Electromagnetic Information Transfer (EMIT) by Ultra High Diluted (UHD) solutions: the suggestive hypothesis of an epigenetic action

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ABSTRACT

The aim of this work is to confirm the theoretical possibility of an epigenetic mechanism shared between EMIT and UHD. The presentation will be divided in three sections:

1. Water aggregates with an electric dipole moment (UHD succussed solutions) as mediators of weak specific bioelectromagnetic signals on target stem cells.

Recent experimental works confirm the developing concept of water mediated Electromagnetic Information Transfer (EMIT) of specific molecular signals, picked up from the source biological effector, on target stem cells with evident effect on their proliferation [1]. Similar Electromagnetic (EM) emission and consequences are also reported by the scientific literature on rotational excited aggregates with an electric dipole moment, created in polar liquids by Ultra High Diluted (UHD) or High Diluted (HD) succussed solutions. These aggregates are composed of solvent molecules only or a combination of these and solute particles [2].

2. DNA mediated physiopathological effects of ELF EMFs

In detail, according to the International Agency for Research on Cancer (IARC), the extremely low-frequency (ELF) electromagnetic fields (EMFs) are classified as "possible carcinogenic" based on their effects [3-5], although most scientists agree that they are too weak to kill cells or to cause mutations and thus initiate cancer. Besides the prevailing paradigm of the environmentally-induced acute and chronic diseases involving either cell killing (cytotoxicity) or gene/chromosome mutations (genotoxicity), many studies concerning the biological and health consequences of ELF-EM exposure report that alteration of the expression of genetic information at the transcriptional, translational, or posttranslational levels has the potential to contribute to various diseases.

3. Epigenetic mechanism shared between EMIT and UHDs

The latter referred mechanism, denoted as "epigenetic" (that affects gene expression rather than gene structure), is characterized by threshold-like action, multiple biochemical pathways and it needs chronic regular exposures to be effective [6].

Epigenetic factors affect one of four potential cell states, namely alteration of cell proliferation, cell differentiation, programmed cell death (apoptosis) or adaptive responses of differentiated cells, and probably they act as co-inductors of DNA damage rather than as a genotoxic agents per se. At the present time, studies on genomic and functional genetic are identifying many genes and gene variants that potentially modulate the fundamental molecular mechanisms underpinning both physiological and pathological processes.

Keywords: Electromagnetic Information Transfer, Ultra High Dilutions, Epigenetic, Extremely low-frequency electromagnetic fields

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