

Determine methodically and scientifically the potential effects of fulvic acid among others on mitochondria and the immune system.

Provisional reflection on viral diseases

Summary

It is important to understand that the first mitochondrial dysfunctions correspond to an early warning, reflecting the future onset of a pathology. Evaluating mitochondrial functioning is therefore essential in prevention as well as in therapeutic support.

The term mitochondrial dysfunction usually refers to the inability of the mitochondria to supply enough energy to the cell - energy in the chemical form of ATP (Adenosine Tri Phosphate). There are many methods for determining whether a mitochondria works well - or not - and it is in the latter case that we speak of mitochondrial dysfunction.

The study aims to assess the impact of fulvic acid on improving mitochondrial function - or its contribution to their repair. A structural and functional improvement of the mitochondria can mean an improvement in differentiated cellular activities.

The study is using two techniques: Kirlian photography and the evaluation of biochemical markers of mitochondrial functioning.

The final results will be announced shortly. This is a preliminary draft for a better scientific understanding and to answer questions relating to viral diseases.

Keywords :

Photographs Kirlian, LDH-Isoenzyme, mitochondria, Fulvic Acid

Introduction

The key to our health lies in the mitochondria.

The mitochondria are the "energy powerhouses of our cells". They play a crucial role, notably in deciding on cell life and death (apoptosis). We can therefore say that our life, our well-being and our health depend on mitochondria. This is why any prevention in the field of health as in the accompaniment of pathologies should revolve around the protection and activation of these mitochondria.

Within these cellular organelles, vital energy, necessary for all the complex processes of the life of our organism, is obtained from food. This is especially important for high performance organs like the heart, brain, nervous system and muscles, which need a lot of energy. No energy, no cellular activities, especially differentiated!

Mitochondria also need certain vital substances or co-factors, also known as mitotropic substances, both for energy production and for protection against harmful endogenous free radicals or environmental toxins. Currently, what we can call "mitochondrial medicine" can compensate for the deficiency of these vital substances by the supply of highly targeted food supplements.

But not only...



...a candle burns in the presence of oxygen.

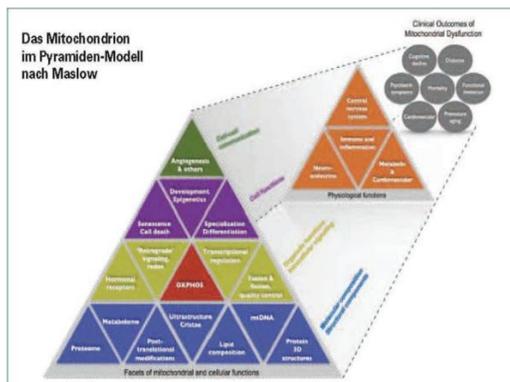


Without oxygen, the candle goes out.

Simple, logical, essential:

Our mitochondria are like candles. They absolutely need oxygen to produce high-efficiency energy. This energy, in the form of ATP, helps drive and control differentiated cellular activities. It is therefore logical that oxygen (O₂), a key substance, vital for the proper functioning of mitochondria, is at the center of this study.

Mitochondrial functions and dysfunctions are represented below according to the Maslow pyramid model.



Multi-level organization of mitochondria, based on the molecular composition, structures, functions and roles of signals within the cell. These nested functions are represented hierarchically in the pyramid model according to Maslow.

The basic determinants are found at the bottom of the pyramid; the more complex mitochondrial mediation processes are listed above. The mitochondrial and cellular functional factors mentioned in the first stage are the determinants of the second stage, which already influence physiological processes. On the upper floor are presented the effects of mitochondrial dysfunction on the systemic processes contributing to the development of the clinical model of the disease are presented. [Martin Picard, Douglas C. Wallace, Yan Burrelle. The rise of mitochondria in

medicine, Mitochondrion 30 (2016) 105–116]

Assessment materials and methods

Kirlian photography process

The so-called Kirlian photography process (or Kirlian effect) was discovered accidentally in 1939 by Soviet technician Semyon Kirlian and his wife, journalist and teacher Valentina Kirlian. The Kirlian shots show a luminous halo around an object subjected to a high electric voltage. For Kirlian and his successors, attached to the field of parapsychology and energy medicines, Kirlian photography would be a manifestation of the human aura. This phenomenon became popular with the publication of Sheila Ostrander and Lynn Schroeder's book *Psychic Discoveries* in 1970. It has since been shown that the luminous halo present around photographed objects is due to the corona effect.

LDH-Isoenzyme laboratory blood markers (total LDH and LDH from 1 to 5)

There are two genetic materials in a cell. The mitochondrial genome governs the energy obtained through oxygen. The nuclear genome governs the energy obtained by fermentation, which corresponds to increased cell division, cell decline and reduced cell performance, particularly in the event of inflammation, infections, divisions during cell regeneration or in the event of tumors. In case of mitochondria dysfunction and / or hyper-activation of the nuclear genome, the level of certain enzymes, lactate dehydrogenases (LDH), vary. Thus, Iso-enzymes 1, 2 and / or 3 fall below the norm; LDH-4 and / or LDH-5 rise on the contrary above the norm.

Intermediate question: can fulvic acid supply electrons to the mitochondria and fight viral diseases?

Our food is used to feed the complexes of the respiratory chain in the mitochondria. In addition, 90% of the oxygen is consumed in the respiratory chains of the mitochondria.

The result is ATP, which is produced every second of our lives and which is now recognized as an information carrier. ATP is, in a sense, the factor that delivers specific and individual control information.

Without mitochondria / no mitochondrial ATP. Without mitochondrial ATP we cannot stay healthy.

Without mitochondria, there is no life, detoxification, apoptosis, differentiated cell performance, etc.

Immune System:

A viral or bacterial infestation requires a strong intracellular defense.

Virus Infestation :

A virus present in the connective tissue is consumed by the macrophages and will therefore seek to hide inside the cell. So, for a virus, etc., we need the intracellular immune system, TH1, which uses NO gas. Nitric oxide (NO) is a "combat gas" that defends us against cancer cells, viruses, bacteria, etc. NO is produced in all cells of the body.

The mitochondria produce NO gas, our intracellular defense is therefore omnipresent, and this in all cells.

Example :

Viral infestation => phagocytosis by monocyte (blood circulation) or macrophage (connective tissue)

Fractionation => Cytokines attract helper cells TH => Docks TH0 => Depending on the pathogen, TH1 (NO) or TH2 (antibody)

The activity of the TH1 splint can be measured via cytokines (IL12, gamma interferon, etc.).

If we have weakened and / or damaged mitochondria, the formation of ATP and NO gas is greatly reduced. The cell will then produce its ATP energy by glycolysis in the cellular plasma. This will activate cell division on the one hand and on the other hand the performance of differentiated cells will be restricted, it is the same for the activities of our immune system.

Conclusion:

Although the scientific and methodical in vivo study is still in progress, the first results seem to clearly demonstrate that fulvic acid may be able to provide important elements for the proper functioning of mitochondria.

Knowing that all differentiated cellular activities depend on the compulsory presence of mitochondrial ATP, we can therefore assume that the same is true for our extra- and intracellular immune systems and thus help to fight viral diseases.