberculosis process, and maneuvers are made to modify the main (basic) tuberculosis chemotherapy. At the same time, many facts have been accumulated that indicate that coexisting NLDs significantly aggravate the course of the tuberculosis process, modify its clinical manifestations, and negatively affect the final result of treatment. The most studied aspect of this problem are diseases that occur with bronchial obstruction: chronic obstructive pulmonary disease (COPD), chronic bronchitis, as well as pneumonia, lung tumors. Sometimes practical phthisiatricians do not have enough knowledge and technological equipment for timely diagnosis and adequate treatment of NPD. To a certain extent, this is

facilitated by interdepartmental barriers separating two specialties: phthisiology and pulmonology. The aim of this study was to determine the incidence of NLD in patients with pulmonary tuberculosis (TL), to assess the possibilities of their diagnosis and treatment.

Materials and methods

The work was carried out on the basis of 6 regions of Bukhara, 2nd PTD in Bukhara. Consulting and diagnostic center and clinics Bukhara region Tuberculosis Dispensary Expert evaluation of medical records of tuberculosis patients was carried out in 1692 patients from different regions, including: Bukhara city - 160 people, Romitan district - 262, Shofirkon district - 191, Zhondorskaya district - 234, Peshku district - 403 ,Kogon district. - 402, and centers: BTC No. 2, Gijduvan district - 443;. Of these, 737 patients with TL were subjected to in-depth additional examination to detect NLD using a questionnaire.

Region	N	pneumonia	HB	COPD	BA	Other	Total,%
Bukharacity	160	0	14	0	1	1	5
Romitandistrict	262	6	12	0	1	38	10,8
Shofirkondistrict	191	1	1	0	1	52	16,6
Jondordistrict	234	10	168	1	5	7	39,7
Peshko'district	403	5	42	0	8	2	7,1
Kogondistrict	402	13	367	0	9	14	46,6

Of these, 1,474 patients with TL were subjected to an in-depth additional examination to detect NLD by questionnaire, spirometry with a bronchodilationtest, and physical examination. In addition, 435 patients with TB, in whom the disease proceeded with broncho-obstructive syndrome, were assessed the effect of adequate bronchodilatory therapy on the course of the tuberculosis process. The results of the study were subjected to statistical processing.

Results and discussion

The results of the examination of medical records of TH patients in 6 regions of the Russian Federation are presented in Table. 1. Very large differences in the regions in the detection of concomitant NLDs (46.6% in Kogon district vs 5% in Bukhara city) can be explained not so much by the difference in the course of the tuberculosis process in individual regions, but by the attitude of TB doctors to concomitant NLDs. It is possible that the symptoms of NLD in patients with tuberculosis are considered as a manifestation of the tuberculous process in the lungs. The virtual absence of COPD in TB patients in all regions most likely indicates a lack of awareness among TB doctors about the problem of COPD. In any case, the mosaic pattern of detection of NLD in patients with pulmonary tuberculosis in different regions is the subject of a special study, and the figures given are unlikely to reflect the real state of affairs. To clarify this assumption, we conducted an additional examination of 183 patients with TL located in Moscow in order to identify NLD (Table 2). The presented data, even on a limited group of patients, clearly demonstrate the high frequency of underdiagnosis, and, consequently, the lack of appropriate treatment for NLD in patients with pulmonary tuberculosis. Table 2 The frequency of NLD in patients with TL: actual and expert assessment (according to the examination of patients (n = 183)

Table 2. Frequency of NLD in patients with TL: actual and peer review

NZL	**Beforeexamination n (%)**	**Afterexamination n (%)**	**Previously undiagnosed_ n (%) n (%) Nosed**
HB	19(10,4)	27(14,5)	+8
NLD	0	31(16,9)	+31

BA	5(2,7)	9(4,8)	+4
Other	7(3,8)	4(2,2)	-3

During spirometric examination, a decrease in forced expiratory volume in 10 s (FEV1) was detected in 36% of patients. Of these, with infiltrative TL, FEV1 was reduced in 26% of patients, with fibrous-cavernous - in 86%, with disseminated tuberculosis - in 67%, with post tuber culouspneumosclerosis - in 50% of patients. The results of the analysis of case histories of patients with bronchial obstruction and appropriate therapy are presented in Table. 3.

