

APPLICATION OF CRIMEAN NATURAL FACTORS IN THE COMPLEX TREATMENT AND PREVENTION OF GENERALIZED PERIODONTITIS AMONG PATIENTS WITH SEASONAL VIRAL INFECTION

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Abstract: the number of inflammatory and inflammatory-dystrophic periodontal diseases varies from 60% to 97% among the entire population and depends on the ecological and biogeochemical characteristics of regions, age, living conditions, the presence of comorbidities among examined people (Grudyanov A. I., 2009,2013). The aim of the study is to increase the effectiveness of rehabilitation and maintenance therapy of chronic generalized periodontitis in the acute stage against adenovirus and rhinovirus infection using natural factors and combined physiotherapy. Clinical application of balneo-ozono-hydro-phytotherapy cluster significantly reduces the formation of microbiota, reduces hyperesthesia of hard tooth tissues, inhibits microorganisms of dental plaque, improves the condition of the gums, reduces halitosis. The use of ASEPT adhesive balm, an immunomodulatory drug STIMFORTE among patients during exacerbations of viral infection of the oral cavity, ENT organs, brought a significant reduction in the duration of relapse attenuation.

Keywords: seasonal viral infections, generalized periodontitis, aphthous stomatitis, natural factors, Crimea.

ПРИМЕНЕНИЕ ПРИРОДНЫХ ФАКТОРОВ КРЫМА В КОМПЛЕКСНОМ ЛЕЧЕНИИ И ПРОФИЛАКТИКЕ ГЕНЕРАЛИЗОВАННОГО ПАРОДОНТИТА У БОЛЬНЫХ С СЕЗОННОЙ ВИРУСНОЙ ИНФЕКЦИЕЙ

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Аннотация: число воспалительных и воспалительно-дистрофических заболеваний пародонта колеблется от 60% до 97% среди всего населения РФ и зависит от экологических и биогеохимических характеристик регионов. Заболевания пародонта являются актуальной проблемой медицинской науки из-за высокого распространения, сложности в лечении, способности к прогрессированию и многостороннего развития на зубочелюстную систему и организм в целом. Целью исследования явилось повышение эффективности восстановительной и поддерживающей терапии хронического генерализованного пародонтита в стадии обострения на фоне аденовирусной и риновирусной инфекции с использованием природных факторов и комбинированной физиотерапии. Клиническое применение бальнеофитотерапевтического кластера заметно снижает образование микробиоты, уменьшает гиперестезию твердых тканей зубов, ингибирует микроорганизмы зубного налета, улучшает состояние десен, снижает галитоз. Применение адгезивного бальзама Асепта, иммуномодулирующего препарата Стимфорте у пациентов в период обострений вирусной инфекции полости рта, ЛОР органов наблюдалось значительное сокращение сроков затухания рецидивов.

Ключевые слова: сезонные вирусные инфекции, генерализованный пародонтит, афтозный стоматит, природные факторы, Крым.

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The number of inflammatory and inflammatory-dystrophic periodontal diseases varies from 60% to 97% among the whole population and depends on the ecological and biogeochemical characteristics of the regions, age, living conditions, presence of comorbidities of the examined persons (Grudyanov A.I., 2009, 2013). Periodontal disease is an important issue in medical science due to the high proliferation of complexity in the treatment, progression ability and multifaceted development of the dentoalveolar system and the organism as a whole (Arutyunov S.D., 2012, Shilov A.M. and others, 2014). According to modern concepts, the occurrence and progression of periodontal disease are associated with the influence of microorganisms that have factors of aggression to the tissues of the periodontal complex [4, 10]. Systematic accumulation of plaque and calculus and as a consequence increase in the contamination of all surfaces of the oral cavity, and the area of the dentoalveolar joint, especially, leads to imbalance of the ecological system and the emergence of a non-specific inflammatory response of the macroorganism [1, 8, 22, 24].

Therefore, it is necessary to look for new non-drug methods and means of treatment and prevention, which combine high therapeutic potential and side effects absence [1, 2, 3, 9, 14, 15]. In this direction there are widely used resort and natural factors of the Crimea [20, 21]. There are scientific data confirming the similarity of the composition of mineral water with saliva and serum, which contribute to the normalization of biological processes in organs and tissues (L.I. Urbanovich, 1989).

