Література

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USAGE OF "CERERA" (CERII DIOXIDE NANOPARTICLES 2-7 NM) IN SECONDARY PROPHYLAXIS OF PERIODONTAL DISEASES AMONG YOUNG INDIVIDUALS WITH OVERWEIGHT AND OBESITY

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Gingivitis occurs in half the population by the age of 4 or 5 years and the incidence continues to increase with age. The prevalence of gingivitis peaks at close to 100% at puberty, however after puberty it declines slightly and stay constant into adulthood. Many studies confirm a link between obesity, metabolic status and there effects on periodontal tissues. Presence of systemic mild inflammation in obese individuals caused by adipocytokines secretion into bloodstream by visceral and peripheral adipocytes. Compared with individuals with normal body mass in obese patients the course of periodontal diseases is more severe that characterize with more affected sites, high intensity of inflammation in periodontal tissues. Thus, oral status of such patients is compromised. Such patients need etiological and pathogenetic-based prophylaxis on local and systemic levels in order prevent further evolution of gingivitis into periodontitis that characterized with irreversible clinical attachment and bone loss.

First time ever we carried out an clinical trial of "Cerera" and explored a "Cerera`s" influence on oral status of obese patients

with periodontal diseases.

The purpose of the study is to explore a systemic influence of "Cerera" as a powerful antioxidant on oral status and some biomarkers in oral liquid of obese adults with generalized catarrhal gingivitis.

The study was carried out on 102 students of both genders (18-21 years old). Students who were involved into the study were informed about using of their personal information in the material of the research and signed a written agreement for further examination and further treatment. Complex clinical examination and oral indexes assessment were noted in the specially designed medical examination cart. Body mass index (BMI) was calculated and due to their value, patients were divided into four groups. To the 1st group belong patients with normal weight (BMI – 18.5-24.99 kg/cm^2); 2) patients with overweight (BMI – 25.0-29.99 kg/cm^2); 3) patients with the 1st degree obesity (BMI – 30.0-34.99 kg/cm^2); 4) patients with the 2nd degree obesity (BMI – 35.0-39.99 kg/cm^2). Oral status was determined by Green-Vermillion index (OHI), PMA index by Parma (PMA), Approximal Plaque-Index by Lange (API), Papilla bleeding index by Saxer and Muhlemann (PBI). In the oral liquid total activity of catalase was detected.

All individuals with generalized catarrhal gingivitis were divided into two groups. The first one called the control group (does not receive any medication). The second one consists of the patients which were treated with «Cerera» (the active substance is nanoparticles of cerium dioxide 2-7 nm in concentration of 140 mcg/ml that were stabilize with sodium citrate) per os for 10 drops every day in the morning diluted in 50 ml of water for 10 days.

There was a significant correlation between severity of gingivitis and BMI values. Thus, in patients with BMI < 30.0 PMA = 6.8±0.74, PBI = 10.7±1.34 compared with patients with BMI > 30.0 where PMI index was 3.2 times higher and PBI 4 times higher significantly. Activity of catalase in the oral liquid in obese individuals was 1.5 times lower compared with patients with normal weight.

After the 10th day administration of "Cerera" in obese individuals activity of catalase in the oral liquid were similar to patients without obesity as well as the values of indexes that characterized gingival inflammation clinically.

To sum up, "Cerera" can be recommended as a highly effective antioxidant in the complex approach of periodontal diseases treatment.