



Research Article

Critical Failure of Modern Medicine: Aging a Public Health Issue

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Abstract

The mission of modern medicine, as practiced today, is to treat the diseases afflicting public health: cardiovascular diseases, hypertension, diabetes and cancer among others. Treatments, led by old and new pharmaceuticals have not substantially reduced the number of deaths or produced a cure for these diseases. It is well recognized that aging and its inherent deleterious effects is the singular cause of death in these circumstances. Methods: using simple techniques we extracted free water molecules from bulk water. Free water molecules interact kinetically to form plasma, an ionic reaction consisting of negative, positive ions, free electrons and neutral atoms. We have discovered a new form of non-thermal plasma. Hybrid-plasma (HP) part gas/part water that can be produced without external energy input and can be accumulated and stored for multiple applications. Results: Experimental studies have shown that HP has antioxidant, anti-aging effects and can preserve produce for prolonged periods. HP consists of a beneficial form of reactive oxygen species (ROS) which counteracts the deleterious forms of ROS produced by metabolism as organisms age. HP prevents inherently induced oxidative stress, which is the major cause of degenerative diseases and leads to premature death. Conclusions: We have discovered a new form of non-thermal plasma, HP, that is anti-aging due to suppression of oxidative stress and maintains homeostasis in living organisms using electromagnetic rather than metabolic energy sources.

Keywords: Reactive oxygen species; Oxidative stress; Diseases of aging; Anti-aging; Hybrid-plasma

Introduction

During the 20th century we have experienced the rise of the major degenerative diseases such as cardiovascular disease, hypertension, diabetes and cancer. A multibillion Pharmaceutical Industry has failed to produce one cure for any of these prevalent diseases. Moreover, the population has grown steadily older [1], overweight and obese [2] adding to the Public Health challenge.

Aerobic metabolism is an inherent feature of living organisms whose by-products include free radicals in the form of reactive oxygen species ROS. Negative ionic forms of H₂O₂, peroxyxynitrite (OONO⁻) and the hydroxyl radicle (OH⁻) constitute some of the most reactive ROS, which can severely damage DNA, RNA, and cell membranes. Aging is characterized by an abundance of these ROS in the context of diminished inactivating antioxidants. Den-

ham Harman first proposed the free radical theory of aging [3] in the 1950s and in the 1970s extended the idea to implicate production of ROS [4]. Aging is characterized by oxidative stress.

Oxidative stress occurs anytime there exists an imbalance between antioxidants and free radicals, resulting in an abundance of reactive free radical species. Oxidative stress can have dramatic consequences on health. ROS are involved in the pathogenesis of multiple inflammatory diseases such as rheumatoid arthritis. In a recent publication we described the effects of “good ROS” [5] which are signaling molecules leading to increased cell proliferation, differentiation and maturation. In the present study we report the discovery of a new form of non-thermal plasma, Hybrid-plasma, HP, [6]. Preliminary analysis of [7,8] indicates that the major components of HP are the ionic form of hydrogen peroxide and the hydroxyl ion. We hypothesize that HP acts via the effects of “good” ROS which have anti-aging properties, among others.

Methods

According to a previous report [7], we formed an HP environment by adding 800mL distilled water to a 4000mL acrylic cylinder. Within 48 hours 2 measurements, humidity, 95%+ and ion counts, >2,000,000/sec indicated the presence of HP as determined from previous experimental studies [6]. Two pairs of plants of the same variety were used for this study. One plant was placed in the HP container on a platform above the water level and the container resealed with snap covers. The other of the pair was maintained in the outside environment. After 48 hours, the plants were removed from the container and each pair put in a cabinet in the dark. Plants were observed and photographed every 24 hours for one week.

Results



Figure 1: Plants of the same variety were placed in the dark for one week. The plant (left) was previously exposed to HP for 48 hours.



Figure 2: After 1 week in the dark, the plant exposed to HP (left) was relatively unchanged whereas, the untreated plant (right) was substantially smaller and showed wilting.

Ancillary Findings

When we moved the HP exposed plant to the ambient environment, the plants maintained a healthy status without adding water for periods of to 3 months. (See Figure 3).



Figure 3: Several Z-Z plants 3 months after they were previously exposed to HP for 48 hours. During that 3-month period they maintained normal but slow growth with no adverse effects. i.e., wilting, despite no watering.

Discussion

Background

Regarding anti-aging effects of HP, the underlying mechanism(s) have not been elucidated. The present study provides some insights into possible mechanisms for the reported anti-aging action of HP. Hypothesis: Based on metabolism provided by photosynthesis, plants grown in the dark will not have energy to sustain their physical integrity. On the other hand, the plant exposure to HP receives its energy from another source. We have previously reported that plant and animal cells contain an electromagnetic source of energy, revealed at the life/death interface [9]. These results suggest that under conditions of stress, in this case the loss of energy source in the dark, mobilizes the latent electromagnetic energy source to maintain cellular homeostasis.

Future Studies

We are contemplating small animal experimental studies in which exposure to HP will be applied to determine changes in oxidative stress levels as a surrogate for anti-aging action. We recognize that extrapolating these kinds of studies to humans is a daunting logistical problem that may be undertaken based on ongoing studies in plants and animals.”

Conclusion

We have discovered a new form of non-thermal plasma, Hybrid-plasma, HP. Even short HP exposure counteracts oxidative stress

of prolonged darkness and maintains homeostasis in plants over an indefinite period without watering.

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