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RESEARCH ARTICLE

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Pulsed Magnetic Field Resonance Therapy and Rehabilitation of Long-COVID Syndrome

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ABSTRACT

The pulsating magnetic field resonance therapy as a general health prophylaxis has been known since the end of the 20th century. The epidemic of the coronavirus disease (COVID-19) gives this form of therapy new meaning, since it can supplement and expand the concepts of physiotherapy as long-term therapy in rehabilitative measures, especially with regard to the long-COVID syndrome. The focus is on the influence on the oxygen exchange, the ergometric weakening of the sick and the cognitive disorders as well as the strengthening of the immune system.

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Introduction

The epidemic of the COVID-19 disease, with its dramatic global expansion and consequences, poses major challenges for medicine [2]. Although numerous symptoms could be recognized and partially clarified, basic knowledge is still far from clear. This makes therapy difficult and you have to resort to symptomatic measures. A particular problem is the long-term effects of the disease, which has now been recognized as a problem in its own right, the long COVID syndrome. Multiple symptoms such as heart damage with arrhythmias, dyspnea, muscle weakness, severe cognitive disorders and much more characterize the current state of pathology.

Discussion

A pulsating magnetic field is essential for life. All organic matter, plant and animal in nature, is evolutionarily dependent on it. It is therefore only logical that therapy devices were developed that work based on the earth's magnetic field in the form of the pulsating magnetic field resonance function. As early as the 1990s, R. Sandyk from the Institute for Biomedical Engineering and Rehabilitation of Touro College in Dix Hill, NY and TL Richards from the University of Washington in Seattle, USA, published numerous publications in the field of neurological rehabilitation. The technical development meanwhile makes it possible that differentiated magnetic field applications are possible and thus different organ functions can be treated in a differentiated manner.

The pulsating magnetic field resonance therapy is based on the interaction of physical forces with the molecules of organic structures. Due to the properties of paramagnetism and, more importantly, diamagnetism, energetic processes of matter are stabilized in the sense of influencing the resonance energy through electromagnetic fields [1]. The importance of magnetic energy in the context of chemical bonding justifies the approach of pulsating magnetic field resonance therapy. With all knowledge of biochemical processes with regard to subcellular and cellular processes as well as structures and their function, these are the basis of fundamental laws that have been researched in quantum mechanics and chemistry. This results in four directions to be emphasized with regard to the medical rehabilitation of disease states such as the long COVID syndrome:

- increase in oxygen supply,
- strengthening the immune system,
- Favoring ergotherapeutic measures,
- Influence on neural networks.

One has to assume that the regulatory protective effect of pulsating magnetic fields is based on the influence of molecular structures. In the regulation of physiological processes, there is a complex behavior of the vegetative system of the tissues, transmitted through free nerve endings and reflex arcs. If the body is in vibrational equilibrium, the external pulsating magnetic field supports the stability of the entire system of the complex working cybernetic organism. This is a result of the acquired evolutionary dependence on the earth's magnetic field. Disease-related disorders, such as those caused by the COVID-19 virus, can therefore throw the cybernetic system out of balance. It is therefore obvious that the application of the pulsating magnetic fields has a therapeutic effect as an amplifying protective factor.

The binding quality of the oxygen molecule on the hemoglobin changes due to the influence of pulsating magnetic fields. Oxygen is released more easily when transferred from the blood to the tissues. It is believed that about 15% of the transported oxygen is dissolved more. With each circulation of the blood, the body has an increased oxygen intake, which is beneficial for the stabilization of the metabolism.

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This improved blood circulation also benefits the immune system. Strengthening the immune system as part of the adrenocortical regulatory system increases its stability and resistance to external damaging effects, including viruses [3]. The prerequisite for this is the ability of the introduced magnetic fields to resonate, which, as shown above, corresponds to the ability acquired through evolution.

Ergotherapeutic measures are a broad field that can be adapted to the disease states to be treated. The therapy strategy for the training plan is compiled from ergometric treatments, such as muscular training, regulative, i.e. reflex training, psychological guidance and others. In the case of the long COVID syndrome, oxygen therapy and muscular training are particularly important. The properties and modes of action of the pulsating magnetic field resonance therapy mentioned offer advantages and support for this. In addition, one must also consider the developmen of modern magnetic field therapy devices, which enable a selective influence on certain groups of organs or functions.

Special attention must be paid to the cognitive disorders that are apparently observed in younger people and massively impair their quality of life. These observations, combined with the fatique syndrome, form a disease complex with fatal consequences for those affected [3]. The penetration of COVID-19 viruses into the nervous system, e.g. in connection with the immune system, is still a mystery [4]. There are indications that the COVID-19 virus causes disturbances in the hypocambus, which impedes the formation of new nerve cells through inflammatory reactions. Because myelin sheaths are predisposed to absorb electromagnetic waves due to their structure, peptide structures are capable of resonance; one has to assume that the application of the therapeutic magnetic field effect has proven itself in the long term due to the physical conditions on the nerve cells.

The pulsating magnetic field resonance therapy should not be regarded as acute therapy. The application of the magnetic fields lasts for hours. However, it is in its nature a long-term therapy that is only promising with regular and consistent use. The use in the rehabilitation periods and the outpatient follow-up times makes sense, just as the use of the pulsating magnetic field resonance therapy is a measure of health prophylaxis.

Conclusion

It can be stated that the pulsating magnetic field resonance therapy is a scientifically based procedure. The procedure, which is based on basic knowledge of quantum mechanics, underlines the usefulness of the method. The specific properties must be taken into account. It is a long-term treatment method and, in relation to the long COVID syndrome, not a sensible acute therapy. Use requires understanding and patience. Nevertheless, this aspect of therapy is recommended as part of the rehabilitation process for long COVID syndrome.

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