In modern medicine, there is variety of methods of medical ozone usage. It is used in the form of gas mixtures, ozonated liquids and oils [5, 6, 19]. Ozone is found in distilled water, physiological saline, 5% glucose, mineral water, antiseptic solutions etc. It has a broad spectrum of antimicrobial action [8, 13]. Human cells with higher antioxidant activity are not damaged. The most noteworthy among infections circulating in the oral cavity is adenovirus and rhinovirus infections, which have an annual rise and seasonality in the periods.

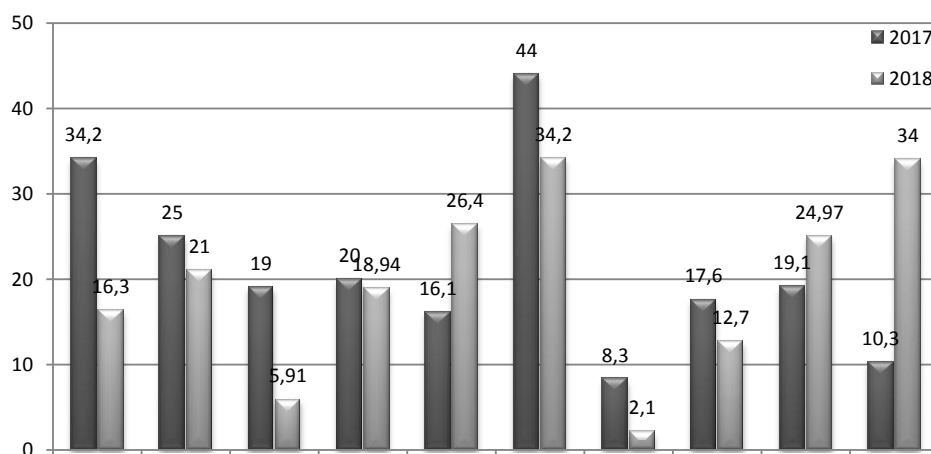


Fig. 1. Dynamics of morbidity in 2017-2018 per 10,000 population according to Rospotrebnadzor in Russia, the European region and the United States

Thus, the above facts indicate that the studied pathology is quite common, and the concept of its occurrence is not fully developed, the existing treatment regimens are not universal, so not always effective (Picture 1) Chart.

The purpose of research was an increase in the effectiveness of complex treatment of chronic generalized periodontitis on the exacerbation stage against adenovirus and rhinovirus infections with the use of combined physiotherapy.

Materials and methods of research. To achieve this goal we examined 69 patients with chronic generalized periodontitis (K05.31) at the age of 18-35 years on the basis of FSBI "Saki military clinical sanatorium named after Pirogov" under Ministry of defense of the Russian Federation.

Patients with chronic generalized progenitor (present study included) in the acute stage, light, moderate severity, after suffering a seasonal adenovirus, rhinovirus infection. In dental examination among patients of the main group (37 patients) hyperemia, swelling, bleeding gums, tooth necks, hyperesthesia, significant presence of plaque, the presence of periodontal pockets (on average 4-5.5 mm), itching of the oral mucosa, halitosis were revealed.

The diagnosis of periodontal disease was established on the basis of the international classification ICD-X, adopted in Geneva in 1989.

