

UDC 616.24-003.6+616.24-008.4-07+615.834/835(477.75)

© O.V. Timoshenko, 2013.

CHARACTERISTICS OF RESPIRATORY FUNCTION IN PATIENTS WITH DUST LUNG PATHOLOGY BASED ON CLINICAL EFFECTIVENESS OF REHABILITATION AT SANATORIUMS AT THE SOUTH COAST OF THE CRIMEA

O.V. Timoshenko*Department of Physiotherapy of Faculty of Post-Diploma Education (Head – Prof. V.V. Yezhov) under the State Institution “Crimea State Medical University named after S.I. Georgievsky”, Yalta.*

ХАРАКТЕРИСТИКА ФУНКЦИИ ВНЕШНЕГО ДЫХАНИЯ У БОЛЬНЫХ С ПЫЛЕВОЙ ПАТОЛОГИЕЙ ЛЕГКИХ В ЗАВИСИМОСТИ ОТ КЛИНИЧЕСКОЙ ЭФФЕКТИВНОСТИ САНАТОРНО-КУРОРТНОЙ РЕАБИЛИТАЦИИ В УСЛОВИЯХ ЮЖНОГО БЕРЕГА КРЫМА

О.В. Тимошенко**РЕЗЮМЕ**

У больных пылевым бронхитом и пневмокозиозом, находящихся на восстановительном лечении в условиях специализированных пульмонологических санаториев Южного берега Крыма, проведён анализ динамики ОФВ₁ и установлено, что клиническое улучшение (уменьшение кашля и/или одышки) под влиянием лечения ассоциировано с менее выраженным исходным (при поступлении в санаторий) нарушением функции внешнего дыхания и снижением в процессе лечения обратимого компонента бронхиальной обструкции.

ХАРАКТЕРИСТИКА ФУНКЦІЇ ЗОВНІШНЬОГО ДИХАННЯ У ХВОРИХ З ПИЛОВОЮ ПАТОЛОГІЄЮ ЛЕГЕНЬ ЗАЛЕЖНО ВІД КЛІНІЧНОЇ ЕФЕКТИВНОСТІ САНАТОРНО-КУРОРТНОЇ РЕАБІЛІТАЦІЇ В УМОВАХ ПІВДЕННОГО БЕРЕГА КРИМУ

О.В. Тимошенко**РЕЗЮМЕ**

У хворих з пиловим бронхітом і пневмокозиозом, які перебували на відновному лікуванні в умовах спеціалізованих пульмонологічних санаторіїв Південного берега Криму, проведений аналіз динаміки ОФВ₁ та встановлено, що клінічне покращення (зменшення кашлю і/або задишки) під впливом лікування асоційовано з менш вираженим вихідним (при надходженні в санаторій) порушенням функції зовнішнього дихання і зниженням в процесі лікування зворотного компонента бронхіальної обструкції.

Key words: dust bronchitis, pneumoconiosis, respiratory function, rehabilitation at sanatoriums.

Dust lung pathology is a large part of respiratory diseases; mining enterprises are still of a great importance in the national economy, and they remain dangerous. It is confirmed by high levels of occupational morbidity and temporary disability, including those due to occupational lung diseases [1, 2, 3]. It can be suggested that issues of diagnostics, treatment and rehabilitation in professional diseases, including occupational dust lung diseases are of current interest for public health in Europe, including Ukraine.

There are no scientifically grounded criterions of estimating the effectiveness of rehabilitation at sanatoriums; this complicates the problem of medical rehabilitation of people with dust lung diseases at specialized sanatorium. In addition, no comparative data are available as for the patients' groups with occupational respiratory dust pathology with a positive clinical effect of rehabilitation or without it at sanatoriums. Such data could be a basis for selecting the methods of treatment at sanatoriums. Thus, scientific search for opportunities to increase the effectiveness of medical rehabilitation

of people with dust lung diseases at specialized sanatoriums seems to be grounded.

The general purpose of the research is to optimize the rehabilitation of people with occupational dust lung pathology at specialized pulmonary sanatoriums at the South Coast of the Crimea. In order to achieve this aim, changes of one of the main parameters of pulmonary function index (FEV₁) in patients with dust lung pathology have been analyzed in this work according to clinical effectiveness of rehabilitation at sanatoriums.

