

# Experience of Treatment of Aphthous Lesions of Oral Mucosa by Preparations on the Basis of Collagen and Digestase

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## Abstract

**Aim:** Chronic recurrent aphthous stomatitis (CRAS) is a chronic disease which manifests itself on oral mucosa; its typical features are periodic remissions and exacerbations with appearance of aphthae. The WHO reports that this disease affects up to 20% population. Persons of both genders, who range in age from 20 to 60 years, suffer from this disease. CRAS is a great problem of modern dentistry because of constantly growing incidence rate. In the past years, the new complex preparations "Farmadont" are synthesized on the basis of collagen and digestase. The objective of our research is to evaluate increase of effectiveness of the treatment of patients, who have CRAS, by the use of bioresorbable plates on the basis of collagen and digestase. **Materials and Methods:** We have conducted a clinical dental research which included examination and treatment of patients having the diagnosis "K12.0 CRAS." **Results and Conclusion:** Results of photometry of lesion foci in the course of time revealed that the period of healing of aphthae was reduced in the main group, where plates "Farmadont" were used, as compared with the control group.

**Key words:** Bioresorbable plates, chronic recurrent aphthous stomatitis, collagen, digestase, Farmadont, oral mucosa

## INTRODUCTION

Chronic recurrent aphthous stomatitis (CRAS) is a disease which manifests itself on oral mucosa (OM); its typical features are periodic remissions and exacerbations with appearance of aphthae. The WHO reports that this disease affects up to 20% population, persons of both genders, who range in age from 20 to 60 years, suffer from this disease. CRAS is a great problem of modern dentistry because of constantly growing incidence rate.<sup>[1,2]</sup>

As of today, the etiology of CRAS remains not fully clear. Some authors report that the cause of this disease is L-forms of streptococci; other authors are supporters of viral nature of the disease. Hereditary factors and state of nervous system exert some influence on appearance of the disease. Now, the majority of scientists incline toward the leading role of immune system in its pathogenesis.<sup>[3-5]</sup>

CRAS appears in case of lowering of immune responsiveness of organism, in case of

impairment of non-specific protection; causes of development thereof are nidi of chronic infections in organism (angina, tonsillitis, pharyngitis, and diseases of GIT), impact of chronic stresses, or change of climate. Antibodies can by mistake attack epithelial cells of mucosa because their antigenic structure is similar to allergens.<sup>[6-8]</sup>

Typical feature of clinical presentation of the disease is appearance of aphthae which have oval contours; only in region of mucogingival fold, they have the form of dilated cracks of various lengths which are covered by a dense fibrinous layer of yellowish color and have a hyperemic

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limbus on periphery. Aphthae are very painful, especially in case of their localization on mucogingival folds and on the tongue. There can be a small infiltrate, edema and hyperemia of surrounding tissues, solitary, or multiple rashes in their base. They are situated in all parts of OM. Results of various researches reveal that healing of aphthae takes place on average after 5–7 days, depending on size of lesion focus and on severity of disease course.<sup>[9,10]</sup>

An important principle of therapy of CRAS is complexity. Principle of complexity means that a general treatment and a local one are conducted. General treatment is aimed at the treatment of existing concomitant pathology of other organs and systems of organism. Local treatment is aimed at oral cavity sanitation, elimination of pain syndrome, and improvement of processes of epithelization. Anesthetic, antiseptic, anti-inflammatory, keratoplastic preparations, and proteolytic enzymes are used locally.<sup>[11,12]</sup>

In the past years, the new complex preparations “Farmadont” are synthesized on the base of collagen and digestase. These preparations are rectangular collagenic plates which are impregnated with extracts of medicinal plants (aloe, St. John’s Wort, plantain, camomile, valerian, and arnica); their composition includes also digestase, a complex of proteolytic enzymes. They are applied to lesion focus on OM; prolongation of their action is from 45 min to 2 h. The plate gradually dissolves and releases active components; it needs not be removed. The plate produces anesthetic, proteolytic, antiseptic, and anti-inflammatory effects at the place of its application.<sup>[13-15]</sup>

The objective of our research is to evaluate increase of effectiveness of the treatment of patients, who have CRAS, by the use of bioresorbable plates on the basis of collagen and digestase.

## MATERIALS AND METHODS

We have conducted a clinical dental research which included examination and treatment of patients having the diagnosis “K12.0 CRAS.”

The examined group included 40 patients aged from 20 to 50 years: Men - 23, women - 17 [Table 1].

