ORIGINAL ARTICLE

CONTENTS

Evaluation of the clinical effectiveness of conservative (pre-surgical) treatment schemes for generalized periodontitis in patients with various somatic pathologies

Maryana M. Shevchuk, Andriana P. Skalat, Khristina B. Burda, Nataliya S. Magera, Olesia I. Martovlos
DANYLO HALYTSKYI LVIV NATIONAL MEDICAL UNIVERSITY, LVIV, UKRAINE

ABSTRACT

Aim: Optimization of conservative treatment schemes for generalized periodontitis (GP) against the background of somatic pathology, depending on the indicators of the Community Periodontal Index of Treatment Needs (CPITN).

Materials and Methods: CPITN was performed in 134 patients with GP against the background of various somatic pathologies and divided into main and comparison subgroups. Treatment scheme No. 1 was developed, including means for local and supportive therapy, and was used in the main subgroup 1 (CPITN ≤ 2). Scheme No. 2, developed for the main subgroup 2 (CPITN > 2), included drugs of local and general action. Clinical dynamics were assessed by the values of PMA and OHI-S indices before GP treatment, and 3, 6, and 12 months after treatment.

Results: After 12 months, «stabilization» of the pathological process in the periodontal tissues was observed, with CPITN index values ≤ 2, in 82.76% of the main subgroup patients, which was 2 times higher than the indicators of the comparison subgroup – 40.74%, $p<0.01$. With CPITN index values > 2, «stabilization» of the pathological process in the periodontal tissues was noted in 68.18% of patients of the main subgroup, which was 4.6 times higher than the indicators of the comparison subgroup – 14.71%, $p<0.01$.

Conclusions: GP treatment with CPITN index values ≤ 2 and > 2 points against the background of somatic pathology using the developed schemes contributed to the elimination of inflammation and improvement of oral hygiene, which was confirmed by the positive dynamics of index scores in the immediate and long-term follow-up.

KEY WORDS: periodontal disease, generalized periodontitis, general somatic diseases, conservative treatment, index assessment of periodontal status.

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INTRODUCTION

Generalized periodontitis (GP) as a progressive disease of periodontal tissues, which leads to a weakening of the function of the dentofacial apparatus and can provoke irreversible disorders of digestion and metabolic processes in the human body, represents an urgent problem of modern periodontology. Against the background of the aggressive effect of periodontal pathogenic infection, the processes of sensitization of the body may deepen [1], there is a threat of the development of chronic sepsis, complex organ pathology, and neuropsychiatric disorders, which negatively affect the quality of life of such patients [2-5]. The loss of alveolar bone during the progression of periodontal infection is caused by dysregulation of the inflammatory process and/or immunopathological conditions that are close to the pathogenic mechanisms that form the basis of various severe systemic diseases [6, 7].

Over the decades, numerous studies have shown the relationship between periodontal pathology and a wide range of concomitant diseases, including cardiovascular disease, hypertension, diabetes, rheumatoid arthritis, osteoporosis, Parkinson's disease, Alzheimer's disease, respiratory infections, psoriasis, etc. [8-12]. It has also been established that individuals with periodontal tissue diseases of various forms, stages, and degrees have a higher susceptibility to systemic concomitant diseases [13]. The development of GP is the result of the action of various factors, both exogenous and endogenous, and is caused by a combination of hereditary and environmental factors [14-18].

However, today the provision of periodontal care is insufficiently developed, in particular in the first initial phase of complex treatment for patients with GP and organ pathology. One of the possible reasons for the imperfection of periodontal treatment is insufficient

consideration of the influence of systemic diseases on the course of generalized periodontitis. Therefore, the main working hypothesis of this study was to implement effective therapeutic and preventive algorithms for various stages of GP against the background of systemic diseases and conditions affecting its course, which, in turn, is relevant for the establishment of close cooperation between periodontists and general practitioners.

AIM

Optimization and substantiation of the clinical effectiveness of pre-surgical (conservative) treatment schemes for generalized periodontitis of various stages against the background of somatic pathology, depending on the indicators of the community periodontal index of treatment needs (CPITN) for the treatment of periodontal diseases.

MATERIALS AND METHODS

The design of the research was as follows. The prospective study included an examination of 134 periodontal patients (aged 25-65 years), who were diagnosed with concomitant cardiovascular, neurological, gastroenterological and rheumatological pathologies, and were in the inpatient conditions of the Lviv Regional Clinical Hospital, Lviv.

