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L-ARGININE ASPARTATE USAGE IN A COMPLEX TREATMENT OF PATIENTS WITH CHRONIC PANCREATITIS AND ESSENTIAL ARTERIAL HYPERTENSION

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Key words: chronic pancreatitis, essential arterial hypertension, L-arginine aspartate, complex treatment, quality of life

Introduction

The rational selection of drugs to adequately treat combined pathology is an urgent problem in modern medicine. Today, every patient aged 21-40 years accounted for 2.9 while disease aged 41-60 years - 4.5 [9]. In 70-80% of cases of gastrointestinal tract combined with each other or with diseases of other organs and systems, including disorders of the cardiovascular system.

Progressive course of chronic pancreatitis (CP), which leads to disability in 15% of patients, and often a combination of Parkinson's disease with hypertension (EH), which suffers 11 million Ukrainian, determine the relevance of the selection of the optimal treatment for patients with a combination of these pathologies.

From the materials work in recent years imply that key role in the pathogenesis of both Parkinson's disease and essential hypertension plays dysfunction of endothelium that develops in the absolute or relative deficiency of endothelial nitric nitrogen that ¬ (NO), manifested reduced concentrations of nitrites and nitrates in serum and urine. Violation of NO production reduces the blood supply to the pancreas (PA), impaired outflow of pancreatic secretions and progression of Parkinson's disease. Experimentally and clinically proven to reduce the role of endothelium-dependent relaxation of blood vessels and increased blood pressure (AT) in the development of Parkinson's disease relapse, activation of pancreatic stellate cells and fibrosis progression software. In patients with Parkinson's disease in the non-remission phase, and the presence of concomitant GC nitrytanionu observed decrease in the concentration of serum.

One reason for the lack of formation of NO is de ¬ deficit intake of the main substrate for its synthesis - conditionally essential amino acid L-arginine (LA). Some studies support the feasibility of NO donor in the treatment of patients with Parkinson's disease and patients with essential hypertension and in combination these diseases to improve endothelial function and course of Parkinson's disease and essential hypertension. In particular, against the inclusion of LA in the complex treatment reduced the frequency of pain and dyspeptic syndromes and normal concentration of nitrite anion in serum of patients with Parkinson's disease in the non-remission

stage and GC. Oral acceptance LA reduces systolich ¬ tion and diastolic AT, AT normalization daily profile in patients with essential hypertension and its combination with CP. These positive effects are associated with marked antioxidantdant and detoxification properties of LA, the ability to inhibit the synthesis of asymmetric dymetylarhinin, which is an endogenous stimulator of oxidative stress and the development of cardiovascular complications, as well as inhibition of the synthesis of endothelin-1 - inchore vasoconstrictor and stimulator proliferation of smooth-muscle cells of blood vessels.

Works devoted to studying the influence of LA on the parameters of quality of life (QOL) and the cytokine profile of patients with Parkinson's disease and essential hypertension, we have not met.

The aim of the study was to find out feasibility of inclusion of L-arginine aspartate in treatment of patients with Parkinson's disease in combination with GC to improve the quality of life and patient characteristics cytokine profile.

Materials and methods

The object of the study were 48 outpatients men and women aged 25-59 years. All patients diagnosed with Parkinson's disease in a phase of unstable or stable remission and EH stage II and II levels. The study included patients with symptomatic arterial hypertension, coronary heart disease, requiring antianginal therapy, cancer, diabetes, or symptoms of acute exacerbation of chronic inflammatory diseases. Patients were divided into groups by comparing programs correct: the first group (22 patients) received conventional medical complex (ML), the second group (26 patients) in addition to the ML took orally LA-aspartate (tyvortyn) at a dose of 2 g (10 ml) twice a daily with meals (ML + T). ML complex includes basic therapy of CP (omeprazole - 0.02 g Creon - 10,000 units; drotaverine - 0.04 g and / or metaklopramid - 0.01 g), which was administered as required. Mandatory component of ML are diet regime and ACEI treatment at a dose of ramipril 0,005-0,01 g per day every day for the correction AT.

Examination of patients was performed before treatment and after 1 month. The control group consisted of 20 healthy people.

To assess the QOL of patients was performed using patient questionnaires the Russian version of the questionnaire Medical Outcomes Study 36-ltem Short-Form Health Survey (MOS SF-36). Non-assessed physical and mental health components using 36 questions. The intensity of the impact of clinical syndromes of Parkinson's disease on quality of life of patients assessed by GSRS questionnaire on a 7-point scale.

