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Increased Therapeutic Effectiveness of the Pulsed Electromagnetic Field in Simulated Weightlessness according to Dr. Kanev's Method in Ankylosing Spondylitis (Bechterew's Disease)

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Introduction

I have been professionally involved in electromagnetic therapy since 1983. Despite my efforts, the healing results were not satisfactory in my opinion. The same results are approved and considered sufficiently successful by my colleagues around the world [1-3].

Dissatisfaction with the achieved results forced me to seek higher treatment effectiveness beyond the generally accepted methods. The generally accepted methods are: 1-improving the characteristics of the generated electromagnetic field (the so called Electromagnetic Preformed Factor – EMPF); 2-combining this field with other established physical, physiotherapeutic factors (such as ultrasound, laser treatment, etc.) and 3- combining the electromagnetic field with common drugs available in pharmacies.

That is why I created my own technological method for body-educational, homeostasis-based healing and my unique equipment that implements my treatment.

In my research, I have definitively established that the combinations of weightlessness (the so called microgravity) and artificial gravity simulators with the application of the electromagnetic field according to my method achieve a substantial, significant, positive result in injuries and diseases of the spine – degenerative and inflammatory, and is most demonstrative in Ankylosing Spondylitis (Bechterew's Disease).

I have created many versions of weightlessness and gravity simulators modeled after an upside-down bed – Bed Rest Head Down. I called them physiotherapeutic electromagnetic weightlessness and gravity simulators. In my version of the simulator, the head-down position of the body smoothly changes to a head-up position. (Figure1).

The technology and method determine above all the construction and the main constituent, modular components of the ground microgravity simulator. The construction of the ground microgravity simulator based on the "Head Down Bed Rest" model, is combined with physiotherapeutic, electromagnetic inductors, manufactured according to the requirements of Dr. Kanev's technology and method. The technology represents a simultaneous and synchronous impact of electromagnetic fields of inductors and the microgravity simulator on the human body. The patient is in a lying position and upside down.

Definition and essence of Dr. Kanev's method of body-training, homeostasis-based healing "Lectionem Homeostasis Human Corpore":

Dr. Kanev's method of body-training, homeostasis-based healing is developed on the basis of the following biological concept – the improvement of current homeostasis is the reason for the body's transition to new modes of work and life activity. As a result, the body correspondingly and symmetrically changes and develops its structures and functions. Dr. Kanev's method and technology are described in detail in the article "Scope of Dr. Kanev's Magnetic Treatment Method for Body-Educational Healing: Application of the Method to Treat Benign Hypertrophy of the Prostate Gland using

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Figure 1: From Dr. Kanev's photo archive: Medium-size physiotherapy electromagnetic weightlessness and gravity simulator 03, developed and manufactured by "Synergetic Intellectual Systems – SIS – Kanevi and Co" Company.

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Physiotherapy Weightlessness and Gravity Simulator".

The method consists of medical changes to the current limits of the general and local homeostasis in the damaged or extremely physiologically changed human body. These medical changes are controlled, systematically cyclical, both normal and abnormal. These medical changes are achieved through the physiotherapeutic electromagnetic weightlessness and gravity simulator according to Dr. Kanev's method.

The goals and objectives of the use of medically induced homeostasis changes are training of the problematic body. Simultaneously with the described medical changes, at the levels and regions of homeostasis that are significant for the problematics of the body, homeostasis-based training of certain structural and functional formations and systems of this body is carried out. These are those tissues, organs and systems of the body that are under the direct regulation of the respective homeostasis mechanisms. In short, the sequence of related phenomena described in this way represents a transition from externally applied healing training into the natural general biological self-learning and self-healing of the organism [4. 5].

Main driving reasons for the conceptual and practical development of Dr. Kanev's method are

1 - the use of the different gravity levels (gravitational preformed factor - GPF) in the body of the human organism depending on its position in space and 2 – the use of the electromagnetic preformed physical factor. The main driving reasons are also components of the physical impact of the method. The main driving reasons in the method correspond to the main technological technical modules in the construction of the physiotherapeutic electromagnetic weightlessness and gravity simulator [6, 7].

The technology of Dr. Kanev's method is highly effective in injuries and diseases of the spine – degenerative and inflammatory, and is most demonstrative in Ankylosing Spondylitis (Bechterew's Disease).

First technological technical module of the physiotherapeutic electromagnetic weightlessness and gravity simulator. Dr. Kanev's method uses the dependence of the blood circulation, lymph flow, intercellular and tissue fluids on the position of the body of the human organism in the gravitational field of the space (i.e. the manifestations of antigravity homeostasis, which is a constituent element of the overall homeostasis of the organism). Therefore, the method requires determining the patient's body positioning in advance as well as maintaining or changing it in a directed and controlled manner. The relative positioning of the organs and parts of the body must also be determined in advance and controlled subsequently. For these purposes of his method, Dr. Kanev created (as stated above) an original and unique Physiotherapeutic Electromagnetic Positional Weightlessness and Gravity Simulator. The bed mechanism for placing the patient's body is the first basic technical module in the specialized design of the physiotherapeutic simulator and is intended to mechanically achieve and provide dynamic and intermittent positioning of the patient's body, place purposefully defined, topological areas of the patient's organs and systems in space, as well as the mutual positioning of the movable body parts and organs relative to the body contour of the same patient. Thanks to the automated bed technical module, different variants of successive cyclical sequences of intermittent positions of the patient's body with different durations of time required by the method are conducted. In general, the sequence of positional placements of the patient's body includes: end position 1- a state of antiorthostatic position (from a maximum inclination of - 45 degrees of the bed plane of the bed module relative to the initial horizontal plane of the simulator, with the patient lying head down and legs up (in the world medical literature, this state is known as "Head-Down Bed Rest – HDBR", usually with a slope of -6 to -30 degrees"); equilibrium position 2 – passes through a state of **transient horizontal position** of the patient in the horizontal plane of the simulator, coinciding with 0 degrees of the horizontal bed plane of the bed module; and end position 3 follows – a state of **orthostatic position** (up to a maximum reverse inclination of +45 degrees of the bed plane of the bed module relative to the horizontal plane of the stimulator - the patient lies with his head up and the legs down) [8, 9].

