



Interrelationship Between Life Quality And Vegetative Nervous System In Patients With Asthma

Muborak Saidobdullaevna Salaeva

Associate Professor Department Of Internal Diseases №2 Tashkent Medical Academy,
Uzbekistan

Nargiza Djurabaevna Salimova

Associate Professor Department Of Internal Diseases №2 Tashkent Medical Academy,,
Uzbekistan

ABSTRACT

The aim of this work is researching the interconnection of parameters of quality of life and the vegetative nervous system in patients with asthma.

Material and methods: Clinical and functional studies of 62 patients with asthma on the basis of Pulmonology Institute of TB and Pulmonologist Ministry of Health of Uzbekistan Republic were conducted. Quality of life was determined by the Seattle questionnaire comprising 29 questions that assess physical condition, emotional state, the state of professional competence and satisfaction with treatment.

State of the vegetative nervous system was assessed by Cardiointergraphic (CIG) on Bayes (1976). The obtained data were processed statistically using Student's t test.

Result: Patients with asthma often marked stress and disruption of adaptive-compensatory abilities of the body and reduced quality of life parameters. Patients with asthma defined relationship is more pronounced reduction in QL parameters in physical and emotional state of hypersympathicotonic and vagotonys. Reducing of QL parameters in patients with asthma is not established due of reducing these parameters on the state of the vegetative reactivity. The expansion of rehabilitation measures aimed at restoring the adaptive-compensatory abilities of the body, can help to restore and improve the quality of life of patients with asthma.

KEYWORDS

Bronchial asthma, vegetative nervous system, quality of life.

INTRODUCTION

Bronchial asthma (BA), is not only medical, social and economic, but also the general humanitarian problem (3).

Respiratory diseases occupy the top in prevalence in Uzbekistan. The indicator of illness over the past 5 years has increased by 2.5 times. The frequency of temporary disability and disability from COPD in the Republic increases annually. Mortality from this pathology is 1.5-2-times higher than the corresponding indicators in Russia (4). According to official statistics, in 2001 the number of patients in Uzbekistan with chronic nonspecific lung diseases was 3.5 times higher than the number of patients with diseases of cardiovascular system.

Clinician's interest is increased in study of the functional state of the vegetative nervous system (VNS) currently. VNS mediates its effect on the functional state of the bronchial tubes through the sympathetic and parasympathetic regulation mechanisms. Influences are transmitted via vagus, causing contraction of bronchial smooth muscle, through the pulmonary sympathetic plexus - adrenergic effects, relaxing smooth muscle (2).

Assessment of quality of life (QL) of a person takes the major place in the clinical and socio-medical researches, assessment the degree of comfort within themselves and within their society. QL related to health, - a set of parameters describing the various aspects of human functioning: physical and psychological state, social relations, the functionality of the period of his illness (1,8,9).

Found that in AD is a significant decline in the quality of life of patients (4,5,6,7). Interconnection between subjective feelings

of the patient and objective parameters that characterize the vegetative nervous system has not been studied.

Objectives

The aim of this work is researching the interconnection of parameters of quality of life and the vegetative nervous system in patients with asthma.

MATERIAL AND METHODS

Clinical and functional studies of 62 patients with asthma on the basis of Pulmonology Institute of TB and Pulmonologist Ministry of Health of Uzbekistan Republic were conducted. Quality of life was determined by the Seattle questionnaire comprising 29 questions that assess physical condition, emotional state, the state of professional competence and satisfaction with treatment.

State of the vegetative nervous system was assessed by Cardiointergraphic (CIG) on Bayes (1976). The obtained data were processed statistically using Student's t test.

RESULTS AND DISCUSSION

According to the study the initial vegetative tonus that characterizes the adaptive ability of the organism to the disease, in patients with asthma noted that only 30% remains adaptability, manifested Ayton (ET), at 20,9% shows the state sympathetic (ST), which determines the voltage adaptation possibilities, at 45,3% - hypersympathicotonia (HST) and 4,8% - vagotonia (VT), reflecting the failure of the state of adaptation options.

