

Use of New Dental Cleaning Device Aerodent Which Containing Malt Root Extract For Caries Prevention in Children

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ABSTRACT: Currently, the correct organization of the prevention of dental plaque and stomatitis in children and adults, as well as fast, high-quality, painless, harmless and inexpensive treatment of patients with this disease can be done through a capsule for washing teeth. Capsule for washing the teeth provides a clean medium in the oral cavity supporting the normal state of teeth and mucous membranes patients feel free breathing clean cold air antibacterial agents in it destroy pathogenic microorganisms it should be borne in mind that in order to keep teeth healthy, you can carry out dental prophylaxis using not only toothpaste but also natural plant extracts that we have in tincture of licorice can be used instead of convenient and toothpaste Since menthol was added to its composition together with licorice extract, which will have an unpleasant odor and clean breath in the mouth

Keywords: dental caries, dental hard tissue, kapp, kapsula, prophylaxis.

In addition, the extract contains more than 20 substances that do not contain pastes in its composition and the Aerodent capsule can easily clean teeth and their surfaces; Which means it also functions as a toothbrush.

Licorice is a widespread plant throughout the country. Today, the production of many medicinal substances from it as a medicinal plant and its expertise on a global scale is one of the most pressing issues for us medical professionals. The licorice plant is adapted to our region and contains more than two hundred unique and deadly substances, bioactive products, trace elements, vitamins and organic acids that are useful for the human body. We should use these substances in pathological conditions of the body. In this regard, we aimed to use bioactive substances in licorice plant to maintain the cleanliness of teeth and oral cavity, eliminate cases of inflammation in the oral mucosa, prevent dental caries, treat stomatitis and restore oral eobiosis.

Most of the substances in the licorice plant are stored in its root. Therefore, the use of substances in the root part in liquid form should lead to the appearance of tincture. In this case, the crushed root parts are immersed in water with a temperature of 80S0 for 2 hours in a special container, then it is passed through pharmacological filters to extract the extract in the form of tincture. This liquid is poured into the ampoule part of the toothpaste capsule called "Aerodent" and is used for the treatment and prevention of existing pathological conditions in the teeth and oral cavity through a ready-made tool.

Licorice roots and underground buds contain 23% glycyrrhizin, potassium and calcium salts, as well as glycyrrhizin tri-basic acid against pathological microorganisms, low levels of glucuronic acid are also important for the regeneration of inflamed tissues. Licorice contains sapanic acid, which is useful in the roots and whole plant parts, it gives a sweet taste to the prepared tincture, neutralizes residual products in saliva, has the ability to adsorb alkalis. Licorice root contains more than 20 flavanoid glycosides - likviritin, likviritoside, likviritigenin-7, 4-dioxyflavone and others. In addition, bioactive substances include glabiric acid, steroids (beta-sitosterol, eschiol), asparagine, essential oil (0.03%), ascorbic acid and other substances.

Such active bioorganic and bio-inorganic substances prepared from the parts of the licorice plant maintain the physiology of the teeth, protect them from dental caries, while also performing qualified oral hygiene. The tincture of licorice is placed in a toothpaste capsule called "Aerodent" and sprayed on the oral cavity and teeth.

The structure of the toothpaste capsule. The toothpaste capsule consists of 2 parts, i.e., a "capsule cap suitable for the tooth holder" and a "liquid-retaining ampoule part". The ampoule and cap parts of the toothpaste capsule are connected to each other, they work together. It is used for washing the oral cavity and interdental spaces, maintaining the pH of the internal environment, normalizing oral eobiosis.

The cap part of the capsule is a special semicircle made of special silicone, designed for easy access to the oral cavity, for the symmetrical placement of the teeth. Corresponds to the level of the tooth edges. It is part of a system of canals that covers all teeth and corresponds to each tooth space. Its tubular system is housed in a special cap to wash the tooth and the space between the teeth from top to bottom. The cap is a silicone coating that consists of a system of 15 tubes in the front and 15 tubes in the back, for a total of 30 tubes. Through these canals, an extract liquid containing anise root at high pressure comes out of the ampoule and washes the space between the teeth as well as the oral cavity. This

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extract is mixed with saliva in the mucous membrane of the oral cavity, each substance in the extract is a great help for the treatment of diseases of the teeth and oral cavity and the prevention of these diseases. The size of the cap varies depending on age.

