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STUDY OF THE EFFICIENCY USE OF PHYSICAL REHABILITATION IN PATIENTS WITH CHRONIC GASTRITIS

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Annotation. *Purpose:* to make physical rehabilitation program for patients with chronic gastritis type B, promotes normalization of gastric secretory function and prolong the period of remission. Objectives of the study was to assess the dynamics of gastric secretory function and functional status of the autonomic nervous system in patients with the chronic gastritis type B. *Material:* the study involved 37 women with a diagnosis of the chronic gastritis type B, increased acid gastric function. *Results:* it was established the positive influence of corrective exercises for the lower thoracic and lumbar spine, regulated breathing exercises based on the tone of the autonomic nervous system in combination with massage and diet therapy on the state of gastric secretory function. *Conclusions*: it is recommended to carry out therapeutic physical culture in the form of morning hygienic gymnastics, therapeutic exercises, self-study.
Keywords: physical rehabilitation, chronic gastritis, gastric secretory function.

Introduction

Chronic gastritis (CG) is a chronic pluricausal inflammation-dystrophic disease of stomach's mucosa with disordering of cells' regeneration and progressing atrophy of stomach epithelium. CG is of the following kinds: A-auto-immune CG, B – bacterial, C – chemically conditioned and special (rear) forms of CG (eosinophilic, granulomatous, lymphocyte, radiation and caused by some infections) [8, 13, 14, 20].

Analysis of rehabilitations of CG patients permitted to determine that in rehabilitation treatments' system important place is taken by therapeutic physical culture, massage, diet therapy. They permit to weaken disease, strengthen immunity and organism's responsiveness [7, 15, 18, 19]. With chronic gastritis therapeutic physical culture methodic (TPC) of I.I. Parkhotic (2003), S.N. Popova (2005, 2008), V.A. Yepifanova (2006) et al. [1, 5, 9, 11, 16, 17] are used. At rehabilitation stages the following TPC form are applied: morning hygienic exercises, Terrainkur, walking, dozed run, outdoor games (volleyball, badminton, tennis), swimming,, rowing, skiing. However, existing programs of physical rehabilitation do not consider significant influence of vegetative innervations on secretory function of stomach. Normalization of stomach's secretory function happens just after application of TPC means and is not durable. In literature there is no information about combined application of massage and physical exercises with this disease. Thus, all listed above conditions demand in working out and evaluation of effectiveness of new rehabilitation program, which would facilitate normalization of stomach's secretory function and achievement of steady remission of B-type chronic gastritis.

The work has been fulfilled by direction of priority according to Law of Ukraine "On Directions of priority in development of science and engineering", number 3.5. "Sciences about life, new technologies of prophylaxis and treatment of the most frequent diseases" in frames of topic of protity 3.5.29. "Creation of standards and technologies of healthy life style's implementation, technologies of increasing of food's safety and quality".

Purpose, tasks of the work, material and methods

The purpose of the research is to create program of physical rehabilitation for patients with chronic B-type gastritis, which would facilitate normalization of stomach's secretory function and prolongation of remission period.

The tasks of the research were evaluation of dynamic of stomach secretory function's indicators, functional status of vegetative nervous system of patients with chronic B-type gastritis.

The methods of the research: our researches were conducted from September 2013 to March 2014 in Kharkov municipal students' hospital. Clinic examination of 37 women with chronic B-type gastritis and increased acid forming stomach's function was the base of our research. They were divided in two groups: main group (MG – 19 patients) and control one (CG – 18 patients). Mean age of main group patients was 38.9±0.8 years old and in control group – 39.4±0.6 years old. By quantity of patients, age and presence of diagnosed pathology main and control groups were homogeneous.

For evaluation of rehabilitation measures' effectiveness we used results of tests of stomach's secretory function with the help of ph-metering with acid gastro-meter AGM-05K Gastroscan-5; also we used indicators of vegetative nervous system's functional condition, measured with the help of ortho- and clinostatic tests [6, 10, 12]. The received data were processed by mathematical statistic's methods with the help of certified software STATISTICA-6,0.

