

ABSTRACT

Method of, and Apparatus for, Optimization of Vegetative Functions of Human Organism

The present invention relates in general to the art of biology, physiology of man and animals, and medicine. More particularly, it is concerned with methods of optimization of man's functional condition through non-medicinal, noninvasive exposure of the human body to a flow of non-ionizing electromagnetic radiation.

The invention enhances the curative efficiency of exposure of biologically active zones of human body to an electromagnetic field of a centimetric wave band through exposing each target zone:

- at frequencies which are predetermined for each target zone individually or for a group of zones that are equivalent in terms of linear dimensions;
- with a constant mean density of energy flow throughout a session;
- with amplitude modulation by a signal changing quasi-randomly over a 20 Hz to 50 kHz range,
- with circular polarization of radiation;
- as well as through ruling out electromagnetic exposure of those tissues which are not intended to be target areas.

The method is embodied in the apparatus suggested in this invention and comprising a series-connected set of a microwave oscillator, a modulator in the form of a quasi-random signal generator, an antenna in the form of a planar co-phasal array that radiates waves square to its surface, and a control unit connected to each of the above units. The planar antenna, made with the help of stripline technology, assures circular polarization of the field, the sense of rotation of the field being set randomly. The apparatus is additionally provided with a fixed-thickness dielectric pad of a material which is transparent to fields of the operating frequency range and can be arranged between the antenna and the target zone. The pad can be made of a natural material, such as cotton or animal wool, which is transparent to centimetric-band electromagnetic fields.

The disclosed method of therapeutic application of non-thermal centimetric-band electromagnetic fields was tested to optimize functions of human respiratory system when adversely affected by asthmatic symptoms and other morbid factors,

such as allergic responses, consequences of infectious diseases of bronchi and upper respiratory tract, and the like.

According to findings of objective instrument-aided tests, application of the disclosed device contributes to nearly twice as fast disappearance of dry rales and a general improvement of patency of airways. The latter convalescence, noticeably better than the one attainable with medicinal therapy alone, is reliably established by instrumental monitoring of the respiratory function. On the whole, therapeutic procedures using the disclosed apparatus cut the treatment time more than twice, compared to those recorded in long-term observations. For instance, while conventional treatment of bronchial asthma cuts exacerbations short within seven to ten days, application of the disclosed apparatus results in a remission on a third or fourth day from the start of treatment.

5 Claims, 7 Figures.