General outpatient records of all patients were analyzed taking into account their somatic pathology. Therefore, a dental card (form No. 043/o) was created for each patient, which included a dental and periodontal examination protocol. Inclusion criteria: generalized periodontitis in patients with cardiovascular, neurological, rheumatological and gastroenterological diseases, written consent of the patient for the study. Exclusion criteria: generalized periodontitis in patients with other somatic pathologies (for example, tumor diseases, blood diseases), pregnancy and breastfeeding.

To diagnose GP, we used the classification of diseases and conditions of periodontal and peri-implant tissues (EFP & AAP World Workshop, Chicago – 2017), (World Workshop on the Classification of Periodontal and Peri-implant Diseases and Conditions) [19]. Probing of periodontal pockets was carried out with a periodontal probe (Hu-Friedy, USA). X-ray examination of the jaw bones was performed using intra-oral and panoramic radiography (Orthophos XG 3, Germany).

All patients were assessed for the Community Periodontal Index of Treatment Needs (CPITN) [20]. Treatment was guided by the following CPITN results: CPITN value ≤ 2 – the need for only conservative treatment of GP stage I and II (treatment scheme No. 1 developed by us), and CPITN value > 2 – as an indicator of the additional need for surgical periodontal treatment of GP stage III (developed treatment scheme No. 2 for conservative preparation of patients for surgical treatment).

Based on the results of the CPITN index values, 134 study participants were divided into two groups. Group 1 – 56 (41,78 %) patients with CPITN values ≤ 2, who, in turn, were divided into the main subgroup 1 (29 people – CPITN – 39,73 %) and the comparison subgroup 1 (27 people – CPITN – 44,26 %)). Group 2 with CPITN values > 2 – 78 (58,20 %) patients, who were also divided into main subgroup 2 (44 individuals – CPITN – 60,27 %) and comparison subgroup 2 (34 individuals – CPITN – 55,74 %)), (Table 1).

Treatment schemes No. 1 and No. 2 of conservative periodontal therapy developed for the main subgroups (73 people) (main subgroup 1, n=29; main subgroup 2, n=44) jointly included: teaching patients individual hygiene measures (brushing teeth with «Prodental toothpaste»(«TianDe», China); toothbrushes «Colgate®Total» («Colgate®», USA); rinse aid «Octenidol MouthWash» (Schulke & Mayr/Oral care, Germany); interdental ridges «TePe» («TePe», Sweden), «Oral-B» floss («Procter & Gamble Ireland Limited», Ireland). Oral hygiene began with a professional hygienic teeth cleaning: air-abrasive treatment with the «ProphyFlex» device (KAVO) and the use of an ultrasonic scaler «Woodpecker UDS-A» (China) to remove supra- and subgingival soft and mineralized deposits as part of the SRP (Scaling & Root Planing) protocol. Teeth were coated with fluoride-containing varnish «Admira Protect» (Voco, Germany). Selective polishing and rational prosthetics were performed according to the indications.

The peculiarities of the treatment scheme No. 1, developed by us, (for the main subgroup 1 with the CPITN index values ≤ 2) consisted in the fact that for local and supportive therapy it was recommended to use the following means: in the form of applications – «NBF Gingival Gel» (Korea) and «Ratanhia Mouthwash» (Weleda, Switzerland) (Fig. 1).

Features of the developed conservative treatment scheme No. 2 (for the main subgroup 2 with the CPITN index values > 2 points, additionally requiring surgical periodontal interventions): as preoperative preparation for local conservative treatment and in the subsequent stages of maintenance therapy, «Actovegin-gel» (Nikomed, Austria, GmbH) as part of a protective hardening bandage («Septopack») was used after the SRP protocol («Local therapy» – Fig. 2). With the consultative help of general practitioners, pa-

