THE DIAGNOSIS AND COMPREHENSIVE TREATMENT OF DEEP CARIES

Usmonov F. B, Xabibova N. N
Bukhara State Medical Institute

Relevance. The main objective of laser Doppler flowmetry is to isolate the rhythmic components of hemodynamic flows in tissues, and the use of this research method in clinical practice allows to assess in detail the state of microcirculation in the area of the pathological focus and to obtain the most complete information about violations of the regulatory mechanisms of blood flow, which are subject to correction. This method makes it possible to determine the state of functioning of blood flow control mechanisms, as it has a high sensitivity to microhemodynamic changes.

In the current period of time, an important task is the problem of dental caries treatment. Most often, dentists use medical cushioning materials for the treatment of dental caries. They mainly consist of calcium hydroxide and plastic pastes containing eugenol. All these materials have both positive and negative properties.

Kalmecin paste effectively stimulates the production of replacement dentin in chronically occurring forms of dentin caries. However, this paste has a high pH of 11, and can cause alkaline necrosis of the tooth pulp, in addition, it has practically no antiseptic effect.

Zinc-eugenol paste is used in the same way as a therapeutic pad. It has antibacterial and odontotropic properties, but zinc-eugenol paste hardens for a long time, which increases the number of visits to the doctor, in addition, it is difficult to access because it contains clove oil. In our opinion, the use of calcium oxides (rutdent) is promisingin diseases of the oral cavity. Brown algae stimulate the metabolic process, have anti-inflammatory, detoxifying, antibacterial and other properties. One of such means is the domestic drug "Lamifaren", which is rich in natural calcium, in such a "natural" form, calcium is absorbed best.

Also, the light of low-intensity laser radiation, which is used in the treatment of caries, periodontal diseases and oral mucosa, has a beneficial effect on the hard tissues of the teeth. It has an anti-inflammatory, analgesic effect, improves microcirculation, normalizes metabolic processes, increases the oxygen level in tissues, accelerates the regeneration of soft and bone tissues, stimulates immunological protection systems.

For thousands of years, brown seaweed has been used to treat many diseases. Seaweed contains a rich selection of biologically active substances: polyunsaturated omega-3 fatty acids, chlorophyll derivatives, polysaccharides, sterols, vitamins, carotenoids, macro- and microelements and other compounds. Biologically active substances from seaweed have antitumor, oncoprophylactic, antimutagenic, radioprotective, hypolipidemic, hypotensive, anticoagulant, antimicrobial, antiviral, antibacterial, antifungal, anti-inflammatory, immunomodulatory and other beneficial properties.

Khaibullina R.R., Gilmutdinova L.T., Gerasimova L.P. (2016) used Lamifaren gel for rehabilitation of patients with chronic generalized periodontitis of moderate severity.

However, the possibility of using Lamifaren gel in dentistry for the treatment of dental caries has not been investigated. Therefore, it is relevant to study the effectiveness of the treatment of this disease with the drug "Lamifaren".

One of the modern domestic effective devices is the semiconductor pulsed laser device "Optodan".

The use of the method of deep fluoridation of dentin with the use of laser therapy gives positive results in the treatment of deep caries, due to the active mineralization of the hard tissues of the tooth. The essence of the method is very simple and there is no need to use an insulating lining. Dentin-sealing liquid allows the formation of adhesion between the tooth tissue and the adhesive system. Laser radiation promotes the stimulation of crystal formation of dentin-sealing fluid and eliminates hyperemia of the tooth pulp.

This method deserves the attention of practicing dentists, as it is an effective method of treating patients with deep dental caries.

Dental caries is the most common disease among the population of our planet. Despite the achievements of modern dentistry, the problem of prevention and treatment of dental caries remains an urgent problem. The most common complication of dentin caries is pulpitis and periodontitis. Maintaining the viability of the pulp is necessary, since the pulp creates nutrition and supports the normal functioning of all tooth tissues. For this purpose, therapeutic pads are used, which normalize the structure and function of the pulp during its inflammation. According to A.K. Biragova (2011) the effectiveness of the use of traditional methods of treatment of dental caries with the use of therapeutic pads is 62.5-75.4%. Thus, timely diagnosis of dentin caries and the search for therapeutic materials that will be able to restore the functions of the pulp as much as possible is an urgent task within the framework of improving the effectiveness of treatment of dentin caries. Currently, physical factors can be actively used in the treatment of dental caries (Mironova V.V. et al., 2014). Many physical factors have pronounced anti-inflammatory and vasoprotective effects that contribute to improving microcirculation and metabolic processes in periodontal tissues. Such factors include low-intensity laser radiation, which also causes an increase in the reserve and adaptive capabilities of the body.

According to Sorokin A.P. (2013), the use of modern digital X-ray equipment and new laser radiation technologies in the treatment makes it possible for dentists to receive complete information about the nature of the pathological process and objectively evaluate the results of the therapy.

The aim of our study was to increase the effectiveness of the diagnosis and comprehensive treatment of dental caries with the use of calcium oxides (rutdent) and low-intensity laser radiation in young people.

To achieve the goal we set, the following tasks were solved in the work: to conduct a comprehensive dental examination of patients with dentine caries using clinical, electrodontometric, X-ray methods; using radiovisiography to determine and propose parameters of the relative optical density of dentine of intact teeth and teeth affected by caries; to determine microcirculation indicators in the pulp of intact teeth and teeth affected by dentine caries, according to laser Doppler flowmetry; to develop and substantiate an algorithm for the diagnosis and complex treatment of dentin caries; to conduct a comparative analysis of the effectiveness of complex treatment of dentin caries using a preparation of calcium oxides (rutdent) and low-frequency laser radiation.

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