



Low Level Laser Therapy & pleurisy pneumonia clinical research

The biostimulatory effect of red laser irradiation on pig blood platelet function.

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The molecular mechanisms of laser-induced changes in the cell structure and function are not well known. The authors examined the effects of low-power laser irradiation on unucleated pig blood platelets. The obtained results showed that laser irradiation (1-5 J) caused in blood platelets lipid peroxidation (measured as thiobarbituric acid reactive substances) and superoxide anion generation, concomitant with the release of adenine nucleotides and proteins from platelets. The maximum platelet response to laser irradiation was observed when doses of 1.8-2 J were used. Our results indicate that red laser irradiation induces: (1) platelet secretory process and the release of substances stored in the specific granules (adenine nucleotides, proteins); and (2) lipid peroxidation partly due to stimulation of endogenous arachidonate and production of its metabolites reacting with thiobarbituric acid.

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