



EMFs – The Potentiation of Borrelia and Other Pathogens

The effects of pathogens are being potentiated by electromagnetic frequencies (EMFs) in a dual manner. EMFs greatly impact our immune system, making us more susceptible to viruses, bacteria and biotoxins, and also potentiate the virulence of those pathogens. This is a perfect storm that even the most apparently robust of us need to be aware of, especially with the onset of 5G.

Suppression of our immunity

The growth in our exposure to microwave radiation has been exponential, particularly since the turn of the millennium. EMFs, as Professor Martin Pall has been evidencing since 2013, exert their action (at least partially) by activating the voltage gated calcium channels (VGCCs) on the plasma membrane of our cells. When open, VGCCs let in one million calcium ions (Ca²⁺) per second.

We have two calcium-dependent nitric oxide (NO) enzymes, and they are triggered by this excess influx of calcium. The upregulated NO production increases superoxide and peroxynitrite (ONOO⁻), which lead to free radical generation and oxidative stress, as well as single-strand breaks in DNA. These consequences are enough in themselves to contribute to a myriad of health issues, but the upregulation of reactive oxygen species in the cell also has an inhibitory effect on calcineurin.

“Calcineurin inhibition leads to immunosuppression, which in turn leads to a weakened immune system and an increase in opportunistic infection”, as described in a recent article by Doyon and Johansson.

Professor Pall and other experts argue that the safety guidelines of the industry for exposure to EMFs are completely miscalculated (see his talk to Breakspear Medical, “Electromagnetic field exposures act via activation of VGCCs: how this leads to diverse impacts on health”,

<https://www.youtube.com/watch?v=0RIskTMLV40&list=PLnc9bjQmU1NdZIZMXZiK84CIA61I26Jj> and “5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them.”

<https://www.radiationresearch.org/research/dr-martin-palls-latest-compilation-of-emf-medical-research-literature/>).

Physicians for Safe Technology have compiled extensive documentation and references on how non-ionizing radiation can cause damage to cell structures and disrupt the immune system: “Microwave radiofrequency electromagnetic radiation from wireless devices acts as an environmental stressor with direct oxidative toxic

effects on cellular processes that are not related to heat or to ionization. The effect of radiofrequency EMR is indirect, inducing biochemical changes in cellular structures and their membranes.” (<https://mdsafetech.org/5g-telecommunications-science/>).

Greater virulence of pathogens

That our immunity has the potential to be hugely weakened by EMF exposure, depending on its strength and frequency, would therefore seem clear. But what is the connection with the virulence of pathogens, whether viruses, bacteria or otherwise?

Vargová et al in a 2017 study published in Systematic and Applied Acarology (“Ticks and radio-frequency signals: Behavioural response of ticks (*Dermacentor reticulatus*) in a 900 MHz electromagnetic field”) found that “ticks preferred the electromagnetic field with a frequency of 900 MHz - exactly the one used in mobile phones.” The study authors found that irradiation with 900 MHz RF-EMF “induces an immediate tick locomotor response manifested either in a previously unreported jerking movement of the whole body or in jerking of the first pair of legs. Overall, ticks exhibited significantly greater movement in the presence of the RF-EMF.”

Experts in this field also claim that Lyme spirochetes exposed to EMFs feel threatened and create more biotoxins. Biotoxins cause an amplification of cytokines, and symptoms worsen as a result. Few studies have actually been done on this, but a study by Marsch, Mayet and Wolter as far back as 1993 showed that cutaneous fibroses in chronic *Borrelia* infection may be provoked by trauma, surgery or electromagnetic radiation. Liu et al in 2011 evidenced the induction of Epstein-Barr Virus Early Antigen expression by mobile phone radiation. The EBV-EA Positive Rate became statistically significant after just a few weeks. EMFs

can also cause reactivation of past EBV infection: “*Exposure to a 50 Hz electromagnetic field induces activation of the Epstein-Barr virus genome in latently infected human lymphoid cells*” (Grimaldi et al, *J Environ Pathol Toxicol Oncol.*). Exposure to RF-EMFs within a narrow level of irradiation (an exposure window) also makes microorganisms resistant to antibiotics, as published in Dose Response, “Evaluation of the Effect of Radiofrequency Radiation Emitted From Wi-Fi Router and Mobile Phone Simulator on the Antibacterial Susceptibility of Pathogenic Bacteria”. “These results were confirmed by the study of Stansell et al, who found that static magnetic fields at moderate intensities are able to decrease antibiotic sensitivity and make *E coli* WHMC 4202 more resistant.” Dr. Klinghardt recounts an experiment by a prominent mould researcher on *Candida* in which the unprotected spores placed next to a Wi-Fi router (compared to the control) produced 600 times more biotoxins per hour than in the protected dish, surmising – interestingly – that this is a protective reaction: “They suffer as much as we do. they’re mounting their defences to shoot back.”

There certainly appears to be good evidence that EMFs of different kinds can profoundly impair our immunity, making us more susceptible to pathogens of all kinds. And that the pathogenicity of different bacteria, viruses and moulds can often be amplified under the influence of different frequencies. How exactly 5G will affect us – and other living organisms – on both these counts is as yet largely unknown, as no biological safety tests whatsoever have yet been conducted. To the extent that Brussels, the very heart of the EU, has actually decided to forbid the installation of a 5G network: “*The people of Brussels are not guinea pigs whose health I can sell at a profit.*” (Céline Fremault, Minister responsible for Housing, Quality of Life, Environment and Energy in Brussels).