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A New Approach to The Treatment of Chronic Generalized Catarrhal Gingivitis

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Annotation
This paper presents the results of treatment and prevention of chronic catarrhal gingivitis by including a rinse aid based on plant components in a complex of individual hygienic measures, which determines its antiseptic and anti-inflammatory effect. Also included in the rinse aid is fluoride, which has an anti-carious effect, which makes it possible to recommend it for the daily prevention of periodontal diseases and caries. The study involved 40 patients aged 18-28 years with a diagnosis of chronic generalized catarrhal gingivitis, who were divided into two groups. The comparison group (20 people) received treatment according to the generally accepted standard scheme, the main group (20 people) received standard therapy and a rinse aid. The analysis of the obtained results showed the clinical effectiveness of the use of the rinse aid in a complex of individual hygiene measures, having a positive effect on reducing the time of relief of the inflammatory process in periodontal. Daily use of a rinse aid based on plant components and fluoride inhibits the reproduction of pathogenic microflora of dental plaque and creates conditions for prolonged remission of catarrhal gingivitis.

Keywords: periodontal diseases, chronic catarrhal gingivitis, oral hygiene.

Inflammatory periodontal diseases currently remain one of the most difficult problems of dentistry. Despite the improvement of dental care, the number of patients with gingivitis and periodontitis remains very significant, which has a negative impact on the quality of human life [1, 2, 5, 14]. According to WHO, 64-98% of the total population aged 35 to 44 years suffers from gingivitis and periodontitis [6, 12, 15]. In Russia, periodontal pathology is detected in 60-98% of those examined in different age groups, while the prevalence of gingivitis in adolescents reaches 83-98% [8, 13]. The determining factor in the development of gingivitis are microorganisms that exhibit their pathogenic properties against the background of poor oral hygiene and reduced resistance of the body [3, 4, 7]. Thus, adequate, timely treatment and prevention of gingivitis are a key factor in solving the problem of preventing the development of inflammatory periodontal diseases [9, 11]. Effective oral hygiene is a determining component in the treatment and prevention of chronic catarrhal gingivitis [6, 10, 11]. A plant-based rinse aid is highly effective in the prevention of inflammatory periodontal diseases, which is designed to be included in a set of individual hygiene measures in combination with toothpaste, brush, floss and other hygiene products.

This mouthwash is an original in composition means of hygienic oral care and the elimination of bad breath. The composition of the rinse aid includes: water, ethanol, phenylsalicylate, macrogol glycerololeate, sage oil, mint oil, thymol, clove oil, eugenol, sodium dihydrophosphate, hydrochloric acid, sodium fluoride. The mass fraction of fluoride is 0.01% (F). The mass fraction of alcohol is 60%.

The use of herbal components in the composition of the drug determines its antiseptic and anti-inflammatory effect. The content of fluoride, the mass fraction of which is 0.01%, determines the caries-protective property of the drug and makes it possible to recommend it for the daily prevention of not only inflammatory periodontal diseases, but also caries. The aim of the study is to increase the effectiveness of treatment and prevention of chronic catarrhal gingivitis by including a plant–based rinse aid with fluoride in the complex of individual hygienic measures. Materials and methods of research. To achieve this goal, 40 patients aged 18-28 years with a diagnosis of chronic generalized catarrhal gingivitis participated in the examination, which were divided into two groups. The comparison group (20 people) received treatment according to the generally accepted standard scheme.

The main group (20 people) received standard therapy and a mouthwash as part of individual oral hygiene. Mouthwash for hygienic mouthwashes of 15-30 drops of concentrate was diluted in 1/3 cup (50 ml) of warm water, applied twice a day (morning and evening) after brushing teeth. The diagnosis of periodontal diseases was carried out in accordance with the classification of periodontal diseases adopted at the XVI plenum of the All-Russian Society of Dentists (1983) and according to ICD-10. A comprehensive clinical and instrumental examination of patients with the determination of index indicators was performed: OHI-s (Green J.C., Vermillion J.R., 1964), Muhlemann, modified (Cowell R. et al., 1975), Flesar T. J. (1980), PMA (Parma, 1960), PI (Russel A.L., 1956) and X-ray diagnostics of the dental system. During the first visit, patients were taught the standard method of brushing their teeth, examined the patient's hygiene products and gave recommendations on their selection and technique of use.

All patients underwent professional oral hygiene. Individual hygiene control and clinical examination were carried out using indices after 5, 10, 30 days. Further observation of patients was carried out 2 and 6 months after treatment. The analysis of the results of individual hygiene in the examined patients showed that the low level of hygiene in 82% of patients was associated with the presence of bleeding gums when brushing teeth, since most patients did not regularly brush their teeth, contributing to the accumulation of plaque, and, as a consequence, the progression of the inflammatory process. When assessing the hygienic state of the oral cavity in all patients in the study groups, high values of hygiene indices were revealed, which did not have significant differences among themselves. Thus, in patients of the comparison group, the OHI-s index was (2.33 ± 0.21), in patients of the main group (OHI-s = 2.51 ± 0.22). All the obtained indicators corresponded to poor oral hygiene. Edema, gingival hyperemia, and palpation soreness were objectively recorded. A positive Schiller – Pisarev test confirmed the presence of an inflammatory process.

The indices of PMA and Muhlemann before treatment in patients of the main group (PMA = 46.41 ± 2.17%; Muhlemann = 1.38 ± 0.18) and the comparison group (PMA = 49.29±1.91%;

Muhlemann = 1.26 ± 0.26) corresponded to moderate inflammation and had no significant differences among themselves. No pathological changes in bone tissue were detected on orthopantomograms. The results of the study. The analysis of the results showed that in the patients of the main group, when using a rinse aid, the best dynamics of relief of symptoms of catarrhal inflammation was observed. The period of elimination of pain was 6.7 ± 0.67 days, in patients of the comparison group – 9.2 ± 1.38 days. There were no allergic reactions and undesirable effects when using the rinse aid. Along with the clinical improvement of the condition, the positive dynamics of index indicators was determined. 10 days after treatment, the values of hygiene and PMA indices had no significant differences in all examined patients. Analysis of the dynamics of oral hygiene indices in patients who used a daily rinse aid as part of individual hygiene showed the best values both 2 months (OHI-s = 0.41 ± 0.12) and 6 months (OHI-s = 0.49 ± 0.15) after treatment, which significantly differed with hygiene indicators in the group comparisons (OHI-s = 1.31 ± 0.22) and (OHI-s = 1.70 ± 0.30), respectively ($p < 0.05$). Good oral hygiene and daily use of a mouthwash contributed to the relief of inflammation in the periodontium, which was confirmed by negative PMA indices during 6 months of observation and the onset of prolonged remission (Fig. 2, 3). In patients of the comparison group, deterioration of oral hygiene was determined after 2 and 6 months (OHI-s = 1.71 ± 0.15 and 2.11 ± 0.18, respectively), which led to an exacerbation of gingivitis after 2 months in 20% (PMA = 19.23 ± 1.20%) and in 25% of patients (PMA = 23.11 ± 2.18%) 6 months after the treatment.

Conclusions

The use of a rinse aid based on herbal remedies and fluoride in a complex of individual hygiene measures has a positive effect on the course of chronic catarrhal gingivitis, which is manifested in a reduction in the time of relief of the inflammatory process, a significant decrease in clinical manifestations. Daily use of the mouthwash inhibits the reproduction of pathogenic microflora of dental plaque, creating conditions for prolonged remission. Thus, a positive assessment of the clinical effectiveness of the rinse aid allows us to recommend it as a hygienic means for oral care in inflammatory periodontal diseases.

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