

Magnetic Therapy of Obesity

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Abstract

In my paper I describe the magnetic therapy of obesity, and I explain the physical processes underlying this therapy.

Obesity, Causes, Symptoms, possible Treatments

A general introduction to obesity is given in [1]. Many adults have overweight (obesity). Obesity is associated with a range of other diseases, including diabetes, cardiovascular disease, obstructive sleep apnea and even cancer.

Obesity is caused by an imbalance between energy input and energy requirement. There are also genetics predispositions. The weight gain may also be a secondary result of medical conditions (Cushing's disease and thyroid underactivity). The obesity is also related to inflammations [2]. Managing obesity may help to reduce the risk of cardiovascular diseases and poor outcomes via inhibiting inflammatory processes. There are treatments by medical drugs, which however can have unwanted bad side effects [3]. In references [4,5] a magnetic therapy of obesity is described, which is safe, easy to apply, and which does not have side effects. In the next section I describe the magnetic therapy, and I explain the physical processes underlying this therapy.

Magnetic Therapy of Obesity

The basis of the magnetic therapy of obesity is that this disease is related to inflammations [2] which can lead to other bad diseases accompanying the obesity. Inflammations can be cured by oxygen particles. Oxygen particles are in the human blood. When applying a time-oscillating external electromagnetic field, then an electromagnetic wave is generated in the tissue. An electromagnetic wave is described by

$$\mathbf{E} = \mathbf{E}_0 \cos(\omega t - \mathbf{k} \cdot \mathbf{r}) \quad (1)$$

$$\mathbf{B} = \mathbf{B}_0 \cos(\omega t - \mathbf{k} \cdot \mathbf{r}) \quad (2)$$

Where, \mathbf{E} is the electric part of the electromagnetic wave

\mathbf{B} is the magnetic part

With the magnetic induction,

$$\mathbf{B} = \mathbf{H} + 4\pi \mathbf{M} \quad (3)$$

With the magnetic field \mathbf{H} and the magnetization \mathbf{M}

The electromagnetic wave carries energy, and part of this energy is absorbed in the tissue, generating a certain amount of warming up the tissue. When the blood vessels are warmed up, then their diameters increase and the blood flow increases. As a result the oxygen particles in the blood which are required to heal the inflammations come more rapidly and more frequently to the sites of inflammations, and this helps to cure the inflammations.

Furthermore, in the blood are particles with charge q , mainly Ca^{2+} ions, and other ions with positive or negative charge, respectively.

The electromagnetic field exerts Lorentz forces \mathbf{F} ,

$$\mathbf{F} = q(\mathbf{E} + \mathbf{v} \times \mathbf{B}) \quad (4)$$

Here, \mathbf{v} is the velocity of the ions in the blood

\mathbf{x} in the second part of equation

$\mathbf{4}$ denotes the vector product

When the electromagnetic field is applied in a direction perpendicular to the blood flow, then the Lorentz forces accelerate the ions in directions perpendicular to the blood flow and give them additional energy. The ions hit the walls of the blood vessels. In each hit they transfer at least part of the energy to the blood vessels, and this gives again a certain amount of warming up the tissue. When the blood vessels are warmed up, then their diameters increase and the blood flow increases. As a result the oxygen particles in the blood which are required to heal the inflammations come more rapidly and more frequently to the sites of inflammations, and this helps to cure the inflammations.

I want to note that Lorentz forces do not appear only when applying time-oscillating electromagnetic fields [4,5], but also when applying external electric and/or magnetic fields.

Conclusion

In my paper I described causes, symptoms and possible treatments of the obesity. There are treatments by medical drugs, which – however – may have unwanted bad side effects. A new therapy is the magnetic therapy of obesity [4,5]. In my paper I described this therapy and I explained the physical processes underlying this therapy. I also stated that a magnetic therapy can be also used by applying static external electric and/or magnetic fields, which is best of my knowledge has not been suggested in former publications in the literature.

The magnetic therapy of obesity is a very interesting example for the application of electromagnetic field treatments of human diseases. Electromagnetic fields are also applied to cure many other diseases. A very interesting example is the pulsed electromagnetic field treatment of cancer [6].

References

1. Fruh SM (2017) Obesity: Risk factors, complications, and strategies for sustainable long-term weight management. *J Am Assoc Nurse Pract* 29: S3-S14.

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2. Ellulu MS, Patimah I, Khazaai H, Rahmat A, Abed Y (2017) Obesity and inflammation: the linking mechanism and the complications. Arch Med Sci 13: 851-863.
3. Tak YJ, Lee SY (2021) Long-Term Efficacy and Safety of Anti-Obesity Treatment: Where Do We Stand? Curr Obes Rep 10: 14-30.
4. Kim SH, Chung JH, Kim TH, Lim SH, Kim Y, et al. (2018) The effects of repetitive transcranial magnetic stimulation on eating behaviors and body weight in obesity: A randomized controlled study. Brain Stimul 11: 528-535.
5. Anna Ferrulli, Concetta Macri, Ileana Terruzzi, Stefano Massarini, Federico Ambrogi, et al. (2019) Weight loss induced by deep transcranial magnetic stimulation in obesity: A randomized, double-blind, sham-controlled study. Diabetes Obes Metab 21: 1849-1860.
6. Vadala M, Medina JCM, Vallelunga A, Palmieri B, Laurino C (2016) Mechanisms and therapeutic effectiveness of pulsed electromagnetic field therapy in oncology. Cancer Med 5: 3128-3139.