The ampoule part where the extract is stored is a special container, which is hermetically sealed, in which a spray tube is placed. Through this tube, the extract exits the ampoule at high pressure and is directed to the kappa canals. The ampoule may contain nickel or aluminum. The volume of the ampoule container with the extract contains 800 cm³ and 800ml of liquid. Once used, 10 ml of fluid is lost, so the capsule can be used about 80 times. The resulting liquid is in the form of an aerosol. The composition of the extract can be liquid suspension, tincture and clear liquid, the type of liquid and its composition depends on the type of disease, stage, patient's condition, age, purpose of use.

The tooth capsule can be used from the age of 6 years. The mode of use is always carried out after a meal, inserting the cap part of the capsule into the oral cavity and pressing the button on the ampoule once. In this case, the extract liquid comes out of the cap in the form of an aerosol and spreads from the tooth cavities to the entire oral cavity.

It is now possible to properly organize the prevention of dental caries and oral mucosal diseases in children and adults, and to provide patients with fast, high-quality, uncomplicated, harmless and inexpensive treatment through this toothpaste capsule. The toothpaste capsule provides a clean environment in the oral cavity and maintains the normal condition of the teeth and mucous membranes. Patients feel freedom in breathing, fresh air. The antibacterial agents in it destroy pathogenic microorganisms.

It should be borne in mind that in order to keep teeth healthy, dental prophylaxis can be carried out not only on the incoming toothpaste, but also in the case of the use of natural plant extracts, which are available to us. Licorice tincture can easily be used instead of toothpaste, because we added menthol along with licorice extract to its composition. This creates a clear and pure breath for the oral cavity. In addition, the extract contains more than 20 substances that are not present in pastes. The aerodent capsule can easily clean teeth and their surfaces, which means that it also serves as a toothbrush.

Currently, diseases of the oral mucosa, stomatitis and dental caries are on the rise among children aged 6 to 14 years. In order to prevent and treat these diseases, it is advisable to use a new Aerodent toothpaste capsule. Advantages of the capsule: Instead of water, the toothpaste capsule uses an extract that contains licorice root tincture, the capsule consists of 30 chambers, which cover each tooth space and washes the four surfaces of each tooth. The toothpaste capsule is easy to use, it is a one-time process, it can be used by young children and can be used instead of a toothbrush.

The main purpose of using a toothpaste capsule is to neutralize the nutrient acids that remain in the oral cavity after a meal and to clean the tooth surface. It consists of normalization of the oral pH environment, restoration of oral eobiosis and reduction of the number of pathogenic microorganisms and maintenance of organotrophy (nutrition) of the tooth and periodontal surface.

Dental caries is the most common disease among the population of different geographical regions and countries of the world. As no single prophylactic measure against dental caries has been developed at present, it is leading to an increase in dental caries among children and adolescents. Accordingly, the Aerodent tool we have created will solve these problems in the teeth and oral cavity. The decomposition of minerals on the outer surface of the teeth in the presence of various organic acids and saprophytic microorganisms in the oral cavity causes caries and other similar diseases. strengthens the enamel layer.

There is a proliferation of toothpaste for children today, and their ineffectiveness, inconvenience, and almost no help in treating the disease seem to have reduced the incidence of oral infections, dental caries, and organic diseases of the teeth. This Aerodent toothpaste capsule is a special capsule for washing teeth and oral cavity for use in dentistry and otolaryngology. The toothpaste capsule can be widely used in the treatment and prevention of various diseases of the oral cavity, ie in diseases such as oral stomatitis, trophic ulcers, mucosal injuries, gingivitis, gingivitis, periodontitis, dental caries and organic changes in dental hard tissue.