We determined the levels of pro-and anti-inflammatory cytokines tumor necrosis factor-α (TNF-α) and interleukin-10 (IL-10) by ELISA.

Patients in both groups before treatment did not differ significantly by age, sex, duration and course of Parkinson's disease, and indicators of QOL and cytokine profile. The results were statistically processed using a personal computer with the use of program SPSS 16.0 and assessed by Student's test.

Results and discussion

Dynamics of QOL of patients with Parkinson's disease in combination with hypertension under the influence of ML and ML + T present in Table 1. Patients in both groups saw a significant improvement in QOL after treatment by both physical and mental components.

The therapy showed even improve physical functioning by 7.0 and 7.4% and reduce the impact of pain on QOL of patients with 27.4 and 32.2% respectively in the first and second group. Simultaneously, a significant ($p < 0.05$) positive change of role physical functioning (26.8%) and general health (by 37.7%) occurred in patients who received additional LA, whereas in patients treated with ML these figures were respectively 15.8 and 22.3%. Noted a marked increase ($p < 0.05$) biological activity in patients of the second group (33.1%) compared with the first (19.2%).

After treatment, patients in both groups equally improved role-emotional functioning for more than 25-27%, social functioning - to 18-23% and psychological health of patients in both groups - an average of 25-29%. Significant influence of LA on these indicators have been identified.

General improvements in QoL observed in ¬ amid positive dynamics of basic syndromes of CP (Fig. 1).

Table 1

Dynamics of QOL of patients under various treatment systems

(M ± m)

Quality of Life Index,%	First group (GT), n=22		Second group (GT+T), n=26	
	Before treatment	After treatment	Before treatment	After treatment
Physical functioning	86,3±7,6	93,3±5,6	85,9±9,1	92,9±7,1
Role physical functioning	63,3±5,9	79,1 ±4,1*	66,8±5,0	93,6±6,4*^
Pain	43,2±6,1	70,6±5,1*	45,9±5,7	78,1±5,3*
Common health	38,9±6,9	61,2±5,5*	36,8±6,1	74,5±4,4*^
Vital activity	34,2±3,3	53,4±3,9*	36,1 ±5,4	69,2±6,5*^

Social functioning	56,1 ±5,1	74,3±5,4*	58,1 ±6,2	81,2±4,8*
Role emotional functioning	42,7±6,9	68,1 ±7,5*	48,3±7,2	75,3±6,8*
Psychological health	36,8±6,4	65,8±5,9*	40,2±7,1	66,1 ±6,8*

Note: * - significant difference from the rate before treatment (p <0.05), ^ - significant difference from the rate in the first group of patients (p <0.05)