All patients were offered the treatment: professional oral hygiene, oral cavity sanitation, supracontacts elimination. Then there was a hydrotherapy ozonated thermal complex with hydrocarbonate-chloride-sodium with low mineral water mineralization (MW) of Saki pump-rooms № 4323, № 3841 (TN) in combination with "white-blue clay" (GOST R52343-2005) [20, 21], irrigation of the oral cavity, gums, irrigation, instillation of periodontal pockets ozonated "Phyto-Biol" in the proportion of 1:3,1:4 patent № 2642648 25.01.2018). The course of treatment was 10 days with symptomatic aphthous stomatitis in the background of the transmitted adenovirus infection taking MW 3 times a day for 150 ml, immunomodulatory drug STIMFORTE according to the scheme, local application of ASEPT adhesive balm [10]. At home there was used oxygen-enriched "Biol" divided from the thermal MW and "white-blue clay" [21, 26] in a proportion of 1:5:3, 3 times a day daily rinsing for 10-15 minutes after eating, a course of 1 month. The control group consisted of 32 patients (present study included) light or moderate severity, after rhinovirus infection, which conducted a comprehensive hydrotherapy without ozone Evpatoria MW well No. 6251 of the FSBI "Evpatoria military clinical sanatorium named after E.P. Glinka", Ministry of defense of Russian Federation, well No. 6376. of sanatorium institution "Planet" of the State space scientific production center named after M.V. Khrunichev. Eliminative and sanogenetic mechanisms of action of MW provide a therapeutic effect, contribute to quick and significant relief of clinical symptoms [20, 27]. Herbal medicine was used independently in the form of a tea: Crimean tradition: "Vitality", "Nature purity" (herbal tea № 5), "The power of nature" (herbal tea № 16) (TU 10.83.14-001-08591514-2017) in a 2-3 weeks course, 1-2 times a day. Phytobalneotherapy was carried out according to a specially developed differential technique taking into account somatic pathology, age, 14 baths: "Mineral", "Mineral-Coniferous" (with plant components and essential balms of the Crimea). Statistical processing of the obtained data was carried out according to the generally accepted method in «Statistica» 6.0.

The results of the study and their discussion. Analysis of the results determine the status of the ecosystem of the oral cavity by the extent of contamination that before treatment there is a violation of homeostasis of the oral cavity, initiates and supports inflammation and reduction of factors of nonspecific resistance of the indicator of the degree of dysbiosis (DB). Patients of basic group of DB before treatment to 2.6 ± 0.02 in the main group, after the course of treatment (10 days) was determined in average (1.16 ± 0.03) cases, which were normal, while among patients in the control group this indicator was detected in average (1.72 ± 0.02) cases. Indications correspond to the fact that the microbial balance has changed in the direction of activation of natural defense mechanisms.

The therapeutic efficacy of combined physiotherapy was assessed by periodontal tissues before and after the course of treatment. Schiller-Pisarev Test. Before treatment - 1.9 ± 0.25 , after treatment - 1.2 ± 0.12 ; The index of hygiene of the IG (GreenelVermillion, OHI-S, 1969) in the control group was 1.12 ± 0.07 , and before treatment in the main group - 0.85 ± 0.65 , after 10 days of treatment among (present study included) patients in the acute stage there was a decreased bleeding, redness and swelling of the gums, periodontal index PI (by A.L. Russel, 1956) before treatment, in the basic group and in the control group.

The present study included patients in the acute stage with observed high-quality and reliable changes of the microflora after 5 days and persisted during the subsequent timing of the surveys. Present study included patients who underwent balneotherapy ozonated with "Phyto-Biol" - and shows a significant decrease in the number of anaerobic bacteria and hemolytic streptococci on fifth day of therapy, and persistent changes in the composition of the microflora, the disappearance of periodontopathogenic species on the 7th day. Yeast-like mushrooms were absent in all cases. In 90% of patients the highest indices of occurrence in the material were in lactobacilli (90%) and nonhemolytic streptococci (100%), along with an overall increase in the index of species diversity (Picture 2).