MATERIALS AND METHODS

We examined 362 male patients that were divided into the following groups. 112 patients with dust bronchitis, which developed clinical improvement (relief from cough and/or dyspnea) after treatment received at the sanatorium, were included into the 1st group. 93 patients of the 2nd group with dust bronchitis had no clinical improvement after rehabilitation at the sanatorium. 81 patients with pneumoconiosis and clinical improvement after treatment at the sanatorium were included into the 3rd group. 76 patients of the 4th

group with pneumoconiosis had no clinical improvement after treatment at the sanatorium. There was a remission of chronic bronchoobstructive disease in all (1st – 4th) groups of patients with dust induced respiratory pathology. These groups for comparison were created retrospectively by estimation of positive or no clinical effects of rehabilitation at the sanatorium in patients with lung pathology caused by dust. 32 healthy people were examined as a control group. Diagnosis of occupational lung disease was made in accordance with «A List of

Occupational Diseases», approved by the Resolution of the Cabinet of Ministers of Ukraine of October 8, 2000, № 1662 [4], modern classification, and was also based upon the data of sanitary and hygienic characteristics of working conditions, clinical, functional, and X-ray investigations.

RESULTS

The results of investigations of FEV₁ in the 1st, 2nd, 3rd, and 4th groups of patients are shown in the table.

Table 1

Characteristics of FEV₁ in the 1st, 2nd, 3rd, and 4th groups of patients, % of predicted value

The group	Stat. index	FEV ₁	
		On admission	At discharge
1 st group	M ± m	71.06 ± 1.67	76.21 ± 1.80
	n	112	112
	p	< 0.001	< 0.001
	p ₃		< 0.05
2 nd group	M ± m	63.01 ± 1.54	64.34 ± 2.04
	n	93	93
	p	< 0.001	< 0.001
	p ₁	< 0.001	< 0.001
	p ₃		< 0.2
3 rd group	M ± m	69.04 ± 1.38	74.38 ± 1.73
	n	81	81
	p	< 0.001	< 0.001
	p ₃		< 0.02
4 th group	M ± m	58.50 ± 2.06	60.06 ± 1.93
	n	76	76
	p	< 0.001	< 0.001
	p ₂	< 0.001	< 0.001
	p ₃		> 0.5
Healthy people	M ± m	100.0 ± 0.3	
	n	32	

Note: p – the significance of differences in comparison with healthy people group, p₁ – the significance of differences in comparison with the 1st group of patients, p₂ – the significance of differences in comparison with the 3rd group of patients, p₃ – the significance of differences in comparison with the same group of patients on admission.

There was no worsening of pulmonary complaints while monitoring the patients with dust bronchitis and pneumoconiosis during their rehabilitation in specialized pulmonary sanatoriums at the Southern Coast of the Crimea (“Gorny” sanatorium).

Analysis of the represented scientific data (see the table) demonstrates, that in the 1st group of patients during 1st phase of the study (on admission) FEV₁ is

statistically significantly higher in comparison with the 2nd group (to 9.3 %, p₁ < 0.01) and statistically significantly increases (to 7.2 %, p₃ < 0.05) under the influence of the rehabilitation treatment (at discharge).

In the 3rd group of patients with pneumoconiosis on admission the investigated index is higher to 18,0 % (p₂ < 0.001) in comparison with the same index in the 4th group and increases to 7.7 % (p₃ < 0.02) at discharge.

In the 2nd and 4th groups of patients there was no significant change of the investigated index under the influence of the treatment at the sanatorium.

CONCLUSIONS

1. There was no worsening of pulmonary complaints in patients with dust bronchitis and pneumoconiosis during the rehabilitation at the sanatoriums.

2. Clinical improvement (relief from cough and/or dyspnea) in patients with dust bronchitis and pneumoconiosis under the influence of the received treatment during the rehabilitation at the specialized pulmonary sanatoriums at the Southern Coast of the Crimea is associated with less marked initial (on admission to the sanatorium) respiratory function disorder (based on FEV₁) and the decrease of reversible component of bronchial limitation during treatment.

REFERENCES

1. Бабанов С.А. Пылевые заболевания лёгких: особенности диагностики и лечения / Бабанов С.А., Аверина О.М. // Фарматека. - 2011. – N. 18. - С. 21-27.
2. Косарев В.В. Пылевые заболевания легких в практике врача-терапевта и профпатолога / В.В. Косарев, С.А. Бабанов // Consilium medicum. - 2008. - N. 10. - С. 122-128.
3. Кундиев Ю.И. Профессиональное здоровье в Украине: эпидемиологический анализ / Ю.И. Кундиев. – Авіцена, 2007. – 394 с.
4. Постанова Кабінету Міністрів України від 8 листопада 2000 р. № 1662 «Про затвердження преліку професійних захворювань» [Електронний ресурс] // Режим доступу до документа: <http://zakon2.rada.gov.ua/laws/show/1662-2000-п>.