

REHABILITATION AGE ASPECT AND COMBINED DISEASES IN PNEUMOCONIOSIS IN THE REPUBLIC OF UZBEKISTAN

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Abstract

Information on the study of pneumoconiosis caused by exposure to dust containing silicon is presented; concomitant diseases and the age aspect were diagnosed, which leads to serious medical, social and economic consequences for the country.

Key words: pneumoconiosis, occupational morbidity, silicosis, concomitant diseases

Introduction

Occupational risk management is the main system for ensuring sanitary and epidemiological well-being and preserving the health of the working population [1] in Uzbekistan. In modern production, there are still factors that cause the development of industrial-related diseases with moderate and severe manifestations as a result of unfavorable working conditions and late diagnosis. This leads to a decrease in professional working capacity, including among young people [2], which leads to serious medical, social and economic consequences for the country. Priority measures to preserve and improve health, as well as social protection of workers in this industry.

The results of their own socio-hygienic, medico-physiological research, as well as analysis of the literature data showed that in the process of labor, workers [3] in mining metallurgy are exposed to the combined effects of harmful production factors [4]. Occupational risk factors differ in level, duration and nature of exposure, and due to the characteristics of workers in the mining industry.

In this regard, the relevance of studying the health status of labor potential has both theoretical and practical significance for the professional pathological service [5].

To accomplish the set goal of this work, copy outpatient cards, case histories and reports from the Research Institute of SG PZ for 1998-2016. To analyze the effectiveness of biologically active substances in the complex rehabilitation therapy of patients with silicosis.

Materials and Methods

We used outpatient cards, case histories and reports from the SRI SG PZ for 1998-2016. The study of the health status of patients with silicosis was carried out at the Republican Center for Occupational Diseases of the Republic of Uzbekistan in the period 2016-2018. The condition of patients with silicosis was studied in six groups (in each group the number of patients was 30 people): the first group - silicosis of the I degree and the fourth group with silicosis of II, III degree who received traditional treatment, the second group received dietary supplements "Chylobronch" (manufactured by STRONG PHARM LLC) and the third group - Bronkhonorm (produced by SIRDARYO DORI-DARMON) with a diagnosis of grade I silicosis, as well as the fifth and sixth groups also received dietary supplements "Chylobronch" and "Bronhonorm" for silicosis II and III degree.

The clinical method included the study of anamnesis vitae, anamnesis morbi, complaints of patients upon admission to the hospital, determination of the status localis using special examination methods.

Depending on the severity of the disease, 3 degrees of silicosis were distinguished: I degree; II degree and III degree.

All studies were carried out before and after the course of treatment.

Results and Discussion

We studied 180 patients who were treated at the clinic of the Research Institute of Sanitation, Hygiene and Occupational Diseases of the Ministry of Health of the Republic of Uzbekistan in the period from 2016 to 2018 with a diagnosis of silicosis.

The examined 180 male patients, workers of the Angren (AMMC) and Almalyk Mining Metallurgical Combines (ALMC) differed in the number of

hospitalizations and amounted to 154 (25.7 ± 1.91) and 26 (4.3 ± 2.01) people ($P > 0.05$).

In terms of age, the surveyed contingent of patients was distributed as follows (Table): the first period of adulthood (30-40 years) - 27 patients; the second period of adulthood (41-50 years) - 73 patients; elderly people (51-60 years old) - 66 patients; elderly people (61-80 years old) - 14 patients.

Table

Distribution of the contingent of patients by age composition

Age	Total		AMMC		ALMC	
	Ab s		Abs		Abs	
30-40 лет	27	$36,6 \pm 0,16$	12	$2,0 \pm 0,07$	15	$2,5 \pm 0,25$
41-50 лет	73	$45,8 \pm 0,3$	58	$11,4 \pm 2,26$	15	$9,6 \pm 2,36$
51-60 лет	66	$54,0 \pm 0,3$	50	$8,3 \pm 0,3$	16	$3,2 \pm 0,17$
61-80 лет	14	$67,6 \pm 1,3$	12	$2,0 \pm 0,07$	2	$0,3 \pm 0,09$
Всего	180	$49,1 \pm 0,9$	132	$33,0 \pm 2,58$	48	$12,0 \pm 0,7$

It was found that the main contingent of patients who underwent treatment were persons of 41-50 years old, who were more in relation to other age categories ($P < 0.001$).