Table 3. Assigned therapy for NLD in patients with TL (based on case histories)

28 out of 38 patients (73.7%) received inpatient treatment	n	**Treatment in the polyclinic was received by 2 patients (11.7%) out of 17 in need**	n
Hydrocortisoneinhalations	17	**eufillin**	1
Broncholitininhalations	13	**Teopec**	1
Teopec, eufillin	10		
Salbutamol	2		
Prednisolone	1		
Fluimucil	2		
Bromhexine, mukaltin	10		

Such bronchodilatory therapy in our time can only testify to the insufficient provision of anti-tuberculosis institutions with pulmonological drugs and the ignorance of phthisiatricians about the modern possibilities of bronchodilatory therapy. Naturally, phthisiatricians have a question: "Is it really necessary to treat concomitant NLD in patients with tuberculosis? If we cure tuberculosis, then let pulmonologists and therapists get involved." In 435 patients with various forms of TL, combined with broncho-obstructive syndrome, the effect of successful bronchodilation on the course of the main process was assessed in terms of abacillation indices (Table 4).

Table 4. Bacterial excretion in patients of different clinical groups during 3-month therapy

Nosological forms And degree of bronchial	**Main group, % of patients with bacilli excretion**		**Comparison group, % of patients with bacilli excretion obstruction**	
Infiltrative TL	**Beforetreatment**	**Aftertreatment**	**Beforetreatment**	**Aftertreatment**
FEV 1 > 70 %	**67,4 ± 3,76**	**0,6 ± 1,23**	**68,3 ± 3,12**	**8,6 ± 1,43**
FEV 1 = 69–50 %	**73,6 ± 3,12**	**1,1 ± 1,46**	**72,8 ± 2,65**	**12,7 ± 1,02**
FEV 1 < 50 %	**79,5 ± 4,04**	**3,8 ± 1,87**	**78,1 ± 3,04**	**20,6 ± 2,12**
Fibrous_cavernous TL				
FEV 1 = 69–50 %	**87,5 ± 3,87**	**22,4 ± 2,76**	**84,4 ± 4,12**	**34,4 ± 2,47**
FEV 1 < 50 %	**91,1 ± 4,06**	**30,6 ± 2,32**	**88,7 ± 3,76**	**45,7 ± 2,14**

Patients of the main group received modern bronchodilatory therapy in a stepwise manner, depending on the severity of bronchial obstruction (starting with short acting β2 agonists and anticholinergics, long acting β2 agonists and anticholinergics, as well as inhaled glucocorticosteroids) [5].

Patients in the comparison group received only aminophylline, of course, with a much lower efficiency of bronchodilation. Given in table. 4 materials demonstrate not only more pronounced bacilli excretion in patients with severe bronchial obstruction, but also a statistically significant decrease in bacilli excretion with successful bronchodilation, which once again confirms the need for therapy not only of the underlying disease in patients with TL, but also for treatment NZL. How do TB patients themselves relate to the use of bronchodilators (according to indications)? When questioning patients with TH (39 people), we obtained data that allow us to answer this question (Table 5)

Table 5. Attitude of TB patients to use bronchodilators (asindicated) based on the results of a patient survey (n = 39)

Question	Answer	n
Do you use drugs that reduce shortness of breath and make breathing easier?	Yes, Constantly Sometimes Not	2 5 32
Are you ready to buy drugs that will reduce shortness of breath, cough, wheezing?	Yes Not	12 27
If yes, how much can you 200-300 r. per month 2 spend on drugs that are 300–500 r. per month 4 reduce the severity of shortness of breath,> 500 r. per month 4 coughing, wheezing?	200–300 rubles per month 300–500 rubles per month > 500 rubles per month price doesn't matter	2 4 4 2

Conclusion

- The presence of concomitant NLD in patients with TL is not registered in all regions of Bukhara, which creates conditions for reducing the effectiveness of the treatment of the underlying disease.
- Primary care TB doctors are not sufficiently aware of modern methods of diagnosing and treating NLD.
- Errors in the treatment of NLD in patients with TL are the basis for iatrogenic diseases.
- Drugs for the treatment of NLD are not readily available for patients with TL.

It is necessary to solve organizational issues to improve the quality of treatment of patients with tuberculosis, combined with NLD, through the implementation of appropriate educational programs for both primary care TB doctors and heads of TB services in the regions, which will lead to improved diagnosis and treatment, as well as improved provision of TB care. services with essential drugs for the treatment of NLD. All this is achievable with the integration of TB and pulmonology services in the regions.

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