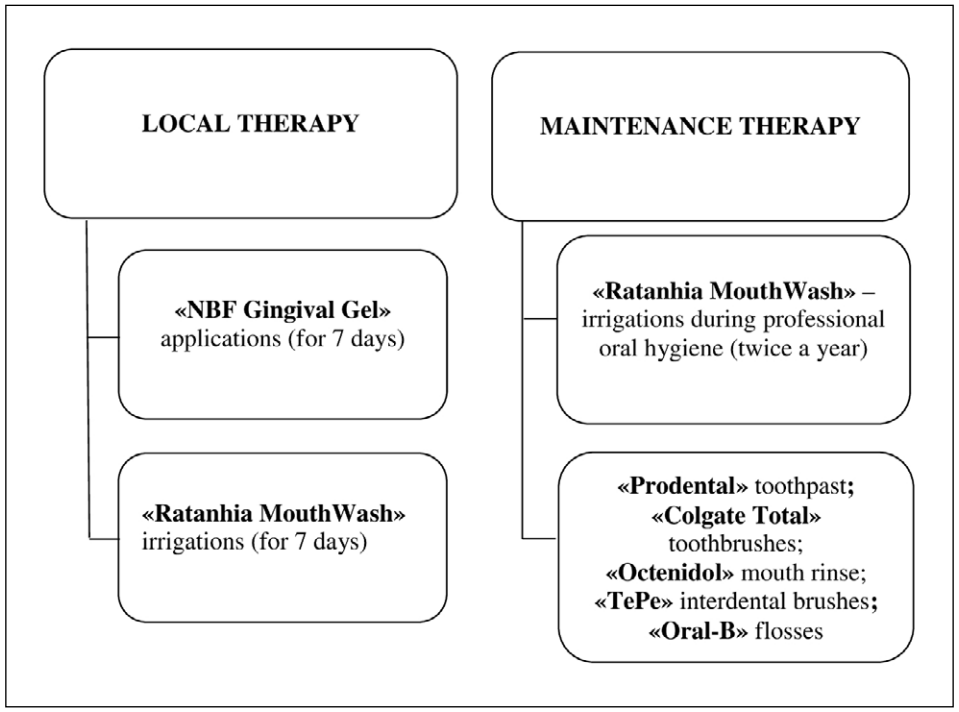

Fig. 1. Scheme No. 1 of GP I, II stages of conservative treatment against the background of various somatic pathologies, with the CPITN index values ≤ 2 points (main subgroup 1).

tients with GP III stage (main subgroup 2), depending on the somatic pathology diagnosed in them, were prescribed a number of drugs of general direction («General therapy» – Fig. 2).

At the same time, all patients of the main subgroup 2, regardless of concomitant somatic disease, were prescribed the drug of general direction «Koenzym Q10» (Now Foods, USA) (Fig. 2).

Patients of both comparison subgroups (n=61) – comparison subgroup 1 (GP I-II stages, n=27) and comparison subgroup 2 (GP III stage, n=34) received a traditional scheme of GP conservative treatment according to the "Protocols of medical care of Ministry of health of Ukraine in the specialty «Therapeutic dentistry» [21]. The traditional scheme included teaching individual hygiene with the appointment of Parodontax paste; irrigation of the oral cavity with the antimicrobial agent chlorhexidine bigluconate 0,05% and «Metrodent» gel in the form of applications on the gums after removing supra- and subgingival dental deposits. The course of treatment took 7 days.

All patients who participated in this study were constantly under the supervision of internists and received the general therapy prescribed by them according to the general somatic diseases diagnosed in them.

In all subgroups, the dynamics of the values of the papillary-marginal-alveolar index (PMA, Papillary-Marginal-Alveolar Index, Parma (1960)), and the simplified index of oral hygiene according to Green-Vermillion (OHI-S, Oral Hygiene Index-Simplified, Green-Vermillion, (1964)) [20], was assessed before treatment and 3, 6 and 12 months after treatment.

The obtained results were statistically processed using the standard software package of «STATISTICA 6.0». The validity of the test data was determined using Student's t-test [11].

BIOETHICS

The study was performed taking into account the main provisions of the GCP ICH and the Declaration of Helsinki on biomedical research where a person is the object, and the subsequent revisions (Seoul, 2008); the Council of European Convention on Human Rights and Biomedicine (2007) and the recommendations of the Bioethics Committee at the Presidium of the National Academy of Medical Sciences of Ukraine (2002), as well as a positive opinion of the commission on ethics of Danylo Halytsky Lviv National Medical University (extract from protocol No. 10 of December 20, 2021). No violations of moral and ethical norms were identified during the research.

RESULTS

Before treatment, in patients with GP I stage of the main subgroup 1 (value of the CPITN index ≤ 2), the PMA index indicators averaged 28,28±1,50 %, which was close to such indicators in the comparison subgroup 1 (28,81±1,25 %), which corresponded to an inflammatory process in periodontal tissues of moderate severity, p1>0,05 (Table 2).

