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EFFICIENCY OF TREATMENT AND PREVENTION OF COMPLICATIONS OF PARODONTITIS IN PATIENTS WITH METABOLIC SYNDROME EFFICIENCY OF TREATMENT AND PREVENTION OF COMPLICATIONS OF PARODONTITIS IN PATIENTS WITH METABOLIC SYNDROME

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Abstract

Introduction. Given the increasing prevalence of metabolic syndrome among the population, the search for ways to treat and prevent major dental diseases in this somatic pathology is of great importance.

Purpose of the study. The purpose of this work was to evaluate the effectiveness of the developed treatment and prophylaxis complex in patients with generalized parodontitis in combination with metabolic syndrome.

Materials and methods. In in-depth studies, 53 people aged 30-55 years with a diagnosis of "chronic generalized parodontitis" and "metabolic syndrome" took part. The main group of patients in addition to basic therapy received a developed, pathogenetically substantiated therapeutic and prophylactic complex, 2 times a year. Evaluation of the dental status of patients was performed in the initial state, after the first course of prevention at 6 months and in a year.

Results. Conclusions. The high clinical effectiveness of the developed complex, including preparations of antibacterial and anti-inflammatory action, reducing cholesterol,

reducing vascular permeability, normalizing metabolism, blood circulation and fat metabolism, enhancing immunity and resistance of the organism is shown.

Key words: chronic generalized parodontitis, metabolic syndrome, dental status, level of oral hygiene.

ЭФФЕКТИВНОСТЬ ЛЕЧЕНИЯ И ПРОФИЛАКТИКИ ОСЛОЖНЕНИЙ ПАРОДОНТИТА У ПАЦИЕНТОВ С МЕТАБОЛИЧЕСКИМ СИНДРОМОМ

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Реферат

Проведение лечебно-профилактических мероприятий пациентов с хроническим генерализованным пародонтитом на фоне метаболического синдрома показало высокую клиническую эффективность разработанного комплекса, включавшего препараты антибактериального и противовоспалительного действия, снижающие холестерин, уменьшающие проницаемость сосудов, нормализующие обмен веществ, циркуляцию крови и жировой обмен, усиливающие иммунитет и резистентность организма. При этом существенно улучшились индексы РМА %, Шиллера-Писарева, кровоточивости, состояние гигиены полости рта, а кариеспрофилактическая эффективность составила 18,1 % за год наблюдений.

Ключевые слова: хронический генерализованный пародонтит, метаболический синдром, стоматологический статус, уровень гигиены полости рта.

Metabolic syndrome (MetS) leads to pathological changes that are observed in almost all organs and tissues of the body, including in the oral cavity [1-5]. MetS is accompanied by disorders, primarily fat and carbohydrate metabolism, as well as a violation of the vascular endothelium.

Given the increasing prevalence of MetS among the population at present, the search for ways to treat and prevent major dental diseases in this somatic pathology is of great importance.

The aim of this work was to evaluate the effectiveness of the developed treatment and prophylaxis complex in patients with chronic generalized parodontitis (CGP) in combination with MetS.

Materials and methods. From the pre-examined patients diagnosed with "metabolic syndrome" 53 people of the age of 30-55 years with chronic generalized parodontitis and with violation, mainly of fat and carbohydrate metabolism were selected. The comparison group (25 people) received basic therapy (oral sanitation and occupational hygiene), and the main group of patients (28 persons) in addition to basic therapy received 2 times a year, the treatment and prophylactic complex that pathogenetically grounded (molecular- genetic and epigenetic evaluation of disorders in a number of genes in patients with CGP in the background of MetS) and pre-approved in rats given in Table 1.

Table 1

Treatment-and-prophylactic complex of chronic generalized parodontitis on the background of metabolic syndrome

Used medication	Dosage	Terms of application	Mechanism of action
1	2	3	4
«Chlorophylline» (pills)	1 pill 3 times per day (0.8g)	7 days	antibacterial, antiseptic, anti-inflammatory, reduces cholesterol, reduces vascular permeability
«Laktusan» (syrup)	2 tea spoon 2 times in a day	10 days	prebiotic - normalizes metabolism, intestinal microflora, enhances immunity and resistance of the body
«Oxiphite Map»	5 drops in 1 tablespoon of water, 2 times a day with food	1 month	regulates lipid metabolism, provides tissue with oxygen, improves metabolism and circulation, removes toxins from the body
«Sera aktiv»	1 pill 3 times a day with food	1 month	anti-inflammatory, microelement with vitamins B, D, E - improves blood circulation, normalizes fat metabolism, assimilation of fats and proteins
«Kvertulidone» (gel)	Applique for the night	1 month	increases local nonspecific resistance
«Chicory» (эликсир)	1 teaspoon per ¼ cup water	1 month	regulates microbiocenosis