Comparing the state of autonomic tone with the original parameters QL of patients with asthma found that the stress and frustration

of adaptive capacity had significantly marked reduction of QL parameters for the physical

and emotional state (table 1).

Table 1

Specifications QL in patients with asthma with various conditions vegetative tonus (in basis points)

Paimetres	Ma xpo ssib le	ET (n=18)	ST (n=13)	HST (n=28)	VT (n=3)	P		
						1-2	1-3	1-4
Physical condition	5,2	3,09±0,20	2,18±0,24	2,38±0,09	2,14±0,21	<0,01	<0,001	<0,001
Emotional condition	7,0	4,02±0,37	2,96±0,36	2,72±0,20	2,26±0,14	<0,05	<0,001	<0,001
Professional fitness	7,0	4,09±0,32	3,32±0,44	3,09±0,19	3,91±0,25	>0,5	<0,01	>0,5
Complaceny by treatment	5,0	2,58±0,19	2,69±0,12	2,55±0,09	2,5±0,10	>0,5	>0,5	>0,5

The parameters of the physical condition of patients with asthma hypersympathicotonic were reduced - by 23%, and in patients with asthma vagotony - by 31% compared to tonicity and respectively - 54% and 59% of the maximum possible points. Parameters of the emotional state of patients with asthma sympthicotonic reduced - by 26,4%, from hypersympthicotonic - by 32,3% and vagotony - by 43,8%, compared with patients with asthma and tonicity - by 57,7%, 61,1% and 67,7% of the maximum possible points. QL parameters fit and satisfaction with treatment

in patients with asthma have been reduced to 55,8% and 50% respectively of the maximum possible values. However, without a significant decrease in these parameters depending on the initial vegetative tone.

The study of the compensatory capacity of the organism of patients with asthma, estimated by vegetative reactivity, showed that only 30.6% of patients with asthma recorded normal vegetative reactivity (NVR), reflecting preservation of compensatory abilities, in 54.8% of patients – hypersympthicotonic

vegetative reactivity (HSR) reflecting voltage compensation abilities and 14,6% - asympathicotonic autonomic reactivity (ASVR) - failure mechanisms of compensation.

Comparing the form of the vegetative reactivity of patients with asthma with the parameters of quality of life was observed a significant reduction of the maximum possible values (table 2).

Table 2

Specifications the patients QL with various conditions of asthma autonomic reactivity (in basis points)

Paimetres	Max. possible	NVR (n=16)	HSR (n=34)	ASVR (n=7)	P	
Physical condition	5,2	2,42±0,20	2,66±0,11	2,30±0,22	>0,5	>0,5
Emotional condition	7,0	2,96±0,32	3,21±0,20	3,08±0,45	>0,5	>0,5
Professional fitness	7,0	3,22±0,26	3,61±0,19	3,53±0,42	<0,2	>0,5
Complacency by treatment	5,0	2,47±0,09	2,60±0,12	2,77±0,17	>0,5	<0,2

Patients with asthma with normal vegetative reactivity parameter QL physical condition reduced - by 53,5% of the maximum possible, on the emotional - by 57,7%, as a professional fitness - by 54%, and treatment satisfaction - by 50,6% of the maximum possible score. Among patients with asthma and SSR ASVR quality of life parameters were also significantly reduced. However, we have not established communication with derating QL compensatory abilities of the body.

CONCLUSIONS

1. Patients with asthma often marked stress and disruption of adaptive-

compensatory abilities of the body and reduced quality of life parameters. Patients with asthma defined relationship is more pronounced reduction in QL parameters in physical and emotional state of hypersympathicotonic and vagotonys.

2. Reducing of QL parameters in patients with asthma is not established due of reducing these parameters on the state of the vegetative reactivity

3. The expansion of rehabilitation measures aimed at restoring the adaptive-compensatory abilities of the body, can help to restore and improve

the quality of life of patients with asthma.

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