Licorice and tincture extract made from it have healing and cleansing properties. One of the main solutions to the above-mentioned scientific problem is to first obtain a drug substance that retains its properties and distribute it to patients by transferring it to the ampoule part of the Aerodent toothpaste capsule, bringing the drug to the world market.

Formulation and selection of toothpaste capsule extract composition: depends on the type of disease, stage, patient's condition, age, purpose of use. The composition of the liquid in the ampoule can be formed in the following order, depending on the type of disease and their condition: In the treatment of stomatitis, a separate extract is formed. In the treatment of dental diseases, a separate extract composition is formed. A separate extract composition is formulated for rinsing the oral cavity and prevention of oral diseases. Dental capsule application can be used from 6 years of age. The

mode of use is always carried out after a meal, inserting the cap part of the capsule into the oral cavity and pressing the button on the ampoule once. In this case, the extract in the form of an aerosol from the cap spreads from the tooth cavities to the entire oral cavity.

With the Aerodent toothbrush capsule, our goal is to reduce the time it takes for children with this disease, who are now prone to dental caries, to move to a faster treatment level. The main goal is to develop the best model of caries prevention in the world. In addition, Uzbekistan will produce the highest quality and cheapest medicine, save patients from excessive use of drugs and supplements, prevent complications, enter and occupy the world market.

Currently, the most widely used Water flosser (WP-660E2-instruction-manual.pdf) and DENTAL SPA water floss irrigators around the world are used to remove dental plaque for the prevention of these diseases, not teeth and oral cavity diseases. The utility model we created, the Aerodent, is quite different.

The advantages of "Aerodent" are:

- A. The healing extract is used instead of water in the toothpaste capsule.
- B. Our utility model consists of a multi-chamber i.e. 30 channels, which covers each tooth space and washes the four surfaces of each tooth.
- C. The main task of our utility model is the treatment of purulent inflammation of the oral cavity, the implementation of fast and quality treatment.
- D. The toothpaste capsule is easy to use and is a one-time process that young children can use.
- E. It can be used as a toothbrush, thereby neutralizing nutrient acids to maintain the bioavailability of the oral cavity in moderation.

This utility model is a special capsule for washing teeth and oral cavity for use in dentistry and otolaryngology. The toothpaste capsule can be widely used in the treatment and prevention of various diseases of the oral cavity, namely, in oral stomatitis, trophic ulcers, mucosal lesions, dental caries and organic changes in dental hard tissue, its diseases.

The main purpose of using a toothpaste capsule:

- A. Neutralize nutrient acids left in the oral cavity after eating and clean the tooth surface.
- B. Normalize the pH environment of the oral cavity.
- C. Restoration of oral eobiosis and reduction of the number of microorganisms with pathogenic effects
- D. Maintaining the organotrophy of the surface of the teeth and gums.

We added anise extract to this capsule ampoule and gave it to patients to clean their oral cavity. A total of 134 patients used this capsule, 58 of whom were patients with frequent stomatitis, and the remaining 76 were those who used dental caries prevention to maintain the oral bioenvironment in a normal state. Patients with frequent stomatitis have not reported stomatitis in the last 3 months after using the capsule. For the prevention of dental and oral diseases, regular users preferred Aerodent and said that they did not have any special problems with the capsule.

Conclusion: Nowadays, the proper organization of prevention of dental caries and stomatitis in adults and children, and the rapid, high-quality, uncomplicated, harmless and inexpensive treatment of patients with this disease can be achieved through the toothbrush capsule. The toothpaste capsule provides a clean environment in the oral cavity and maintains the normal condition of the teeth and mucous membranes. Patients feel freedom in breathing, clean fresh air. The antibacterial agents in it destroy pathogenic microorganisms.

It should be borne in mind that in order to keep the teeth healthy, it is possible to carry out dental prophylaxis using natural plant extracts, which are available not only to the toothpaste coming from abroad. Licorice tincture can be easily used instead of toothpaste because we added menthol along with licorice extract to its composition, which creates a clear and pure breath for the oral cavity. The extract also contains more than 20 substances that are not present in pastes. The aerodent capsule can easily clean teeth and their surfaces, which means that it also serves as a toothbrush.