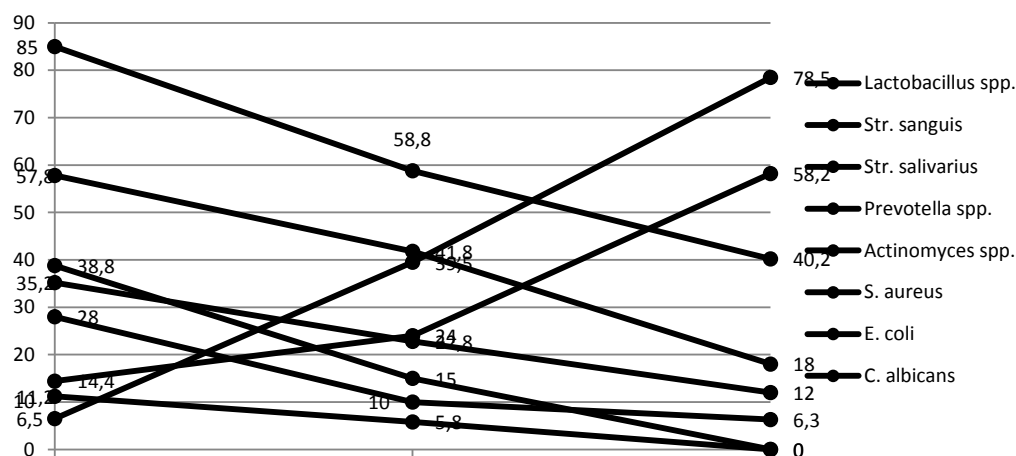


Fig. 2. The composition of the microflora of periodontal pocket in the present study included patients in the acute stage when combined with balneotherapy of periodontal tissues with "Phyto-Biol"

Note:

* — the difference in before and after treatment is $p < 0.05$;

** - the difference between the products and their ozonized compositions is < 0.05 .

The data obtained in the course of microbiological studies allowed to establish the fact that on the background of the course of complex balneo-hydrotherapy, the disappearance of pathogenic species occurred in a shorter time (3-5 days in patients with CGP at the stage of exacerbation with ozone therapy in comparison with CGP after adenovirus and rhinovirus infection on the background without ozonation (7 and 10 days, respectively). Most likely, it is caused by the local antimicrobial action of ozone in the saline environment developed of peloid preparations, extracts of medicinal plants, essential oils of Crimea (Picture 3).

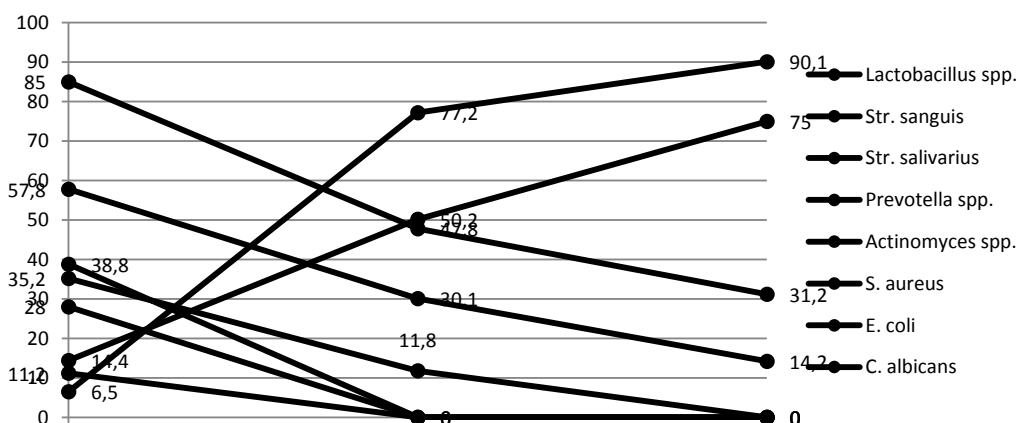


Fig. 3. Action of ozone

Conclusions

1. Thus, the use of combined physiotherapy in the local complex treatment allows to reduce the exacerbation (of CGP) within 7-10 days, to improve the state of microbiocenosis of the oral cavity and the body as a whole.

2. Clinical use of SPA-ozone-hydro-phytotherapeutic cluster of Crimean natural factors reduces the formation of microbiota, reduces the hyperesthesia of hard tissues of teeth, inhibits plaque microorganisms, improves gums condition, reduces halitosis.

3. With the preventive purpose during the seasonal rise period of a viral infection it is recommended for children, students, patients with reduced immunity, elderly and weak people to drink herbal medicine in a kind of tea that is called "Crimean tradition" for the course of 14 days.

4. In the course of clinical studies, the use of local apident gel, an immunomodulatory drug STIMFORTE among patients during exacerbations of viral infection of the oral cavity, ENT organs, showed a significant reduction in the terms of attenuation of recurrence.

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