

# Analysis of Efficacy Between Treatment Phases When Phytopreparations are Used in the Treatment of Severe Chronic Disseminated Periodontitis

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**Abstract** This study investigated the clinical efficacy of herbal medicines in the treatment of severe chronic disseminated periodontitis (SCDPT). The effects of herbal medicines, including "Hemostat" and "Chinnigul essential oil", were compared with traditional medicines. The results showed that "Hemostat" and "Chinnigul essential oil" were effective in reducing microbial contamination, improving oral hygiene, and stimulating the regeneration of periodontal tissues. These drugs, according to the results obtained, increase clinical efficacy compared to traditional approaches in the treatment of severe periodontitis.

**Keywords** Periodontitis, Phytopreparations, Hemostat, Clove essential oil, Oral hygiene, Restoration of periodontal tissues, Clinical effectiveness, Oral antiseptics

## 1. Introduction

In modern medical literature, phytopreparations are usually divided into two main categories: The first category is tinctures and decoctions, extracts, juices, and alcoholic tinctures, these agents are often used for internal and general effects. [3] The second category is phytopastes, phytomasses, phytoparaffins, phytosuspensions. [6] These preparations are used mainly in ambulatory dental settings for application and application. Preparations of the second category are mainly used for applications and smears in outpatient dental institutions [2]. Ashing methods of combined drugs are relatively widespread. [7]

According to a number of authors, the most important advantages of phytotherapy over traditional methods of treatment in the treatment of periodontal tissue pathology are the following: Complex effect on periodontal tissues: antiseptic, analgesic, bactericidal and bacteriostatic, anti-inflammatory, keratoplastic, anti-edematous, etc.; This possibility is due to the presence of various biologically active substances in the composition of herbal medicines [4]. Possibility of long-term use; this is due to the following reasons: phytopreparations are low-toxic, their effect is mild, allergic reactions rarely occur, micro- and macroorganisms do not develop strong adaptations to them; Pleasant organoleptic properties; Good tissue promote regeneration; Positive systemic effect:

phytopreparations help to restore intestinal microflora, eliminate dysbacteriosis and normalizes the function of internal organs, improves the general immunological reactivity of the body. [5,8]

Research development of innovative approaches aimed at improving oral hygiene and periodontal tissue regeneration by evaluating the effectiveness of phytopreparations in the treatment of severe chronic widespread periodontitis.

## 2. Materials and Methods of the Study

In clinical and dental studies, 326 patients aged 41-60 years were diagnosed with severe chronic disseminated periodontitis (CDSP) K05.5) and a final diagnosis was made based on the standards of the World Health Organization (WHO); a chronological card was developed and a list of indicators that should be assessed for each patient before the start of treatment, either at the stage of confirming the diagnosis or at 10-day and 20-day periods, was filled out; as entry criteria, the following significant clinical signs of severe chronic disseminated periodontitis (CDSP) K05.5) were taken into account - gingival bleeding on probing; - periodontal pocket depth of 4-6 mm; - atrophy of interdental alveolar bone growths up to 2/3 and other clinical signs.

## 3. Research Results

As a result of the above-mentioned clinical-dental, clinical

-laboratory, clinical-microbiological and clinical-functional studies conducted among 326 patients with ODHSP (according to K05.5); A chronological summary of studies on the treatment method showed that in group 1, 112 (34.35%) patients were treated with the phytopreparation "Hemostat" (State project AL-422105573) + "Chlorhexidine biglucanate" (0.05%); in group 2, 104 (46%) patients were treated with the drug "Clove essential oil" + "Chlorhexidine biglucanate" (0.05%); in group 3, 110 (33.7%) patients were treated with the antiseptic drug "Chlorhexidine biglucanate" (0.05%).