Three months after the application of scheme No. 1 in the main subgroup 1, the PMA index values

Table 1. Distribution of patients with GP of I, II III stages against the background of somatic pathology depending on the CPITN index values, (%)

Total (n=134)	Group 1 CPITN ≤ 2 (n=56)		Group 2 CPITN > 2 (n=78)	
	Main subgroup 1 (n=29)	Comparison subgroup 1 (n=27)	Main subgroup 2 (n=44)	Comparison subgroup 2 (n=34)
Cardiovascular diseases (n=29)	4	4	12	9
	13,79	14,81	27,27	26,47
Neurological diseases (n=33)	7	6	10	10
	24,14	22,22	22,73	29,41
Gastroenterological diseases (n=36)	10	9	10	7
	34,48	33,33	22,73	20,59
Rheumatic diseases (n=36)	8	8	12	8
	27,59	29,63	27,27	23,53

Table 2. The dynamics of the PMA, OHI-S index values in patients with GP I stage at the CPITN index values ≤ 2 after performing conservative treatment measures in different observation periods (M±m)

Observation periods	Observation groups	Indicators	
		PMA (%)	OHI-S (points)
Before treatment	Main subgroup (n=29)	28.28±1.50	0.91±0.86
	Comparison subgroup (n=27)	28.81±1.25	0.96±0.08
Three months after treatment	Main subgroup (n=29)	5.16±1.60°,***	0.58±0.03
	Comparison subgroup (n=27)	12.40±2.64°	0.80±0.80
Six months after treatment	Main subgroup (n=29)	5.28±1.66°,*	0.69±0.06
	Comparison subgroup (n=27)	17.59±2.80°	0.92±0.08
12 months after treatment	Main subgroup (n=29)	6.46±2.01°,*	0.75±0.07
	Comparison subgroup (n=27)	19.14±3.04°°	0.96±0.09

Notes:

1. °p<0,001, °°p<0,01 – reliability of the difference in values between indicators before and after treatment.
2. *p1<0,001, ***p1<0,05 – reliability of the difference in values between the indicators in persons of the main subgroup 1 and comparative subgroup 1.

decreased to 5,16±1,60 %, which indicated the elimination of distinct signs of the inflammatory process. In contrast to the indicators of the main subgroup 1, in the comparison subgroup 1, the PMA value was 12,40±2,64 %, which indicated the presence of a mild inflammatory process in the periodontal tissues, p<0,001. The values of the analyzed parameter of the PMA index were 2,4 times lower in the treated patients of the main subgroup 1 than in the comparison subgroup 1, p1<0,05.

If the OHI-S index indicators before treatment in both subgroups averaged 0,93 points, then already three months after the treatment, an improvement in the hygienic state of the oral cavity was detected in patients of both observation subgroups (main subgroup 1 and comparison subgroup 1). However, a decrease in the OHI-S index data to a digital value of 0,58±0,03 points («good» level of oral hygiene) was noted in patients of the main subgroup 1, treated with scheme No. 1. While in patients of comparison subgroup 1 (traditional conservative treatment scheme), the following indicator was observed – 0,80±0,80 points («satisfactory» level of oral hygiene), p>0,05; p1>0,05.

After 12 months of observation, the quantitative values of the PMA index values remained significantly lower compared to the indicators before treatment: 6,46±2,01 %, p<0,001 in persons of the main subgroup 1, and 19,14±3,04 %, p<0,01 in patients of comparison subgroup 1. Moreover, this indicator was 2,9 times lower in the patients of main subgroup 1, compared to the comparison subgroup 1, p1<0,001.

The state of oral hygiene (OHI-S index) both after 6 and 12 months of observation remained satisfactory in patients of the main subgroup 1 (0,69±0,06 points and 0,75±0,07 points, respectively). In patients of the comparison subgroup 1 – 0,92±0,08 points and 0,96±0,09 points, which indicated an unsatisfactory level of hygiene, p>0,05; p1>0,05.

