

THE ISSUE OF A METHOD OF STIMULATING OSTEOINTEGRATION OF DENTAL IMPLANTS.

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Actual problem dentistry is reducing the number of complications after implantation of teeth. Development of new methods of surgery, the use of different ways to stimulate osseointegration, the creation of new implant systems will contribute to shorten the rehabilitation of dental patients improve their quality of life.

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Despite the general availability and high performance of dental implantation, dental actual problem is reducing the number of complications and shortening dental rehabilitation of patients. Long time treatment, and related aesthetic and functional defects are sometimes causes of failure of the orthopedic implant restorations [1,9].

To address the problem, a clear understanding of the pathophysiology of the processes taking place around the dental implant after it is installed, as well as the body's reaction to the implant itself as a foreign body. [12]

In order to ensure a firm connection of the implant surface with the growing bone tissue, affecting the final result - a full osseointegration, there are many studies of micro- and macrostructure of the surface of the dental implant, including the bioactive properties [2,3]. In order to accelerate the process used as additional methods of stimulation, as well as various methods of preparation of the bone bed or surface of the dental implant

A number of authors have conducted studies on the effects of various biological, physical and chemical factors on the osseointegration process at the cellular level [4, 6, 9]. Since saturation of the surface of porous implants platelet-rich blood plasma influence effectively on the process of reparative regeneration of bone tissue [8]. The positive effect of the quasi-static electric field and the TES-therapy on osseointegration in experimental and clinical [7, 9, 10].

There are many studies of micro- and macrostructure of the surface of the dental implant, proving the dependence of qualitative and quantitative indicators of the osseointegration of the

implant surface topography characteristics and its chemical composition [2, 3, 4, 6, 10]. The parameters that can influence the osseointegration process are hydrophilic and surface roughness.

All this is pushing manufacturers of dental implants to search for new technologies of processing the surface of the implants. This company and its surface Straumann SLA and SLA the Active, the surface TiOblast and OsseoSpeed Astra Tech Company, the surface SA and CA - Osstem Implant [2, 5]. So now «Osstem Implant» (South Korea) are treated dental implant surface with a solution containing calcium ions, as well as storage of the implant in such a solution prior to insertion in the mouth. Manufacturers claim that calcium ions enhance the hydrophilic implant surface and affect the activation energy, prevent the deposition of carbon ions on the surface of the implant, which affects the adhesion of blood protein. Calcium ions also actively influence the velocity of blood proteins, clot formation, which promotes the growth of differentiated bone marrow - bone formation. Such statements are a confirmation of earlier research, identify and proved the physiological activity of the ionized form of calcium [2].

Thus, the problem of finding the optimal implant technology is relevant to the present and includes not only the development of new surgical techniques, the use of new ways to stimulate osseointegration, but also the creation, comprehensive evaluation of the effectiveness of new implant systems, including new methods for the modification of their surface. There is no doubt that the new developments in this area will contribute to shorten the rehabilitation of dental patients improve their quality of life.

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