According to the results obtained in the first stage of the study: between the 2nd and 3rd stages of treatment, the following results were obtained for the "microbe count" indicators in the teeth: in the 2nd stage of group 1 - 335.7; in the 3rd stage - 114.8; in the 2nd stage of group 2 - 562.85, in the 3rd stage - 146.6; and in the 2nd stage of group 3 - 581.4, in the 3rd stage - 187.6 CFU/ml., which indicates the effectiveness of the results of the 3rd stage of treatment and the final decrease in the level of microbial contamination, where Scheffe's criteria, ANOVA analysis of variance indicate statistically significant differences in the "microbe count" indicators in the comparative groups. Also, as a result of the studies conducted on "neutrophil infiltration", the following indicators were determined: after the 3rd stage of treatment in the 1st group - 4.44; in the 2nd group - 5.24 and in the 3rd group - 6.48 cl. Here, parametric one-way analysis of variance ANOVA, Scheffe's criteria, between-group comparisons in the 1st and 2nd groups -  $p = 0.111111$ ; between the 3rd group the same indicator was  $p = 0.111111$ , while between the 2nd and 3rd stages there were also significant differences ( $p < 0.05$ ).

According to the results of the 2nd and 3rd stages of the treatment conducted on the reparative activity among the patients of the 1st group, it was determined that in the 3rd stage this indicator was  $1.8 \pm 0.04$  mm; in group 2 -  $1.4 \pm 0.02$  mm and in group 3 -  $1.9 \pm 0.08$  mm; PT - RMA gingivitis index when studied, statistically inseparable signs of indicators of 3 stages were found in all research groups, in which the results in the 1st and 2nd groups were  $12.8 \pm 2.2\%$ ; in group 3 it was equal to  $11.2 \pm 2.1\%$ ; When the periodontal index was studied, after the 3rd stage, indistinguishable signs of the indicators were found, and it was 0.14 in the 1st group; In the 2nd group - 0.26 and in the 3rd group - 0.38, that is, in all cases of intergroup comparison in comparative groups - Scheffe's criterion was equal to  $r = 0.111422$ . -100% positive signs of PT bleeding were found in all patients participating in the study.

As a result of the studies conducted to determine the types of candidiasis, the following results were obtained for the groups: - 0.8%; - 1.2%; and - 1.5%. The incidence of local allergic lesions of the mucous membranes was: -2.1%; - 2.6%; and 4.8%, respectively.

When the indicators of "bleeding gums" were studied according to the stages of the research in the comparative groups, it was noted that the relative number of patients with bleeding was reduced. However, in the 2nd group where "Chlorhexidine" was used, the level of efficiency "lags behind"

by 12% compared to the 1st group, and by 15% compared to the 2nd group. It was found that in the final period of observation, the relative number of cases of bleeding from gums achieves a further reduction. In this case, in the groups that used "Hemostat" and "Clove essential oil", the magnitude of the decrease continued to have the same result and had indicators from 90% to 95%. The number of patients with positive symptoms of bleeding was 1.5 times higher in the group treated with Chlorhexidine.

The clinical effectiveness of comparative drugs in the treatment of patients with ODHSP on the basis of rating and dynamic assessment of gingival bleeding indicators was determined, and the most effective drugs in this regard were the drugs "Hemostat" and "Chinnigul essential oil", which can be compared with each other, and the least effective drug was "Chlorhexidine". As a result of the studies, it was found that the number of complications in the comparative groups receiving the drugs "Hemostat", "Chinnigul essential oil" and "Chlorhexidine" was 8%, 23%, 24%, respectively.

As a result of studies conducted to assess the types of candidiasis, it was found that in patients in group 3, there were no positive changes in the number of cases of local allergic and atrophic lesions of the mucous membranes (16.3%); it can be concluded that the drug "Chlorhexidine" is a "less effective" drug in terms of the development of complications compared to the drugs "Hemostat" and "Chinnigul essential oil".

Based on the results of calculating the integral indicators of the clinical effectiveness of the drugs in the treatment of OATP using the method of the sum of ranks, the number of complications and periodontal status, reparative activity and anti-inflammatory activity, antiseptic activity, the results of calculating the integral indicators of the clinical effectiveness of the studied drugs in OATP were shown, in terms of their overall clinical effectiveness, on an average comparative basis, the most suitable drugs for the treatment of OATP were "Hemostat" and "Chinnigul essential oil", while the drug "Chlorhexidine" was less effective than them.