The dynamics of periodontal tissue condition of group 2 (with GP II-III stage – the CPITN index values > 2, Table 1) – in patients of the main subgroup 2 (use of scheme No. 2 of GP conservative preoperative therapy,

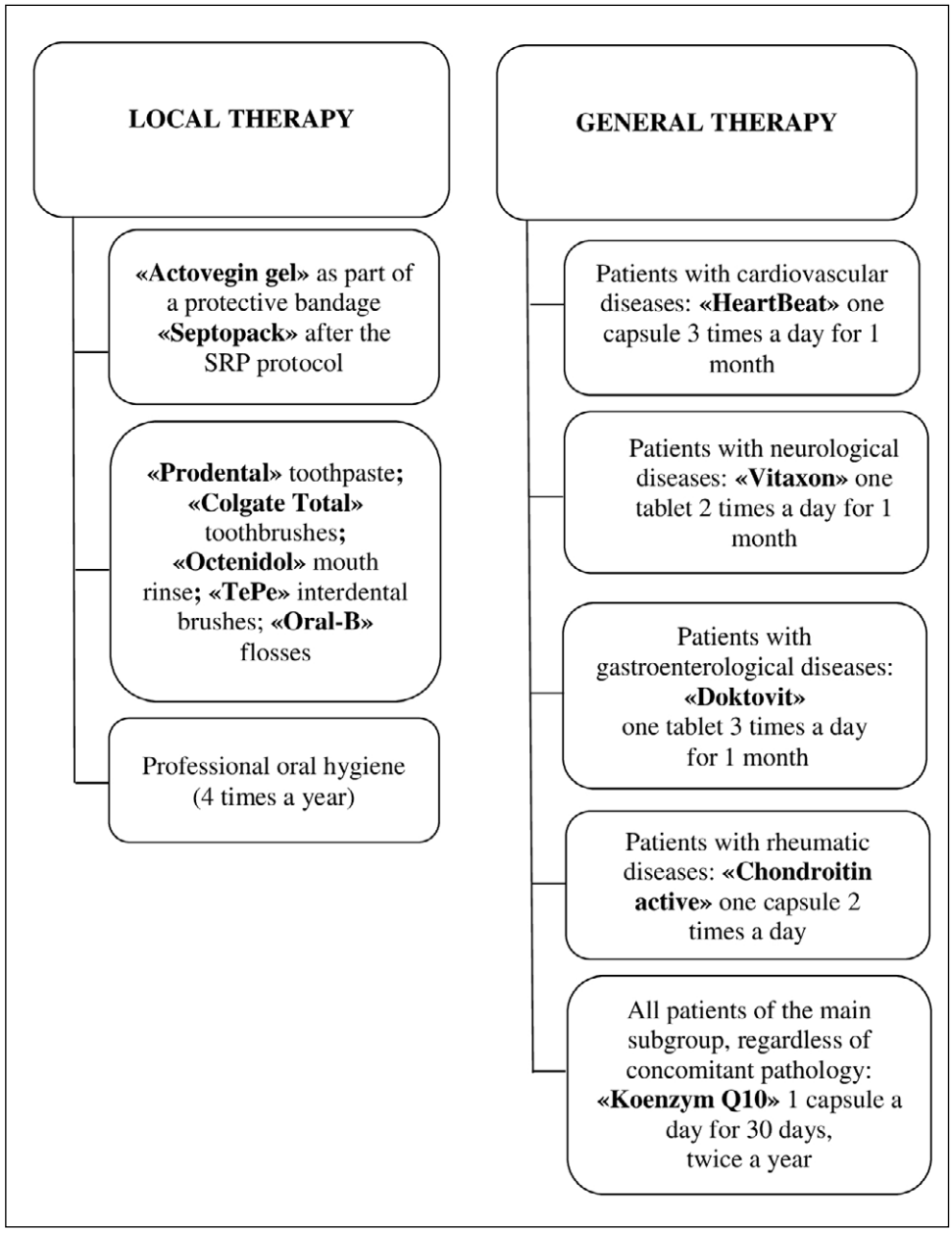

Fig. 2. Scheme No. 2 conservative pre-operative therapy of GP III stage treatment against the background of various somatic pathologies, with the CPITN index values > 2 points (main subgroup 2).

Fig. 2) and comparison subgroup 2 (the use of a traditional scheme of GP conservative treatment), before treatment and after 3, 6 and 12 months of observation, were convincingly emphasized by the PMA and OHI-S index data (Table 3).

