

The Application of the Medical Toothpaste Lacalut Activ for the Prophylaxis and the Treatment of Periodontal Inflammatory Diseases

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ABSTRACT

Discontented hygienic condition is one of the major reasons of the spread and intensity of stomatological diseases, such as caries and Periodontitis. Toothpaste has a complex composition. It consists of abrasive, foam producing, perfunctorily active components, taste giving elements, water and medical-prophylactic elements. The ratio of these components determines the peculiarity, prescription, mechanism of operation and effectiveness of the toothpaste. The aim of our research was to determine the effectiveness of Lacalut Activ during the prophylaxis and the treatment of periodontal inflammatory diseases. In order to achieve our aim we have set following goals: the estimation of the oral cavity condition of patient by the means of average number of clinical indices before and after applying the toothpaste, the estimation of antibacterial effect of the toothpaste Lacalut Activ in case of identified bacterial population after investigating the microbiological oral cavity of the patients. According to the clinical and microbiological investigations of 80 patients it has been established that German firm ARCAM GmbH Lacalut Activ. Improves the hygienic condition of the oral cavity. Has antiphlogistic and antibacterial effect, it can be applied successfully in case of phlogistic diseases of tissues of Periodont, prophylaxis and in case of complex treatment of oral candidosis.

KEYWORDS: *periodontitis, catarrhal gingivitis, toothpaste "lactalut active", candidosis, hygiene index, gingivitis index, periodontal index*

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In order to achieve our aim we have set following goals:

- ◆ The estimation of the oral cavity condition in patients by means of average number of clinical indices before and after applying the toothpaste.
- ◆ The estimation of antibacterial effect of the toothpaste Lacalut Activ in case of identified bacterial population after investigating the microbiological oral cavity of the patients.

Lactalut Activ is produced by the German organization ARCAM GmbH. It is the toothpaste of the 5th generation. According to classification of S.B. Ulitovski it belongs to the individual group of the toothpaste and is used the complex treatment and prophylaxis of Periodontitis. At some point it also has influence upon the prophylaxis of caries. Three features of Lacalut Active are determined by the fact that it comprises such medical and prophylactic components as chlorhexidine and sodium fluoride.

Lactalut Activ is a homogeneous toothpaste having peculiar smell and taste. It has a deodorant function. Irritation and allergic effect is not characteristic of the toothpaste. Seldom, while applying Lacalut Activ the color change of tooth enamel and tooth restorations can be observed. This is caused by the interrelation of Chlorhexidine and the dye-stuff of the food.

In order to achieve our goal a clinical and microbiological investigations have been carried out.

We estimated the effectiveness of the toothpaste by the index of Professor Ulitovski (UTPE), according to which the effectiveness of Lacalut Active is 4,33 (0-1 bad, 1-3 satisfactory, 3-5 excellent).

$$UTPE = \sum(a_1 + \dots + a_n) / n = 130 / 30 = 4,33$$

We determined the antiphlogistic effectiveness of the toothpaste by means of following indices.

$$Effectiveness \% = pma(1) - pma(2) / pma(1) \cdot 100$$

where pma (1) stands for the numeric index before the toothpaste was applied. As for pma (2) it resembles the index of month after the application of the toothpaste.

$$Effectiveness \% = 1.5 - 2.9 / 1.5 \cdot 100 = 93.34\%$$

This proves that lacalut Activ has a good antiphlogistic effect.

We investigated 80 patients from the age of 16 up to 58. These people had no less than 20 healthy teeth without caries and its complicated forms. They did not have the feelings of 5th class according to Blake classification.

Catarrhal gingivitis levis was observed in 12 patients, catarrhal gingivitis media in 10 patients, 34 patients had catarrhal gingivitis levis. As for 24 patients they had Parodontitis media. We divided above mentioned patients into two groups. Each group comprises 40 patients.

The patients of both groups were treated according to the conventional scheme. The only difference was that the patients belonging to the 1st group brushed their teeth with placebo toothpaste. As for the patients that comprised the 2nd group they applied Lacalut Activ.

The sensation and insusceptibility of the microorganisms in relation with Lacalut Activ was studied by the means of standard discs. we investigated the oral cavity of 80 patients and thus, identified 130 various bacterial cultures (Tab.1).

Culture	Sensitive		Resistant		Sum
	Abs. Quantity	%	Abs. Quantity	%	
Candida	58	90,6	6	9,4	64
Strept. Agalactivae	7	70	3	30	10
Strept. Epidermidis	23	85,2	4	14,8	27
Strept. mitis	5	83,3	1	16,7	6
Strept. Pyogenes	8	80	2	20	10
E. coli	3	75	1	25	4
Kl. Ozaenae	3	75	1	25	4
Neisseria Catarhalis	4	80	1	20	5
SUM	111	85,4	19	14,6	130

Tab.1 Sensitivity and resistance of identified bacterial population in relation with Lactalut Activ.