Before the research, the patients received an informed consent and were informed about stages of the research and about medicinal preparations which would be used. The patients were divided into a main group and a control one; each group consisted of 20 patients. Complex therapy was conducted in both groups: Professional hygiene of oral cavity which included removal of supra- and sub-gingival dental deposits, antiseptic treatment by miramistin solution 0.01%; controlled teaching of care for oral cavity was conducted. All patients were examined to detect nidi of chronic infections including nidi of somatogenic one and to satisfy them. General treatment had the form of hyposensitization therapy; in cases of intoxication, the detoxifying therapy was added. Patients underwent regular medical checkups.

In the main group - the bioresorbable collagenic plates “Farmadont” (No. 1 in case of inflammation in oral cavity) were applied to area of aphtha. The plates were applied after each food intake and before going to bed for 5 days. In the control group - the applications of trypsin to lesion focus were performed for 20 min and anti-inflammatory medicinal dressings on the basis of ointment with 5% butadion were applied. On the 3<sup>rd</sup> day of treatment, the ointment Solcoseryl was used which stimulates epithelization of tissues.

To evaluate the effectiveness of action of used medicinal preparations, the visual semiquantitative method of monitoring of speed of healing of foci of OM damages (photometry) in the course of time was used, and patients’ subjective sensations were found out: Before treatment and every day of treatment till full epithelization of lesion focus.

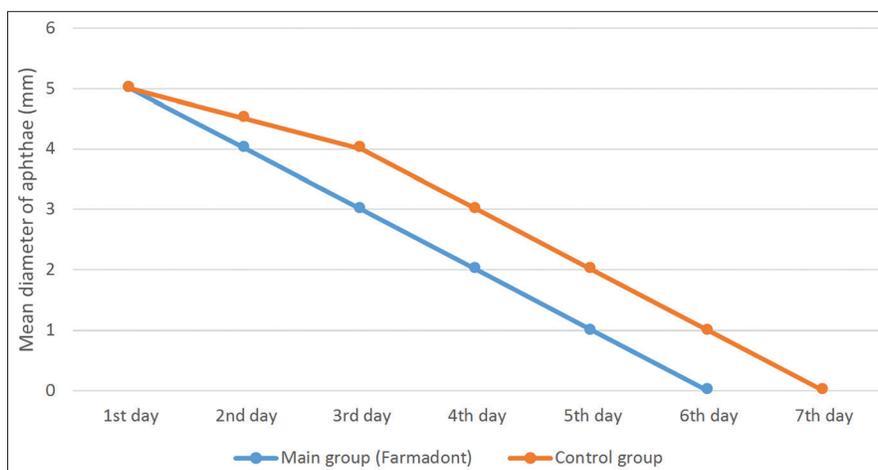
## RESULTS AND DISCUSSION

Results of photometry of lesion foci in the course of time revealed that the period of healing of aphthae was reduced in the main group, where plates “Farmadont” were used, as compared with the control group. Results of photometry are presented in Figure 1.

**Table 1:** Criteria according to which the patients were included (not included) in the research or were excluded from it

Criteria according to which the patients were included in the research	Criteria according to which the patients were not included in the research	Criteria according to which the patients were excluded from the research
Presence of a patient’s written informed consent to participation in the research	Inappropriate age group	Patient’s refusal to further participate in the research
Age group 20–50 years	Pregnancy, breastfeeding	Pregnancy
Men and women		Violation of doctor’s recommendations or stages of medical checkup
Presence of aphthae on OM		

OM: Oral mucosa



**Figure 1:** Result of photometry of aphthae

Average periods of healing of aphthous lesions in the main group were 5–6 days. On the 6<sup>th</sup> day, the full epithelization of aphthae was seen in 90% patients of the main group. The average periods of healing in the control group were 7–10 days. Full epithelization of aphthae was seen in 70% patients on the 7<sup>th</sup> day. Full epithelization in other patients of the control group was seen on the 10<sup>th</sup> day of treatment.

The majority of patients of the main group said about significant anesthetic effect after the use of collagenic plates. Pain relief in lesion foci took place already on the 2<sup>nd</sup> day of treatment. Patients of the control group said about reduction of sensitivity of lesion foci too; however, pain syndrome (discomfort during food intake) was the main syndrome during the whole course of treatment.

## CONCLUSION

1. Use of bioresorbable plates on the basis of collagen and digestase increases the effectiveness of local treatment of CRAS. Painfulness and length of treatment of aphthous lesions of OM are considerably reduced.
2. Combination of antibacterial, anti-inflammatory, wound healing, and anesthetic substances in the collagenic plates “Farmadont” secures a complex influence on inflammatory diseases of OM that allows to use them in cases of acute processes and in cases of exacerbation of chronic processes on OM.

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