REFERENCES

1. Raxmatova Dilnora Saidjonovna. Method of Improving the prevention of dental caries in children using the device Aerodent. Web of Scientist: International Scientific Research Journal 1 (01), 26-32.
2. Raxmatova Dilnora Saidjonovna. Modern concepts of the causes of development, prevention and principles of treatment of dental caries in children. European Journal of Molecular & Clinical Medicine 8 (1), ISSN 2515-8260 Volume 08, Issue 01, 2021, 1477-1482 p.
3. Rahmatova Dilnora Saidjonovna, Xojiyev Dilmurod Yaxshiyevich. Modern Concepts of the Causes of Development, Prevention and Principles of Treatment of Dental Caries in Children. American Journal of

Medicine and Medical Sciences. Discover this journal online at ISSN: 2165-901X Volume 10, Number 11, November 2020 y. 908-910 p DOI: 10.5923/j.ajmms.20201011.16

4. Raxmatova Dilnora Saidjonovna. Features of treatment of dental caries in children using medicine Aerodent. International Engineering Journal For Research & Development 5 (ISCCPCD), 4-4
5. Inoyatov A.Sh., Kamolova F.R., Rakhmatova D.S., Afakova M.Sh. Improving the prevention and treatment of dental caries in children. Тиббиётда янги кун 3 (27) 2019 г 18-20 стр.
6. Рахматова Д.С. Особенности лечения травматических повреждений у детей с использованием лекарственного средства Аэродент. «Қазақстан Республикасы Және Серіктес Елдердің Жоо-Ларында. 1 (89) 2020ж. Вестник 3-7 стр.
7. D S. Rakhmatova The significance of preventive examination of dental diseases in school-age children. Collection of articles International scientific and practical Conference." Topical issues of dentistry. DS Rakhmatova,
8. Рахматова Д.С. Методы использования зубной чистящей капсулы Аэродент при лечения кариеса и стоматитов. Теоритические и практические аспекты современной медицины Сборник статей по материалам 3-4 Международной научно практической конференции № 1 (3) Январь Новосибирск 2019г. 1-8стр.
9. Иноятов.А.Ш. Рахматова Д.С. Совершенствование профилактики и лечения кариеса зубов у детей. Тиббиётда янги кун 3(27) 2019 й. 99 б.
10. Rahmatova D. S. Invention of a New Means "Aerodent" for the Primary Prevention of Dental Caries in Children. MIDDLE EUROPEAN SCIENTIFIC BULLETIN. Volume 13, June 2021 DOI: <https://doi.org/10.47494/mesb.2021.13> Published: Jun 21, 2021. 11
11. Rahmatova D. S. Modern Prevention and Effective Treatment of Dental Caries in Children. Central Asian Journal of Medical and Naturel sciences DOI: <https://doi.org/10.47494/mesb.2021.13> 345-349 p.
12. Байкова О.И., Константинова Д.И., изучение содержания фтора в чае методом прямой потенциометрии в связи с профилактикой кариеса и флюороза /В сборнике: Актуальные проблемы биологической и химической экологии Сборник материалов VI Международной научно-практической конференции. Ответственный редактор Д.Б. Петренко. 2019. С. 251-254.
13. Кургузов А.О. Значение комплаентности в профилактике кариеса у ортодонтических пациентов актуальные проблемы экспериментальной и клинической медицины - / Материалы 76-й международной научно-практической конференции молодых ученых и студентов. Волгоград, 2018. С. 229.
14. Imomjonovich I. I., Amirkulovna A. G. Current immunological problems in kidney transplantation //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 2. – №. 09. – С. 24-28.
15. *Кравчук И.В.* Метод Глубокого Фторирования В Профилактике Кариеса Зубов В сборнике: БГМУ: 90 лет в авангарде медицинской науки и практики Сборник научных трудов. Под редакцией А.В. Сикорского, О.К. Кулаги. Минск, 2014. С. 134-137.