The examined patients by profession were distributed as follows: drillers - 21 people (2.8 ± 0.06); machinists - 97 people (16.2 ± 0.29); workers - 45 people (7.5 ± 0.2); tunnellers 17 people each (2.8 ± 0.12 each).

All examined patients were verified with the following final diagnoses upon admission to the hospital (total $n = 180$): silicosis: I degree (16.6 ± 1.13 , $n = 83$); I-II degrees (3.0 ± 0.05 , $n = 15$); II degree (8.2 ± 0.7 , $n = 41$); II-III and III degrees (4.64 ± 0.43 , $n = 23$; 3.6 ± 0.38 , $n = 18$).

In the examined patients, for pneumoconiosis caused by exposure to dust containing silicon, the following concomitant diseases were diagnosed: osteochondrosis (15.0 ± 0.83 , $n = 90$); hypertension (HP) (11.2 ± 0.17 , $n = 67$); arterial hypertension (AH) (7.0 ± 0.29 , $n = 42$); chronic cholecystitis (14.7 ± 0.25 , $n = 88$); discirculatory encephalopathy (DE) (4.0 ± 0.22 , $n = 24$); neurocirculatory dystonia (NCD) (9.2 ± 0.26 , $n = 55$).

All diagnoses were verified by modern, traditional clinical, clinical-instrumental and laboratory diagnostic methods based on the International

Classification of Diseases of the 10th revision (ICD-10, 1997). When carrying out the research, all ethical principles of medical research with the involvement of humans adopted by the Helsinki Declaration of the World Medical Association in 1964 (the last addition at the 59th General Assembly of the World Medical Association in 2008 in Seoul) were observed.

When studying anamnesis vitae and anamnesis morbi of the examined patients, we identified the results of our own studies, which are described in this article.

Unconditional interest is a comparative assessment of the state of the body of persons with silicosis of varying severity, therefore, in a hospital, we studied the health of 180 patients who had industrial contact with dust containing silicon.

When monitoring the health of patients diagnosed with pneumoconiosis caused by dust containing silicon, it was carried out continuously for 10-14 days. Evaluation of the effectiveness of therapy was carried out taking into account the subjective state of patients