Thus, the results obtained after 10 and 20 days of treatment of patients with OATP with phytopreparations are an empirical confirmation of the advanced scientific hypotheses on the integral assessment of effectiveness, which allows to identify the optimal drugs of oral antiseptics at the therapeutic stage, which increase the effectiveness of treatment in comparison with the "traditional approach". The set of results is evidence of the fundamentally statistically significant quantitative and functional qualities of the proposed methods of treatment in comparison with the "traditional approach" to the treatment of OATP. It should be noted that all data presented as positive have a high level of statistical significance ( $p < 0.05$ ).

The results of the "periodontal pocket depth" indicators in patients with ODSTP showed a dynamic decrease in periodontal pocket depth, with the highest results observed in the groups receiving "Hemostat gel" and "Cinnamon essential oil".

The results of the assessment of the integral indicators of the clinical efficacy of the studied drugs in the STPOS

according to the observations of patients with SGP treated with herbal preparations according to 5 criteria serve as empirical confirmation of the proposed scientific hypothesis of the integral assessment of efficacy, which allows to identify the optimal drugs of oral antiseptics at the stage of treatment, increasing the effectiveness of treatment compared to the "traditional approach".

Thus, the results obtained after 10 and 20 days of treatment of patients with SGP with phytopreparations are an empirical confirmation of the proposed scientific hypotheses on the integral assessment of effectiveness, which allows to identify

the optimal drugs of oral antiseptics at the therapeutic stage, which increase the effectiveness of treatment in comparison with the "traditional approach". The set of results is evidence of the fundamentally statistically significant quantitative and functional qualities of the proposed methods of treatment in comparison with the "traditional approach" to the treatment of SGP. It should be noted that all data presented as positive have a high level of statistical significance ( $p < 0.05$ ).

When phytopreparations are used in the treatment of severe chronic disseminated periodontitis, the gingival microbes in stages 2 and 3 were described as follows.

**Table 1.** Comprehensive overview of the effectiveness of phytopreparations in research

Along rated place:	Comparative groups		
	"Hemostat" (n1=112)	«Chinnigul ether oil» (n2=104)	"Chlorhexidine" (n3=110)
- germ number	2	3	4
- neutrophil infiltration	3	1	2
- periodontal pocket depth	3	2	1
-PMA index	3	2	1
-PI index	3	2	1
- property from the estates blood to leave	1	1	2
- mucus floor candidiasis	1	2	3
- mucus floor local allergy	1	2	4
- mucus floor atrophy	1	2	3
Gathered:	18	17	21
Rated parameters quantity:	9	10	11
M	2.44	1.88	1.04
Gathered rating, position:	1	2	3

Complications of statistical calculation of integrated indicators of the clinical effectiveness of drugs using the sum of places method, provided an opportunity to calculate the integrated indicators of the clinical effectiveness of the studied drugs based on the results of calculating the integrated indicators of clinical effectiveness in STPOSh according to 5 criteria such as periodontal status complex, reparative activity and anti-inflammatory activity, antiseptic activity (Table 1).

Based on this assessment, it can be concluded that the most suitable drugs for the treatment of ODSTP in terms of combined clinical effectiveness on an average comparative basis were "Hemostat" and "Chinnigul essential oil", while "Chlorhexidine" was less effective than them.

## 4. Conclusions

Today's traditional approaches to the treatment of severe chronic disseminated periodontitis (SPS) have some shortcomings, including the use of a wide range of antibiotics without considering the effect of anti-inflammatory drugs, the microbiology of the periodontal pocket, the reparative

activity of the periodontal tissue and oral hygiene, OB microbiological, local immunological and neutrophils causes an imbalance in infiltration, the use of "Hemostat" phytopreparation as an oral antiseptic from the initial stages of pathology improves the vitality of local tissues and shows the effectiveness of modern methods.

Of ODSTP, is based on a scientific and practical aspect and the created algorithm - principles prevent the development of treatment complications, reduce the period of elimination of disease clinics in the normal activity of periodontal tissue, and also have positive clinical and laboratory statistical results. allows to move.

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