

Strong Magnetic Field Ultrasound Antiviral Strategy

F. Winterberg,

Academician IAA Paris, France

Abstract

As a potential “magic bullet” strategy to defeat Covid-19 type virus diseases, it is proposed to use static strong magnetic fields in combination with intense ultrasound producing oscillating electric fields, induced by the Faraday induction effect, in the affected tissue interrupting the multiplication of the virus particles.

It was Paul Ehrlich, who with his “magic bullet” strategy (chemotherapy), defeated by bacteria caused infectious diseases, but his strategy failed against diseases caused by the much smaller viruses. Because it is known that certain types of cancer are caused by viruses, one may wonder if certain successful anti-cancer strategies could be used to defeat virus diseases.

One unusual cancer treatment was discovered by an Israeli team¹ where radio frequency waves had been used against the brain tumor of several patients. The treatment prolonged the life of several patients and caused remission in one of them. The partial success of the treatment must have been caused by the radio wave induced electric fields interrupting the division of the cancer cells. Because this effect must have been very small, it was proposed by the author^{2,3}, to generate in site of the cancer cells much larger electric fields with the Faraday induction effect, by placing the cancer cells in a strong static magnetic field, to be as strong as 100,000 Gauss used in the MRI, and at the same time bringing the cancerous tissue into rapid oscillation against the magnetic field by intense ultrasound, not exceeding the tensile strength of the tissue.

If the electric field inside a cancerous cell can stop the division of the cell, as the Israeli experiment seems to prove, it is a good guess it may also stop the multiplication of virus particles in a cell.

The proposed anti-virus “magic bullet” strategy could be easily tested with any existing MRI, supplied with an intense short wavelength ultrasound generator, using a piezoelectric generator, for example.

If successful, the eradication of the viruses could then be achieved by using the widely existing MRI devices, equipped with ultrasound generators.

References

1. Dekel E., Gurvich Z., Itzhaki A., Kirson E. D., Palti Y., Schatzberger R., Schneiderman R., and Wasserman Y. (2004). Disruption of cancer cells replication by alternating electric fields. *Cancer Res.* **64**, 3288-3295.
2. Winterberg F. On the disruption of Cell Multiplication by Oscillating Electric Fields. *Z. Naturforsch.* **65** c. 307-308 (2010); 27/November 24. 2009.
3. Winterberg F. Treating Cancer with Strong Magnetic Fields and Ultrasound, arXiv: 0906.0742