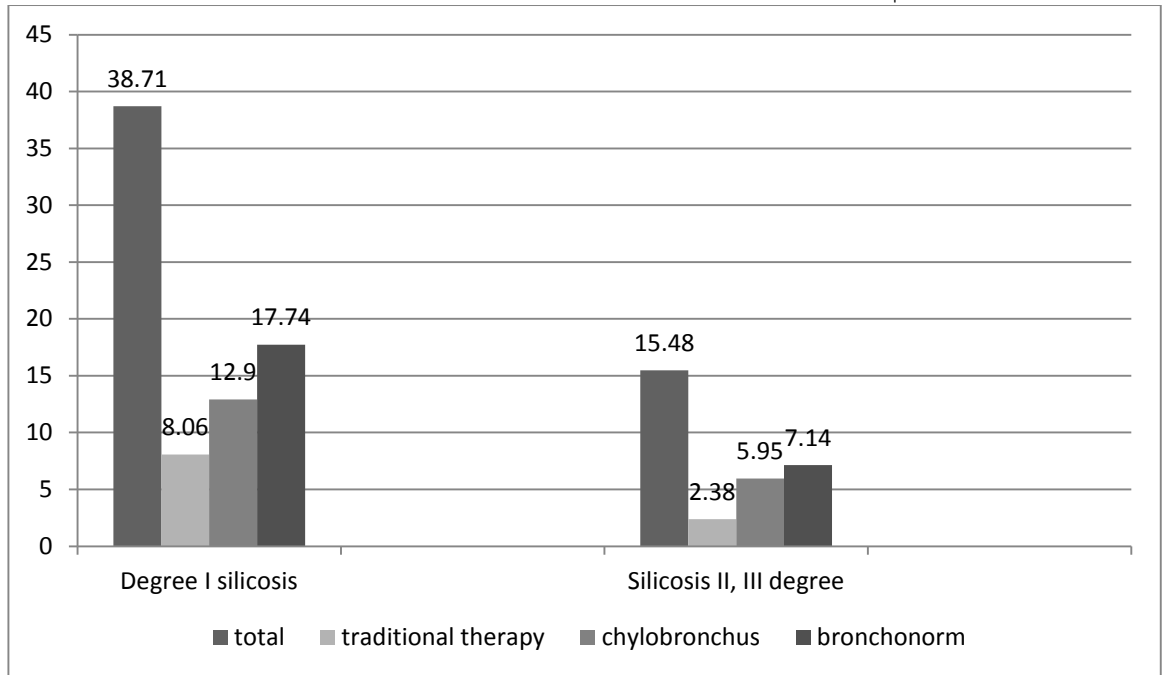
In silicosis, the main complaint was severe shortness of breath, which was determined in 87.22%. In patients with grade I silicosis, abnormal resting was determined in 34.44%, while in grade II, III silicosis - in 46.67%.

In addition, one of the most common complaints is cough, which accounted for 46.34% and 53.66%. Abundant sputum production was detected in 70.0%, while in patients with grade I silicosis it was determined in 46.83% of cases, of which 53.03% had a viscous consistency and 40.0% had the character of scanty difficult sputum. With silicosis II, III degrees, these indicators were 53.17%; 46.97% and 60% respectively.

The study showed that after a course of therapy, the majority of patients showed an improvement in their general condition. When assessing subjective symptoms, a statistical decrease in the severity of cough and shortness of breath was revealed. So, shortness of breath at the end of treatment was expressed decreased by 24.3% of the total number of patients with this complaint (group 1 - 8.06%, group 2 - 12.9%, group 3 - 17.74%, group 4 - 2, 38%, group 5 - 5.95% and group 6 - 7.14%) (Figure).

Figure

Dynamics of changes in shortness of breath during the course of therapy



During the rehabilitation process, the cough completely disappeared in 24.39% and in 41.46% of patients it decreased (group 1 - 5.26% and 7.89%, group 2 - 5.26% and 13.16%, group 3 - 13, 16% and 26.32%, group 4 - 2.27% each, group 5 - 4.55% each and group 6 - 9.09% and 22.73%). Also, there was an increase in the productivity of sputum secretion up to 76.98% (group 1 - 18.64%, group 2 - 30.51%, group 3 - 40.68%, group 4 - 13.43%, group 5 - 20, 89% and group 6 - 31.34%).

Conclusion

1. The main contingent of persons with a diagnosis of pneumoconiosis caused by dust containing silicon drivers, the age of those who applied is mainly 41-50 years (2.7, 1.1 and 5.2 times more than other age categories), among the surveyed the most frequent are train drivers (40.6%).

2. In patients with pneumoconiosis caused by dust containing silicon, they were most often diagnosed with grade I (46.1%) and II degree (22.8%) silicosis, and concomitant diseases typical for people working in difficult conditions were diagnosed - mainly osteochondrosis and NCD.

3. The conducted courses of therapy with the inclusion of biologically active substances in the rehabilitation complex in patients made it possible to increase the effectiveness of medical rehabilitation in comparison with traditional therapy by improving ventilation of the lungs with the development of pneumoconiosis (silicosis).

4. With the development of pulmonary pathology, recommend the use of biologically active substances "Chilobronch" and "Bronkhonorm" as health-improving and preventive measures.

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