The method of the body-educational treatment and healing requires the above-described dynamics of the mechanical operation of the bed module of the physiotherapeutic weightlessness and gravity simulator by providing selected and controlled positions of the patient and the transitions between them. That is, these are versions of intermediate positions of the bed modules with a patient on them from the above-described three-phase general sequence of positions of the patient's body - from a maximum inclination of the body of -45 degrees, through the horizontal transition from 0 degrees, up to a reverse maximum inclination of +45 degrees.

The bed mechanism module of the physiotherapeutic simulator performs automatic, mechanized movements to create and maintain an unlimited number and degrees of inclination of its working patient bed platform. Its initial position is always horizontal in relation to the overall structure of the simulator. The bed module can make a single slope corresponding to a certain position of the patient's body or create suitable patient positions for certain periods of time. Thus, the bed module can go into oscillating (rocking) cyclic modes with preset amplitudes. Cycles can be single or repetitive, cycles of the same type of amplitudes or combinations of types, and provide selected pauses between the cyclic modes [10, 11].

In the exemplary case, chosen here, the initial position of the body of the patient with injuries or diseases of the spine is horizontal, he is lying on a horizontal plane on his stomach or on his back (if he is unable to lie on his stomach) with his limbs retracted to and along his body.

Chronologically and periodically arranged cyclical intermittent sequences of the indicated specific positionings of the patient's body are carried out and the medical and physiotherapeutic measurements are taken simultaneously and in parallel.

At the same time, in parallel with the positionings of the patient's body, certain medical, securing, logistical procedures are directed and carried out in the area of the patient's pelvis, abdomen and lower limbs.

During the implementation of this specialized positioning mechanical typified complex through the bed mechanized module of the physiotherapeutic simulator, the processed manipulated sick organism responds with numerous, expected from the treatment method, physiological changes, including primarily in its homeostasis [12, 13].

Second technological technical module of the physiotherapeutic electromagnetic weightlessness and gravity simulator

This module is a system of generators of pulsed electromagnetic field (PEMF) applied to precisely defined, topo-anatomical areas of the pathological damage. Chronologically and periodically arranged sets of cyclically repeating electromagnetic external influences are conducted.

The procedures with the electromagnetic inductors performed by the tutor are the following: arrangement and attachment of electromagnetic inductors around the diseased area and the adjacent healthy tissues. The electromagnetic inductors are the impacting tips (cases) on the human body, specially manufactured according to the requirements of Dr. Kanev's method.

The end actively operating modular elements (end tip technical cases) are placed directly next to and around the sick human body and are ergonomic electromagnetic inductors manufactured for the specific purpose. They can be different in number and have different sizes and specific technical characteristics. These end impacting electromagnetic cases can be different in mechanical appearance and have different mechanical fastening around the body of the sick person, i.e. they can have their own supporting mechanical constructions of different types and purposes, allowing their distribution in the space around the body of the sick person and their permanent fixation in certain topological anatomical places where they are needed

Results and Prospects

I conclude this short, commentary article with a description of my observations and results of clinically significant, increased therapeutic effectiveness of the pulsed electromagnetic field in simulated weightlessness according to Dr. Kanev's method achieved in 17 patients with ankylosing spondylitis (Bechterew's Disease). The patients started the treatment on their own initiative, and therefore we treated them at different times. So, they were not selected by gender, age, stage of the disease, and comorbidities – i.e., they were not organized into a research group.

The reason for writing this article is the powerful, positive, demonstrative, clinical result achieved in the last (by treatment start dates) four patients, men between the ages of 20 and 30 years. They began treatment with acute initial symptoms of Bechterew's disease - that is, during the first stage of the disease's development. All four men were treated twice a day, with the procedure lasting 45 minutes, for 30 days. During this time, the patients did not undergo any other type of treatment. All patients had improvement of clinical symptoms as a result of the 30-day treatment and entered remission with the possibility of a fullfilling lifestyle and quality of life.

As the main criterion for the effectiveness of treatment, I chose the duration and quality of remission. The first patient (according to the indicated start date of treatment) has a remission duration of 15 years and is still in remission at the time of article submission.

His quality of life has not changed over the past period. During the first 5 years, once a year, on my recommendation, the patient underwent a secondary, prophylactic, 14-day course of procedures using the physiotherapeutic electromagnetic weightlessness and gravity simulator.

We are actively following the remaining three patients – they are also in unchanged remission, and the last of them still undergoes preventive procedures once a year.

Conclusion

Patients' tolerance to the procedures induced by the antiorthostatic position of the bed module in the physiotherapeutic simulator increased during each subsequent procedure. This was also achieved probably because of the achievement of remarkable positive clinical results by the patients themselves.

Competing Interests

The authors declare that they have no competing interests.

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