Before treatment in patients with GP II-III stages against the background of somatic pathology (with the CPITN index > 2), the PMA index values were equal to – 49,09±2,59 % in the main subgroup 2, and 49,74±2,96 % – in the comparison subgroup 2, which corresponded to the severe degree of the inflammatory process course in the periodontal tissues, p1>0,05.

Three months after conservative preoperative therapy according to scheme No. 2 (Fig. 2), the PMA index values decreased to 23,40±3,89 % (mild severity of inflammation) in the main subgroup 2 and to 28,10±4,64 % (average severity of inflammation) in comparison subgroup 2 (traditional treatment regimen), p<0,001.

If before treatment the OHI-S index in both subgroups averaged 2,15±0,07 points, then after the treatment, an improvement in the hygienic condition of the oral cavity was found in patients of both observation subgroups, which was accompanied by a decrease in the data of this index to 0,99±0,08 points in patients of the main subgroup 2 and up to 1,18±0,09 points in patients of the comparison subgroup 2, which corresponded to a satisfactory level of oral hygiene, p<0,001.

Six months after treatment, patients of the main subgroup 2 showed a decrease in the average PMA index value to 22,49±3,66 %, which corresponded to a mild degree of severity of the inflammatory process and was

Table 3. Dynamics of PMA, OHI-S index values in patients with GP II-III stages with the CPITN index values > 2 after conservative preoperative treatment measures in different observation periods (M±m)

Observation periods	Observation groups	Indicators	
		PMA (%)	OHI-S (points)
Before treatment	Main subgroup (n=44)	49.09±2.59	2.16±0.07
	Comparison subgroup (n=34)	49.74±2.96	2.14±0.07
Three months after treatment	Main subgroup (n=44)	23.40±3.89°	0.99±0.08°
	Comparison subgroup (n=34)	28.10±4.64°	1.18±0.09°
Six months after treatment	Main subgroup (n=44)	22.49±3.66°,*	1.29±0.13°,***
	Comparison subgroup (n=34)	43.83±4.35	1.74±0.13°°
12 months after treatment	Main subgroup (n=44)	16.53±3.66°,*	1.30±0.13°,*
	Comparison subgroup (n=34)	44.16±4.28	1.95±0.14

Notes:

1. °p<0,001, °°p<0,01 – reliability of the difference in values in relation to indicators before treatment.
2. *p1<0,001, ***p1<0,05 – reliability of the difference in values between the indicators in persons of the main subgroup 2 and comparative subgroup 2.

significantly lower in relation to the data in the comparison subgroup 2 – 43,83±4,35 % (average degree of severity of the inflammatory process), as well as in relation to these indicators before treatment (49,09±2,59 % – in the main subgroup 2 and 49,74±2,96% – in the comparison subgroup 2), p<0,001; p1<0,001.

The average OHI-S oral hygiene index values 6 months after the treatment indicated a satisfactory level of oral hygiene in patients of the main subgroup 2 – 1,29±0,13 points, p<0,001, and unsatisfactory in the patients of the comparison subgroup 2 – 1,74±0,13 points, p<0,01; p1>0,05.

It was found that after 12 months of observation, the quantitative values of the PMA index value in the treated patients of the main subgroup 2 decreased to 16,53±3,66 % and corresponded to a mild degree of severity of the inflammatory process, p<0,001. In patients of the comparison subgroup 2, the value of this indicator almost returned to the initial level – 44,16± ±4,28% and was 2,7 times higher than in the patients of the main subgroup 2, p>0,05; p1<0,001.

The state of oral hygiene, after 12 months of observation, in the patients of the main subgroup 2 remained satisfactory – 1,30±0,13 points, p<0,001, and was unsatisfactory in the patients of the comparison subgroup 2 – 1,95±0,14 points, p>0,05; p1<0,001.

Thus, treatment schemes No. 1 and No. 2, developed for both main subgroups, revealed good clinical effectiveness and can be recommended for widespread use in periodontal practice for the conservative treatment of GP I, II, and III stages against the background of somatic pathology.