Results of the research

Primary examination was conducted before physical rehabilitation course. Patients of both groups showed disorders of stomach's secretory function in form of hyper-acidity in combination with continuous acid forming (see table 1).

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Table 1

Indicators of stomach secretion during primary examination (M±m)

Indicators	Secretion	Norm	Groups		t	p
			MG, n=19	CG, n=18		
Condition of acid formation in stomach	On an empty stomach	1.6-2.0	1.28±0.06	1.23±0.05	0.57	>0.05
	stimulated	1.2-2.0	1.07±0.03	1.07±0.04	0.08	>0.05

With ortho and clinostatic tests we found increased activity of parasympathetic section of VNS (57.9% of MG patients and 55.6% of CG patients.

For prolongation of remission period of chronic B-type gastritis and normalization of stomach's secretory function we worked out and applied in main group complex program of physical rehabilitation. Including therapeutic physical culture, massage and diet therapy. TPC was carried out in forms of morning hygienic exercises, therapeutic gymnastic, independent trainings. The basis of therapeutic gymnastic complexes were general physical exercises, exercises for correction of backbone (mainly lower thoracic sand lumbar spines) and dozed breathing exercises, considering VNS tonus, executed in relaxed state and in walk. At poly-clinical stage in main group we applied therapeutic massage by methodic of P.B. Yefimenko (2013) [2]. At poly-clinical stage in control group we applied TPC by methodic of O.I. Parkhotik (2003) and therapeutic massage by methodic of L.A. Kunichev (1985) [4, 9]. Diet therapy was recommended to both groups' patients – table No.16 by M.I. Pevzner with four meals a day [3]. Considering remission period of main disease, both groups' patients were not cured with medicine [13, 15].

After 4 months of physical rehabilitation certain changes took place in general condition of both groups' patients. During repeated examination we found improvement of stomach's secretory function of both groups. Patients (see table 2). Patients of main group showed normalization of acid forming on empty stomach and stimulated: accordingly 1.65±0.04 and 1.46±0.04 ($p<0.05$). In control group improvement of acid forming function also took place, but stimulated secretion did not reached normal values. Besides, with repeated examination in MG normal acidity was diagnosed in 13 patients (68.4%), in CG – in 6 patients (33,3%); in MG stimulated acidity was found in 18 patients (94.7%), in CG – in 9 patients (50.0%).

Table 2

Indicators of stomach secretion during primary and repeated examinations in main and control groups (M±m)

Indicators	Secretion	Norm	Periods of examination		t	p
			Primary examination	Repeated examination		
Main group (n=19)						
Condition of acid formation in stomach	On an empty stomach	1.6-2.0	1.28±0.06	1.65±0.04	5.53	<0.05
	stimulated	1.2-2.0	1.07±0.04	1.46±0.04	10.9	<0.05
Control group (n=18)						
Condition of acid formation in stomach	On an empty stomach	1.6-2.0	1.23±0.05	1.45±0.04	3.35	<0.05
	stimulated	1.2-2.0	1.07±0.04	1.16±0.03	6.59	<0.05

When comparing repeated indicators of acid forming on empty stomach and stimulated one we found statistically significant improvement of main group's indicators in comparison with control group that witnesses about more substantial influence of the offered physical rehabilitation program on stomach's secretory function of main group's patient (see table 3).

Table 3

Comparative characteristic of stomach secretion's indicators of main and control groups' patients during repeated examination
(M±m)

Condition of acid formation in stomach	Groups		t	p
	MG, n=19	CG, n=18		
On and empty stomach	1.65±0.04	1.45±0.04	3.62	<0.05
Stimulated	1.46±0.04	1.16±0.03	5.37	<0.05

Application of physical rehabilitation means resulted in changes of functioning of vegetative nervous system's sympathetic and parasympathetic sections. For example, balance of both VNS sections was registered in 73.7% of main group's patients and in 22.2% of control group's patients. Parasympathetic thonium took place in 10.5% of MG patients and in 61.1% of CG patients (see fig.1). Thus, application of dozed breathing, considering activity of VNS parasympathetic an sympathetic sections facilitated progressing of aethonium of main group's patients that, in its turn, facilitated normalization of stomach's secretory function Condition of acid formation in stomach [8, 13].

