

Lacalut Toothpaste

Short review with summary / Selection of several publications

- 1) **Effect of the toothpaste “Lacalut” on the incidence of tooth decay (dental caries).**
Author: Kinkel, H.J.
Original article in: Zahnärztliche Welt 69, No. 7, pages 231-233 (1965)

Summary:

The essential active ingredient in Lacalut is aluminium lactate, a substance with good astringent properties even in low concentrations. This does not only have an immediate favourable effect on the gingiva and the oral mucosa, but also a prophylactic effect against inflammations of the gums and parodontopathies. Lacalut has excellent cleansing properties proven in many *in vitro* tests and *in vivo* trials which are also attributed to the intensive, astringent effect of aluminium lactate (Wannenmacher: Investigations concerning the mode of action of the tooth care product “Lacalut med Toothpaste”, test report from the Scientific Laboratory of the Polyclinic and Hospital for Dental, Oral and Maxillary Diseases of Munster University, 1963).

Apart from aluminium lactate, Lacalut also contains aluminium fluoride. It seemed therefore advisable to test this toothpaste for its caries-reducing effect. For this purpose a test with animals was performed. This test showed unmistakably, that the toothpaste under review inhibits dental caries in all stages of severity (initial, advanced, severe). This effect is mainly attributed to the characteristic ingredient aluminium lactate, although aluminium fluoride is also an important but not decisive component for the caries inhibiting effect.

- 2) **Investigations concerning content and stability of bio-available fluoride ions in toothpastes**

Author: G. Neuman et al.

Original article in: Kariesprophylaxe, 2, pages 51-56 (1979)

Summary:

The fact that the fluoride ions remain bio-available also after prolonged storage times of the toothpaste is an important precondition for an effective tooth-decay prophylaxis with fluoride-containing dental care products. The fluoride ions must not be inactivated by cleansing particles or other toothpaste ingredients. By means of a special measuring device the content and stability of the fluoride ions in several fluoride containing toothpastes were determined, with relation to the cleansing particles (abrasives) and the fluoride compounds used in the product. It could be demonstrated that the specific

combination of active ingredients aluminium fluoride complex and aluminium lactate has a very high stability of ionogenic fluoride and a completely satisfactory result was achieved, particularly in view of the used cleansing particles aluminium oxide hydrate and also the combination of aluminium-oxide hydrate and silica.

Toothpastes which also contain aluminium ions, apart from the biologically available fluoride, have a particular importance for caries prophylaxis, since they do not only incorporate fluoride but also aluminium in the dental enamel. This increases the protective effect.

3) **The caries inhibiting effect of an aluminium fluoride complex and of aluminium lactate investigated in an experiment with animals.**

Author: P. Riethe

Original article in : Dt. Zahnärztliche Zeitschrift, Vol. 34, 1979, issue No. 1, pages 16-18

Summary:

The caries-inhibiting effect of the aluminium fluoride hydroxide complex and of aluminium lactate, alone or in combined use and in different toothpaste bases was investigated in rats. A significant reduction of caries compared to other treatment groups and to a placebo group could be demonstrated.

It could also be shown that the fluoride accumulation on the surface of the tooth can be doubled by a pre-treatment with aluminium versus a control group only treated with fluoride. Both aluminium and fluoride inhibit the formation of caries.

The caries-inhibiting effect of both compounds totalled up in the combined use.

4) **Clinical trial investigating the effect of various toothpastes on the gingiva (gums).**

Author: G. Krekeler et al.

Original article in: Die Quintessenz, issue No. 9, September 1982

Summary:

The mechanical removal of dental plaque with a toothbrush and dental floss is a safe method to avoid gingival inflammations. Toothpastes are used to support these cleansing functions. In this context the tenside content of several pastes was discussed and in a comparative study their specific effect on the gums was investigated.

The effect of the following toothpastes on the gums was investigated: Ajona (tenside content 7.9%), Lactalut (1.8%), Parodontax (1.9%). The results suggest that the three toothpastes are comparable in their efficacy. The actual concentration of tensides in the oral liquid is decisive for their effect on the gums. In the case of Ajona the high tenside concentration is not achieved in the quantity as recommended for use by the manufacturer ("only one drop").

When assessing the efficacy of toothpastes, mainly the concentration of the individual components in the oral liquid is decisive.

5) Investigations concerning the abrasiveness of toothpastes

Author: P.R. Hotz

Original article in: Schweiz. Monatszeitschrift für Zahnheilkunde, Febr. 1983, volume 93/2

Summary

33 toothpastes were examined with regard to their abrasiveness in contact with dentine. The toothpastes showed substantial differences. The dilution grade of the pastes with artificial saliva and the pressure of the brushes on the dentine surfaces had an important influence on the results whereas the characteristics and hardness of the toothbrush did not affect the obtained values.

The results of the examination performed should support the dentist in the choice of the suitable toothpastes for the individual patients.

One of the examined toothpastes was LACALUT AKTIV 5, which was at that time a product of Anasco GmbH, Wiesbaden.

The abrasion was determined on account of the average weight loss of the individual samples.

According to the report, the abrasiveness of LACALUT was medium high, ranging between 1.7-3.4 mg.

6) **Clinical trial of two toothpastes of different formulations**

Author: Christoph Gaasch et al.

Original article in: Oralprophylaxe 11, 17-25 (1989)

Summary

In two clinical trials the effect of two differently formulated toothpastes was examined with regard to their plaque-removing properties and their influence on inflammatory reactions of the gingiva. The efficacy was tested in a group of dentists and in a group of non-dentists. The statistical evaluation did not show any striking results among the dentists. It was concluded that the reason for this was the fact that on account of their education the dentistry students had an above average motivation for oral hygiene.

In the second group not only a significant plaque reduction was found, but also a significant disappearance of inflammatory symptoms. Over the whole examination period the susceptibility to gum bleeding showed a striking improvement. A direct influence on this good result must be attributed to the ingredients of the formulation, this is also indicated by the results in the group of the dentists. The cleansing of the teeth from plaque and surface discolorations essentially depends on the mechanic brushing effect of the silica-hydrogel and of aluminium-oxide hydrate, while chlorhexidine digluconate reduces existing plaque and inhibits the formation of new plaque. One patient who had complained about sensitive dental necks reported a decrease of the hypersensitivity in these regions. This phenomenon is attributed to the ingredient aluminium lactate, whose astringent, i.e. protein-coagulant effect leads to a desensitisation of sensitive dental necks.