DISCUSSION

Summarizing the data of clinical studies in patients of the main subgroups (1 and 2) with the CPITN index values ≤ 2 (GP I stage) and > 2 points (GP II and III stages) against the background of cardiovascular, neurological, gastroenterological and rheumatological pathologies, the use of the developed schemes contributed to the elimination of inflammation and improvement of oral hygiene, which was confirmed by the positive dynamics of periodontal indices (PMA, OHI-S) in the immediate and long-term follow-up observation periods. After the entire observation period (12 months), «stabilization» of the pathological process in the periodontal tissues was observed, with the CPITN index values ≤ 2 in 82,76% of the treated patients of the main subgroup 1, where the scheme No. 1 proposed by us was used for the GP I stage treatment. The result was 2 times higher than the indicators of patients of comparison subgroup 1 – 40,74%, p<0,01, where the treatment was carried out according to the traditional method.

With the CPITN index values > 2 (GP II and III stages), «stabilization» of the pathological process in the periodontal tissues was noted in 68,18 % of patients of the main subgroup 2, which was 4,6 times higher than the data of patients of the comparison subgroup 2 – 14,71 %, p<0,01.

It was found that the «increase» of the pathological process in the periodontal tissues with the CPITN index values ≤ 2 was diagnosed in 44,44 % of patients in comparison subgroup 1. While in the main subgroup 1, such an «increase» was not observed in any patient. Accordingly, with the CPITN index values > 2, the «increase» of the pathological process in the periodontal tissues was observed in 64,70 % of the treated patients of the comparison subgroup 2, which was 3,56 times more than in the patients of the main subgroup 2 – 18,18 %, p <0,01. This indicated the insufficiency of measures of traditional treatment for GP in this category of patients.

The novelty of the study was to supplement and clarify scientific data on the periodontal status of patients with some general somatic diseases, taking into account the data of the papillary-marginal-alveolar index (PMA), the oral hygiene index (Green-Vermilion–OHI–S) and the community periodontal index of treatment needs (CPITN). Fundamentally new in the conducted research is the development of schemes for the conservative phase of treatment of generalized periodontitis stages I, II, and III, including not only pathogenetically directed local gel compositions, but also general remedies, which were chosen together with internists for the supervision of the patients diagnosed with somatic diseases. We have clinically proven and substantiated the effectiveness of the proposed treatment schemes.

It should be noted that the treatment of GP patients against the background of cardiovascular, neurological, gastroenterological, and rheumatological pathologies was carried out in hospital conditions and required the mandatory supervision of such patients by general specialists. These diseases were taken into account as factors in the development and burden of the GP clinical course [5].

The data from modern literature indicate that there are a number of diseases that are combined with absolute regularity with the damage of periodontal tissues: diabetes, arterial hypertension, coronary heart disease, chronic diseases of the gastrointestinal tract, chronic obstructive pulmonary disease, rheumatoid arthritis, stressful conditions [2-7]. However, we have not found specific data in the world literature indicating the periodontists' use of general remedies approved by internists regarding the general somatic pathological conditions indicated in this study against the background of GP of different stages.

It can be assumed that the reason for obtaining better results in the main subgroups was the adequately selected components of the developed treatment schemes. Thus, «NBF Gingival Gel» (NanoCureTech, Inc, Korea), included in scheme No. 1, realizes its therapeutic potential due to vitamins C and E as natural antioxidants, which play an important role in maintaining the integrity of the cell membrane and restoring the epithelium of the gum mucosa. In turn, propolis has an antibacterial, antifungal, anti-inflammatory, and analgesic effect and stimulates local immunity. «Ratanhia Mouthwash» (Weleda, Switzerland) is a highly effective oral care product containing exclusively plant components (ratanhia root, tannins) that strengthen gum tissues and eliminate irritation and inflammation.

The effectiveness of the treatment scheme No. 2 was provided by two local drugs. The first one is «Actovegin-gel» (Nicomed, Austria, GmbH), which contains a deproteinized hemoderivative from the blood of calves and promotes the acceleration of healing processes and the utilization of oxygen (increases resistance to hypoxia) and glucose, increasing the energy metabolism of gum tissues by strengthening the energy state of cells. The second drug is the antiseptic preparation «Octenidol MouthWash» (Schülke & Mayr, Germany), the main active substance of which is octenidine dihydrochloride with affinity to teichoic acid, located in the outer membranes of microorganisms and involved in the processes of oxidative phosphorylation. The drug has a high bactericidal, antifungal, and anti-inflammatory effect.

The joint pathogenetic effect of these local drugs in periodontal patients of the main subgroup 2, burdened with general somatic diseases, was in a synergistic balance with the general purpose drugs recommended by internists, which were additionally included in scheme No. 2.

