

Literature

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Abstract

BACKGROUND AND RATIONALE

The stimulation of oxygen radical production by normal white blood cells either isolated or in the presence of other blood components (whole blood) is assumed as additional activation of the immune defense against bacterial and viral infections. The process of free radical release from the blood leukocytes is tightly interconnected with the increase of Ca⁺⁺ transport into cells. The weak electro-magnetic field seems to activate Ca-transport in various types of cells. The purpose of this in-vitro intervention was to investigate the effects of DEEP OSCILLATION® on different immune defense parameters in human and animal blood.

MATERIAL AND METHODS

Human or animal whole blood or isolated blood cells were placed into plastic tubes and exposed to the DEEP OSCILLATION® field for a certain period of time, after which the different measurements were performed.

RESULTS

The exposure of whole blood activated by the protein kinase C activator PMA to the DEEP OSCILLATION® led to significant increase (40-45%) of oxygen radical production. When stimulated with the calcium channel opener (Ca-ionophore A23187), the whole blood leukocytes produced a short spike of luminol-dependent chemiluminescence, which was slightly inhibited by the exposure to DEEP OSCILLATION®. The incubation of platelets under exposure to a weak electrical field did not affect either platelet degranulation or aggregation. Therefore it did not have any effect on the major platelet functions.

CONCLUSION

DEEP OSCILLATION® acts as an immunostimulator enhancing the body capacity to fight exogenous infections and, probably, to diminish the risk of tumor development. It could be considered as having an anti-inflammatory action. Furthermore it would not increase the risk of thrombosis in the individuals.