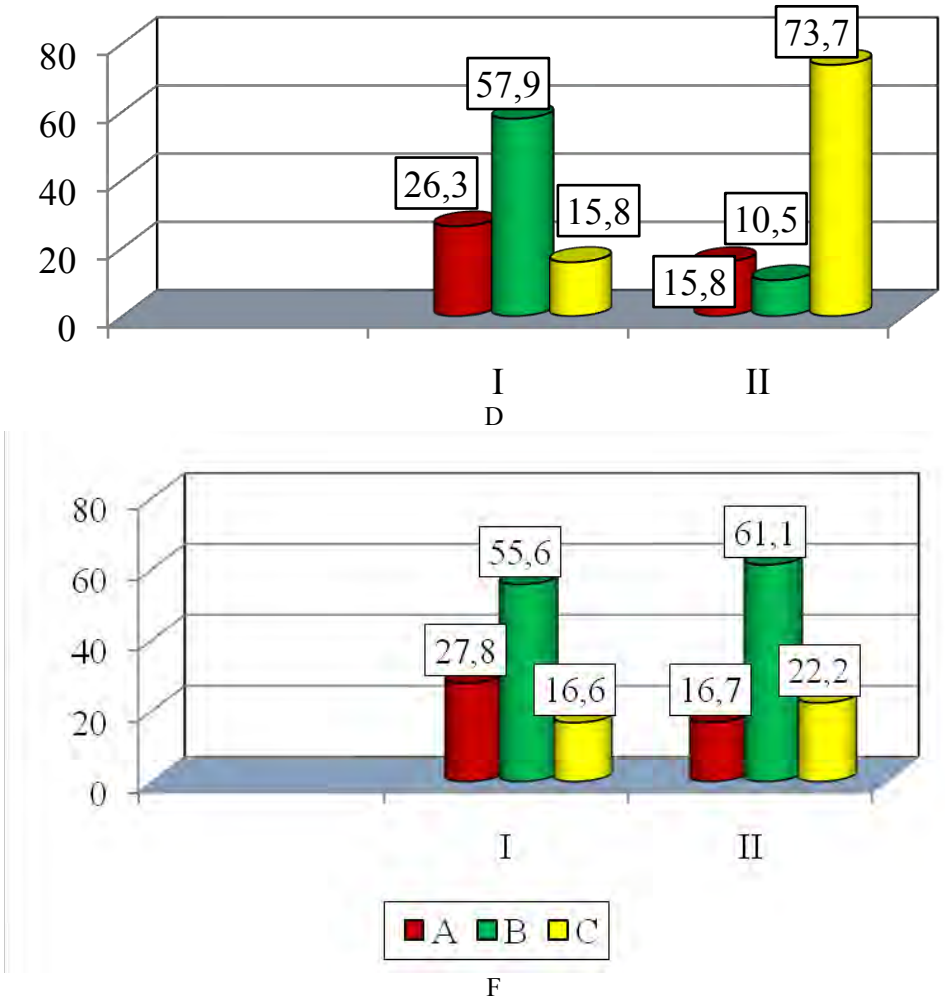

Fig.1. Activity of VNS sections of both groups' patients in repeated examination (%): I –primary examination; II – repeated examination;
A –sympathetic thonium, B – parasympathetic thonium; C – aethonium;
D –main group; F – control group

Conclusions:

For normalization of stomach's secretory function in case of chronic B-type gastritis it is recommended to include in complexes of therapeutic gymnastic and independent trainings correcting physical exercises for backbone (mainly low thoracic and lumbar spines), dozed exercised, considering tonus of VNS in combination with therapeutic massage and diet therapy.

The prospects of further researches imply grounding, development and evaluation of effectiveness of physical rehabilitation program for patients with chronic A-type gastritis.

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