For patients of the main subgroup 2 with cardiovascular pathology against the background of GP II and III stages, cardiologists approved the appointment of the vitamin complex «Heart Beat» (Natures Plus, USA) with a high level of resveratrol, which has a proven effect on blood cholesterol level. The drug also contains B vitamins, calcium, magnesium, potassium, and selenium, which are antioxidants and promote healthy heart function.

For neurological diseases, neuropathologists recommended the vitamin drug «Vitaxon» (PJSC «Farmak», Ukraine), which belongs to vitamin B_1 preparations and, in combination with vitamins B_6 and B_{12}, has a beneficial effect on the course of inflammatory and degenerative diseases of the nerves and the motor apparatus. The drug has analgesic properties, improves blood circulation, as well as normalizes the function of the nervous system and the hematopoietic process.

For gastroenterological disorders, gastroenterologists added the vitamin drug «Doktovit» (OmniPharma, Ukraine) to the scheme No. 2, which is recommended as a dietary supplement to the diet as a source of vitamins B_5 and U for cytoprotection of the gastric and duodenal mucosa. The drug accelerates the healing of ulcerative and erosive damages, as well as normalizes digestive processes.

For rheumatological diseases, rheumatologists recommended the drug «Chondroitin Active» (Switzerland), the main active component of which is chondroitin, which eliminates inflammatory processes in tissues, stops the destruction of joint tissues and cartilage, and promotes the active production of intra-articular fluid. Another active component of this product is glucosamine, which eliminates pain and swelling, improves blood circulation,

strengthens capillaries, and prevents their fragility. The additional component Alpha-arthroferol is a source of essential oils and amino acids that stimulate blood circulation, strengthen the capillary network, reduce the sensitivity of nerve endings and pain receptors, and also contribute to the accelerated recovery of tissue structure. This drug also strengthens the overall immune system, helps the body neutralize dangerous microorganisms and toxins that can negatively affect the structure of connective tissues and bones, starts systemic processes of connective tissue regeneration, participates in the neutralization of cellular markers of inflammation, as well as eliminates swelling of soft tissues.

The drug «Coenzyme Q10» (Now Foods, USA), included in scheme No. 2, was approved and recommended by all doctors of related specialties for patients of the main subgroup 2. Regardless of the type of concomitant pathology, the drug is a vitamin compound that plays a major role in the production of cellular energy.

Thus, the originally developed two schemes of conservative treatment for GP I, II, and III stages in patients with various somatic diseases can be considered as adapted in the conditions of inpatient treatment of a general profile.

CONCLUSIONS

Conservative treatment for GP I, II, and III stages with the CPITN index values ≤ 2 and > 2 points against the background of somatic pathology, using developed treatment schemes in the main subgroups, contributed to the elimination of inflammation and improvement of oral hygiene and clinical indicators, which was confirmed by the positive dynamics of index assessments in the nearest and long-term follow-up periods.

After 12 months of observation, «stabilization» of the pathological process in the periodontal tissues with the CPITN index values ≤ 2 was noted in 82,76 % of treated patients, and with the CPITN index values > 2 – in 68,18 % of patients, which significantly exceeded these indicators when using traditional conservative treatment schemes for GP against the background of various somatic pathologies, $p<0,01$.

Consequently, the developed treatment schemes No. 1 and No. 2 have revealed good clinical effectiveness and can be recommended for widespread use in periodontal practice for conservative preoperative treatment of GP of different stages against the background of somatic pathology.

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CONFLICT OF INTEREST

The Authors declare no conflict of interest

CORRESPONDING AUTHOR

Maryana M. Shevchuk
Danylo Halytskyi Lviv National Medical University
69 Pekarska St., 79010 Lviv, Ukraine
e-mail: maryanashevchuk4@gmail.com

ORCID AND CONTRIBUTIONSHIP

Maryana M. Shevchuk: 0000-0003-0370-0101 A B C D F
Andriana P. Skalat: 0000-0002-3688-4907 B C D E
Khristina B. Burda: 0000-0002-1454-3079 B C D
Nataliya S. Magera: 0000-0003-3814-255X B C D
Olesia I. Martovlos: 0000-0003-4833-8935 A D E F

A – Work concept and design, B – Data collection and analysis, C – Responsibility for statistical analysis, D – Writing the article, E – Critical review, F – Final approval of the article

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