1	2	3	4
«Lacalut flora» (Toothpaste)	In the morning	within 1 year	anti-inflammatory effect
«Imidzh» (Toothpaste)	In the evening	within 1 year	effect of micron purification

Evaluation of the dental status of patients was performed in the initial state, after the first course of prevention, at 6 months and in a year. At the same time, the state of hard tissues of teeth (indices DMFT and tartar), oral hygiene (Silness-Loe and Stallard indices) and parodontal tissues (PMA%, bleeding indexes, Schiller-Pisarev test, depth of parodontal pockets) were evaluated [6].

Results. Table 2 shows the results of the evaluation of the parodontal status of patients with CGP and MetS.

Table 2

Condition of parodontal tissues in patients with chronic generalized parodontitis with metabolic syndrome in the process of using the treatment-and-prophylactic complex,

M ± m

Indicators Terms	PMA %	Bleeding, scores	Sample of Sh-P, scores	Parodontal pocket, mm
Main group, n=28				
before treatment	39,71 ±6,21 p>0,1	1,88 ±0,35 p>0,1	1,93 ±0,28 p>0,1	1,8 ±0,40 p>0,1
after treatment	4,88 ±0,75 p<0,001	0,6 ±0,09 p=0,05	0,2 ±0,03 p<0,001	1,7 ±0,40 p>0,1
in 6 months	5,03 ±0,70 P<0,001	0,71 ±0,10 P<0,01	0,21 ±0,03 p<0,001	1,79 ±0,40 p>0,1
after 1 year	5,38 ±0,90 p<0,001	0,76 ±0,10 p<0,001	0,23 ±0,003 p<0,001	1,81 ±0,40 p>0,1
Comparison group, n = 25				
before treatment	40,33 ±7,35	1,93 ±0,30	2,03 ±0,30	1,98 ±0,50
after treatment	29,86 ±4,21	1,29 ±0,35	1,59 ±0,21	1,98 ±0,40
in 6 months	35,72 ±5,91	2,15 ±0,39	1,74 ±0,20	2,01 ±0,40
after 1 year	45,49 ±6,21	2,74 ±0,41	2,29 ±0,30	2,19 ±0,50

Note: p is an indicator of the reliability of differences from the comparison group.

After the first treatment-and-prophylactic course, the PMA% index decreased 8.2 times and remained practically at this level during the year of observation. At the same time, the preventive effect for 6 months was 87.3%, and for the year - 86.45%. In the comparison group, the PMA% index, after treatment, decreased by 25.9%, but after 6 months it deteriorated by 19.6% and the prophylactic effect was only 11.4%. During the year of observation, the PMA index in the comparison group deteriorated (Table 2).

The bleeding Index in the main group of patients after the first course of prevention decreased more than 3 times, while in the comparison group - only 1.5 times. In the main group of patients, the bleeding Index during the year of observations did not change significantly, and in the comparison group it was 1.42 times higher than in the initial state. The prophylactic effect of the developed complex in the main group relative to the initial state was 59.6% in a year

The indicator of the Schiller-Pisarev test (Sh-P) after the first course of treatment decreased 9.6 times and remained practically unchanged during the year of observation. The preventive effect in this case was 88%. At the same time, in the comparison group, the Sh-P index after the first course of treatment decreased by 21.7%, and then increased and after a year it exceeded the initial value by 1.13 times.

Parodontal pocket in the average for the main group for the year of observations has not changed, and in the comparison group has unreliably increased.

The results of assessing the condition of hard tissues of teeth and the level of oral hygiene in the process of treatment and prophylactic measures are given in Table 3.

From the data presented, it can be seen that in the main group of patients, the increase in caries by DMFT index was 2.1 teeth, while in the comparison group the gain was 2.48 teeth, and the reduction of tooth caries for the year of observation was 18.1%.

