Journal of Oral Medicine and Surgery

Raman-Fluorescent medical technologies in dentistry and their clinical significance

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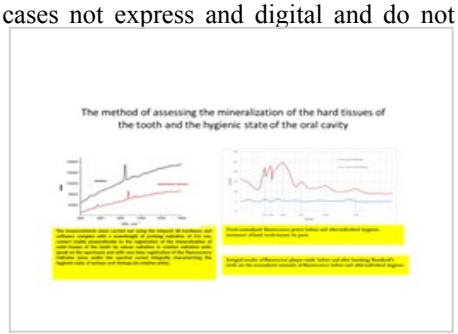
Abstract

Existing bacteriological, laboratory and instrumental methods of diagnosing diseases and processes of microbial and other nature of the CLO (tooth decay and its complications, mineralization of solid tissues of the tooth and bones of the facial skeleton, hygienic state of the oral cavity in normal and in pathology, choice and evaluation of means of hygienic oralcare, identification and screening of neoplastic procedures) are largely subjective in most cases not express and digital and do not meet WHO requirements, thereby reducing the objectivity and quality of medical and preventive dental care for the population. The purpose of the study is to use Raman-fluorescent methods to justify the range of their clinical use in dentistry.



Methodology and concept of the study: Methodological work included clinical methods (diagnosis of tooth decay and its complications, methods of displaying and removal of mineralized tooth deposits, endodontic methods, methods of assessing the hygienic state of the oral cavity in normal and in the CNO stages of radiation therapy). Raman-fluorescent methods for express digit oevoy diagnostics, systematization and analysis on a scale of real-time on the principle of feedback of these clinical observations. Statistical methods and a system of interviewing doctors for comparative evaluation of clinical data and developed optical technologies. Conceptual about the solution of these problematic issues dentistry conducted on the basis of the use of Raman-fluorescent methods combination scattering, photo-induced luminescence, etc. – together are the & quot; fingerprint & quot; of the object studied (tissue, microorganisms, biological fluids and registr through optical transformation).

Conclusion: Developed methods of raman-fluorescent diagnosis are express, digital (objective) and in fact it is a diagnosis as an indication and control of the condition of teeth, their mineralizations and assessment of the hygienic state of the mouth in normal and pathology.

Biography

M T Alexandrov, professor of dentistry have 50 years of experience in experimental and clinical work in the development of methods and equipment for the diagnosis, prevention and treatment of diseases and processes of microbial and neoplastic nature, mainly in dentistry, CHLH, as well as in general and pediatric surgery, clinical microbiology, pediatrics, functional diagnostics, physical and technical sciences (medical instrumentation). Author of more than 250 scientific papers,10 monographs,52 patents and inventions (methods and devices by spectral Clinical methods and equipment for rapid diagnosis and treatment of diseases and processes of microbial and tumor nature in dentistry, CH and individual fields of medicine).

Publications

The use of laser fluorescence to assess the hygiene of the oral cavity.

Raman-fluorescence characteristics of various anatomical and topographic areas of teeth of various functional groups.

Application of raman-fluorescent technology to assess the effectiveness of remineralization of hard tooth tissues.

Research of Influence of Salivary and Oral Cleaning Hygiene on Indicators of Mineralization of Hard Tooth Tissues of Different Functional Groups.

Salivation features depending of gender identiti of patientis

28th Global Summit Expo on Dental Science and Oral Hygiene
London, UK | June 08-09, 2020

Citation: M T Alexandrov and Essor Pashkov, *Raman-Fluorescent medical technologies in dentistry and their clinical significance*, Dental Science 2020, 28th Global Summit Expo on Dental Science and Oral Hygiene, London, UK, June 08-09, 2020, pp. 3