Thermal imaging diagnostics of blistering disease of cheeks and lips caused by the braces; new method and apparatus for prevention of this sudden illness

Aleksandr Urakov, A Reshetnikov, M Kopylov and R Gabdrakifov
Izhevsk State Medical Academy, Russia

It is found that the timely identification of areas of local hyperthermia has not been possible when using conventional technology for thermal imaging. Therefore, for early detection of incipient corn diseases of the lips and cheeks, we have developed a new technology infrared diagnostics of invisible to the eye local inflammation of the soft tissues. A new method for infrared diagnostics of incipient corn disease from braces based on the provisional short-term local cooling the surface of the oral cavity. Our results showed that the preliminary cooling of the surface of the lips and cheeks several degrees Celsius enhances thermocontractable between healthy and inflamed tissue in damage areas and improves the accuracy of diagnosis of the disease. The obtained results allow to recommend infrared thermography is carried out with a thermal imaging camera to improve the quality of dental care to patients with braces installation, timely detection of early symptoms of the local inflammation of the soft tissues and prevent the development of blisters and sores, i.e. the development of iatrogenic disease that we call corn disease from braces. In addition, the camera allows you to shoot a film about the dynamics of change in temperature in the selected portion of the surface of the oral cavity, which in turn, the machinery can be backed up via flash memory and can be used by dentists as an additional instrument of quality provided to the patient dental care. We invented a new method and device. Their use increases the security of your braces.

Biography

Aleksandr Urakov completed his dissertation at Institute of Biophysics RAS (Pushchino-na-Oka) and defended his thesis at Kazan Medical University. He is the Head of Chair and Professor at Izhevsk State Medical Academy. He has published more than 200 papers in reputed journals and is the Author and Co-author of 190 inventions. He is a pioneer of Temperature Pharmacology, Physical-Chemical Pharmacology, and Physical and Chemical Materials Science. He was a Supervisor of 36 physicians and biologists who successfully defended her PhD thesis.

urakoval@live.ru