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Spectral fluorescence study of exogenous fluorescence of tooth tissues after intracanal injection of chlorine photosensitizer

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Abstract

In the present, high technology methods of treatment used in dentistry. One of these methods is antimicrobial photodynamic therapy, which successfully used in treatment of periodontal diseases. In everyday dental practice chronic inflammation of periapical tissues are often, meet. Reason of these inflammations is infection in root canals and periapical tissues.

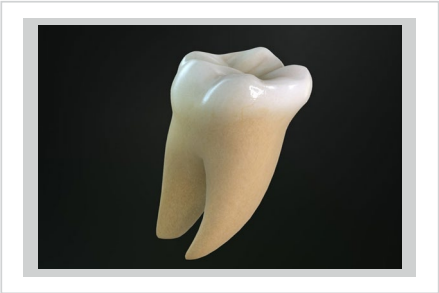
We need to study infiltration and spreading of photosensitizer in dentine channels to use photodynamic therapy in endodontic treatment. The aim of this paper was to study of the chlorine-based photosensitizer distribution in tooth tissues after its injection into a root canal.

The study was held on extracted single-root and multirooted teeth, with instrumentally prepared root canals. In each canal with the help of insulin syringe KD-JECT III 0,02 ml of photosensitizer was injected in the area of root canal orifice and middle. Measurements were taken after 1, 5 and 10 minutes after photosensitizer injection and were in three different points of external surface of root.

The photosensitizer distribution was studied by the method of local fluorescence spectroscopy. After the injection of the photosentitizer into a root canal, the tissue fluorescence under 408 nm laser excitation was measured at three control points of the root surface. The results shown the fast penetration of the photosensitizer along the tooth microchannels and its' preferable uptake in the inflammation areas.

Biography

Igor A. Shugailov M.D., is a Professor of dentistry department at FBGSI Medical Academy of Continuing Professional Education Ministry of Health Russian Federation.



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