As seen from the investigation, Lactalut Active is most sensitive in relation with Candida. Thus, the application of the toothpaste will be successful during the complex treatment of oral candidosis and periodontitis which is ever more complicated because of the existence of Candida flora.

Before the treatment for every patient we determined the Hygiene Index (HI) according to U.F. Fedorov and V.V. Volodkina, the simplified Hygiene Index according to I. Green and I. Vermillion, Gingivitis Index according to H. Loe and I. Silness and Periodont index according to A.L. Russel.

The results of the investigation are as follows: during the catarrhal gingivitis levis $HI=2.0\pm 0.85$; $SHI=1.34\pm 0.7$; $GI=0.85\pm 0.56$, during catarrhal gingivitis media $HI=2.5\pm 1.04$; $SHI=2.28\pm 0.91$; $GI=1.65\pm 0.61$, during the Periodontitis levis $HI=2.5\pm 0.95$; $SHI=2.0\pm 0.85$; $GI=1.7\pm 0.79$; $PI=0.8\pm 0.54$ during the Periodontitis media $HI=3.4\pm 1.1$; $SHI=2.58\pm 0.97$; $GI=1.95\pm 0.84$; $PI=3.9\pm 1.18$.

After course of the treatment while determining the clinical indices it turned out that in those patients who applied placebo toothpaste during catarrhal gingivitis levis $HI=1.1\pm 0.63$; $SHI=0.18\pm 0.25$; $GI=0.1\pm 0.19$. During catarrhal gingivitis media $HI=1.15\pm 0.65$; $SHI=0.55\pm 0.45$; $GI=0.3\pm 0.3$. During periodontitis levis $HI=1.2\pm 0.66$; $SHI=0.6\pm 0.47$; $GI=0.3\pm 0.3$;

$PI=0.35\pm 0.3$. During the periodontitis media $HI=1.4\pm 0.7$; $SHI=0.8\pm 0.54$; $GI=0.45\pm 0.4$; $PI=0.5\pm 0.43$.

In those patients that applied Lactalut Activ clinical index reflected following alterations: during catarrhal gingivitis levis $HI=1.0\pm 0.58$; $SHI=0.1\pm 0.21$; $GI=0.9\pm 0.1$. During catarrhal gingivitis media $HI=1.12\pm 0.63$; $GHI=0.53\pm 0.43$; $GI=0.29\pm 0.29$. During periodontitis levis $HI=1.1\pm 0.65$; $SHI=0.4\pm 0.42$; $GI=0.29\pm 0.29$; $PI=0.32\pm 0.29$. During the periodontitis media $HI=1.2\pm 0.5$; $SHI=0.78\pm 0.51$; $GI=0.43\pm 0.37$; $PI=0.48\pm 0.41$.

As seen from the results, in both groups the clinical indices after treatment are close to the norm. Still the results obtained in the 2nd group are better than in the 1st one.

Thus, we can conclude that Lactalut Activ produced by the German organization "ARCAM" GmbH:

- ◆ improves the hygienic condition of the oral cavity.
- ◆ has antiphlogistic and antibacterial effect.
- ◆ it can be applied successfully in case of phlogistic diseases of tissue of Periodont, prophylaxis and in case of complex treatment or oral candidosis.

REFERENCES:

1. Ulitovski S.B. Hygiene of the oral cavity - the primary prophylaxis of the stomatological diseases. "New in stomatology", 1999, 7, 17-20, 70-75, 103-107.
2. Ulitovski S.B. The means for the individual hygiene of the oral cavity, powder, toothpaste, tooth gels, 2002, 76-288.
3. Borovski E.V. Co-authors. Therapeutic stomatology, 2003, 767-777.
4. Ulitovski S.B. The principles of the prophylaxis of major stomatological diseases. "New in stomatology". 2003, 8, 29-40.

Применение медицинской зубной пасты "Localut Activ" для профилактики и лечения заболеваний тканей пародонта воспалительного характера

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Р Е З Ю М Е

Зубная паста – это система со сложным составом абразивных, пенообразующих, поверхностно активных компонентов, консервантов, вкусовых добавок, лечебно-профилактических элементов и воды. Цель исследования - оценка эффективности зубной пасты немецкой фирмы ARCAM GmbH Localut Activ - "Localut Activ" для профилактики и лечения заболеваний тканей пародонта воспалительного характера. Решались следующие задачи: 1) оценка состояния полости рта пациентов с помощью средних показателей клинического индекса до и после применения зубной пасты "Localut Activ" и 2) изучение антимикробного воздействия пасты на идентифицированные штаммы микрофлоры полости рта. Установлено, что изученная зубная паста в 80% оказывает выраженное противовоспалительное и антимикробное действие и её можно использовать для профилактики и лечения заболеваний тканей пародонта воспалительного характера и орального кандидоза.

КЛЮЧЕВЫЕ СЛОВА: *периодонтит, катаральный гингивит, зубная паста Localut Activ, кандидоз, индекс гигиены, индекс гингивита, периодонтальный индекс*