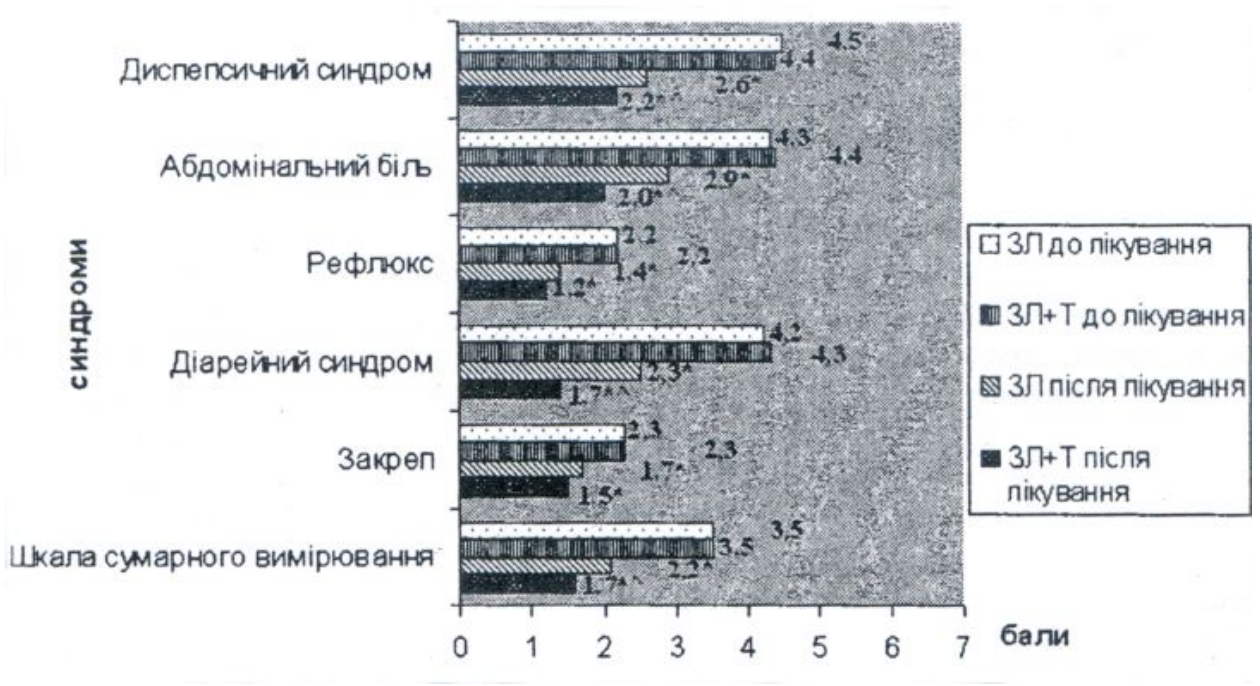

Fig. 1. Quality of life in patients with CP and hypertension by questionnaire GSRS. Note: * — significant difference with the rate before treatment (p<0,05); ^ — significant difference with the rate in the first group of patients (p<0,05).

Inclusion of LA to ML contributed more significantly (P <0.05) lower intensity of exposure of individual symptoms of CP on QoL of patients, particularly dyspeptic syndrome - 2 times, pain - in 2,2 times, diarrhea - 2.6 times, and well as the combined effect of all symptoms on patients' QOL by 2.1 times compared with data before treatment. In the first group of patients to improve these indicators were significant, but less pronounced.

Purpose LA had no significant effect on reflux, the intensity of which decreased by 1.6 and 1.8 times, as well as constipation, which bothered at 1.4 and 1.5 times less ¬ st patients, respectively first and second groups.

The growth has been accompanied QOL improvement cytokine profile of patients (Table 2). Before treatment, levels of TNF-α in serum was higher than the benchmark, while the level of IL-10 was decreased in the blood serum of patients in both groups. After treatment observed a significant (p <0.05) decrease in TNF-α in the serum of patients of the second group (54.1%) compared with the first (by 40.4%). This indicated a significant reduction in inflammatory activity after treatment with the inclusion of LA. However, the level of TNF-α in the serum of patients in both groups remained higher than in a control group. Parallel showed growth in terms of anti-inflammatory activity of IL-10 to the control level indicator in the first and second groups, respectively, 15.0 and 13.5%.

Table 2

Characteristics of the cytokine profile in patients studied groups

Index	Comparison groups				
	Control, n=15	First group (GT), n=15		Second group (GT+T), n=16	
		Before treatment	After treatment	Before treatment	After treatment
NTF-α, pg/ml	8,07±0,29	20,19±1,15#	12,02±1,23#*	20,06±1,41#	9,21±1,12#*^
IL-10, pg/ml	3,22±0,09	2,66±0,08#	3,06±0,12*	2,75±0,06#	3,12±0,09*

Notes: # - significant difference from the rate in the control group (p <0.05), * - significant difference from the rate before treatment (p <0.05), ^ - significant difference from the rate in the first group of patients (p <0, 05)

Conclusion

1. Use in treatment of patients with CP and GC L-arginine improves the quality of life of patients by significantly (p <0.05), a significant increase in performance of physical role functioning at 26.8%, overall health - by 37.7% vitality and patients - 33.1% and reduce the impact of dyspeptic (in 2.0 times), pain (2.2 times) and diarrheal (2.6 times) syndrome ¬ Roma on the quality of life of patients after treatment.
2. Oral L-arginine promotes plausible reduce the intensity of the inflammatory process by reducing proinflammatory CC TNF-α by 54.1% in the serum of patients with Parkinson's disease in a phase of unstable or stable remission and GC.
3. It is advisable in treatment of patients with Parkinson's disease in a phase of unstable and stable remission and EH stage II and II levels include oral administration of L-arginine aspartate (tyvortyn) at a dose of 2 g (10 ml) twice a day with meals for 1 month. Prospective studies consider the impact oral administration LA on the state of lipid

peroxidation and antioxidant defense in patients with Parkinson's disease and essential hypertension.

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Oral L-arginine aspartate intake in a complex treatment of patients with chronic pancreatitis and arterial hypertension improves patients' quality of life due to the increasing indices of role-physical functioning for 26.8%, general state of health — for 37.7% and patients' vitality — for 33.1%. It leads to the decreasing influence of dyspepsia (in 2.0 times), pain (in 2.2 times) and diarrhea (in 2.6 times) on the quality of life of patients after treatment. We also observed a decrease of TNF-α level in serum for 54.1% after treatment.