

Influence of wavelength of light on antimycotic activity of chlorine-containing photodynamic drugs

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Event: XI Symposium on Optics and Biophotonics

Conferences: Laser Physics and Photonics XXV

Abstract

Chlorine-containing drugs is a part of photodynamic therapy which is one of the perspective methods of laser therapy like Low Level Laser Therapy (LLLT) and so on. Photodynamic therapy in the context of the treatment of mycoses will be discussed. In many cases, mycosis is associated with the fungus *Candida Albicans*. In the treatment of mycosis can be used chlorine-containing drugs “Chloderm” or “Chloderm with hyaluronic acid” (Russia). For effective photodynamic treatment very important that radiation effectively change the drug, that is its wavelength should strongly absorb by drugs. Radiation with wavelengths of 405nm, 450nm and 660nm effectively absorb by the chlorine-containing drugs and for this reason can be used for effective photodynamic treatment of mycosis. The type of photodynamic treatment can be divided on to resonant (405nm, 660nm) than light wavelength coincides with absorption peak of photosensitizer and on to non-resonant (450nm) when light strongly absorbed by photosensitizer but not coincide with peak of it absorbance. It has been observed that application “Chloderm” and “Chloderm with hyaluronic acid” without photodynamic treatment do not influence on CFU/mm² of *Candida Albicans* and antimycotic activity (PMI index) of these drugs. It has been experimentally shown that PMI index of these drugs is more after resonant photodynamic treatment than after non-resonant photodynamic treatment.