The index of oral hygiene Silness-Loe after the first treatment course was reduced more than 3 times and remained at this level after 6 months and a year later. The preventive effect was 61.7%. In the comparison group after the first course of treatment, the S-L index decreased by 1.72 times, but later it increased all the time and a year later was 1.1 times greater than in the initial state.

The Stallard hygiene index in the main group for the year of observation decreased by 1.39 times and the caries prophylaxis effect was 62.3%. At the same time, in the comparison group, after a year of observations, it was 1.15 times greater than in the initial state.

Table 3

**The state of hard tissues of teeth and oral hygiene in patients with chronic generalized
parodontitis and metabolic syndrome in the process of using the treatment and
prophylactic complex, $M \pm m$**

Indicators Terms	DMFT, scores	Silness- Loe, scores	Stallard, scores	Tartar, scores	Condition of hygiene of the oral cavity (%)			
					good	satisfactory	unsatisfactory	bad
Main group, n=28								
before treatment	13,89 $\pm 1,41$ p>0,1	1,54 $\pm 0,19$ p>0,1	1,91 $\pm 0,21$ p>0,1	1,96 $\pm 0,31$ p>0,1	17,9	28,6	46,4	7,1
after treatment	13,89 $\pm 1,35$ p>0,1	0,5 $\pm 0,08$ p<0,01	0,6 $\pm 0,08$ p<0,01	1,2 $\pm 0,16$ p>0,1	25	67,9	7,1	-
in 6 months	15,1 $\pm 1,71$ p>0,1	0,52 $\pm 0,07$ p<0,001	0,69 $\pm 0,09$ p<0,001	1,49 $\pm 0,19$ p>0,1	25	64,3	10,7	-
after 1 year	16,0 $\pm 1,85$ p>0,1	0,59 $\pm 0,08$ p<0,001	0,72 $\pm 0,09$ p<0,001	1,67 $\pm 0,17$ p>0,1	25,4	62,6	12	-
Comparison group, n = 25								
before treatment	14,82 $\pm 1,70$	1,58 $\pm 0,21$	1,89 $\pm 0,23$	2,01 $\pm 0,29$	16	28	48	8
after treatment	14,82 $\pm 1,65$	0,92 $\pm 0,02$	1,24 $\pm 0,15$	1,29 $\pm 0,16$	20	48	32	-
in 6 months	16,48 $\pm 1,90$	1,31 $\pm 0,15$	1,86 $\pm 0,21$	1,91 $\pm 0,30$	16	48	36	-
after 1 year	17,3 $\pm 1,99$	1,72 $\pm 0,20$	2,17 $\pm 0,25$	2,12 $\pm 0,30$	16	48	36	-

Note: p is an indicator of the reliability of differences from the comparison group.

The index of tartar in the main group of patients after treatment decreased by 38.7%, but after 6 months it increased by 24%. The prophylactic effect for 6 months of observations was 23.9%, and for the year - 15%. At the same time, in the comparison group after treatment, the index of tartar decreased by 35.8%, but after 6 months - it increased by 48%. For 6 months from the initial condition, the preventive effect was about 5%, and for the year - was absent, having increased relative to the initial value by 5%.

In the main group, the number of patients with good oral hygiene increased by 3.5%, while in the comparison group it did not change. The number of patients with a satisfactory level of hygiene increased in the main group by 47.4%, and in the comparison group - only by

20%, that is, 2 times less than in the main group. In addition, in the main group, the number of patients with unsatisfactory oral hygiene decreased by 34%, and in the comparison group - by 12%. During the year of observations after basic therapy (in both groups) and treatment and prophylactic courses in the main group patients with poor oral hygiene were absent (Table 3).

It should be noted that the effect of the developed treatment-and-prophylactic complex is aimed both at preventing complications of parodontal tissue diseases in patients with CGP, and in preventing complications and preventing the development of MetS.

Conclusions. The treatment-and-prophylactic measures of patients with chronic generalized parodontitis on the background of the metabolic syndrome showed a sufficiently high, taking into account the age of the patients, the clinical effectiveness of the developed complex, including antimicrobial and anti-inflammatory drugs, reducing cholesterol, reducing vascular permeability, normalizing metabolism, blood circulation and fat metabolism, enhancing immunity and resistance of the body. At the same time, the indices of PMA%, Schiller-Pisarev, bleeding, the state of oral hygiene were significantly improved, and caries prophylactic efficacy was 18.1% for the year of observation.

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