

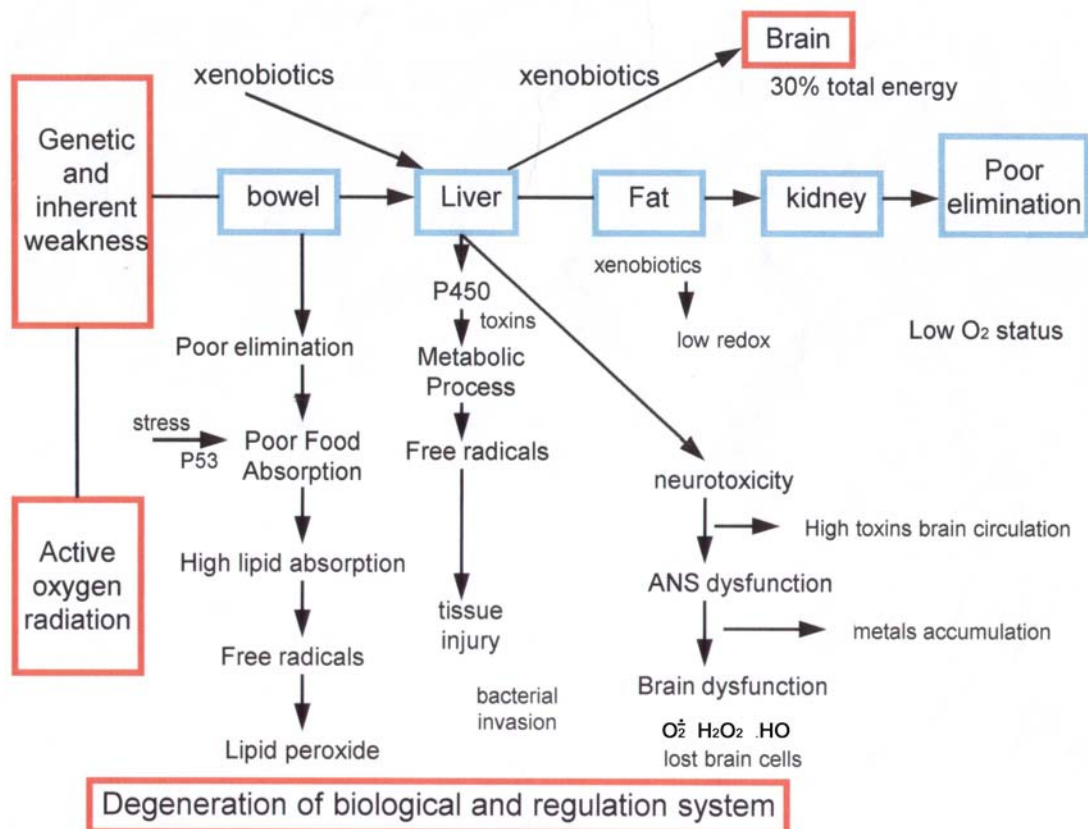
Biological aging: signs in the iris

Abstract

Today 86 percent of Americans 60 and older suffer from degenerative diseases and age-related change symptoms (ARCS). Such diseases as Alzheimer's, Parkinson's and fibromyalgia, are increasing both in the USA and Europe, with ARCS appearing even in middle-aged and younger people.

While the experts note that actual longevity – lifespan – is increasing in quantity, it is the quality, marked by so many symptoms and physical incapacities, which is decreasing. Cognitive functions are in such decline that for the first time the human race is facing a physiological and psychological deterioration which many call “biological age”.

By Prof. Serge Jurasunas



Introduction

The aging process has always been of interest to biologists. Today we are better equipped than ever to understand the various defective mechanisms which lead to aging.

First, aging is a normal process of body constituents and brain dysfunction a loss of brain cells communication which slowly affects learning and memory, also known as “age-associated memory impairment” (A.A.M.I.). (1)

For various reasons the aging process may be accelerated. Oxygen use is one factor in the damaging of neurons; i.e., the brain consumes a disproportionate amount of oxygen and hence is subject to free radical activity.

Oxygen consumption is mainly used by cellular mitochondria as a catalyst for energy production (ATP) an absolute necessity for physical strength, energy and the maintenance of life itself.

ATP production helps synthesize hormones including dopamine and adrenalin, DNA repair enzymes, nucleic acid and other key substances.

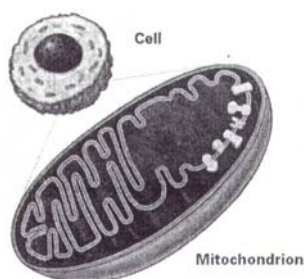
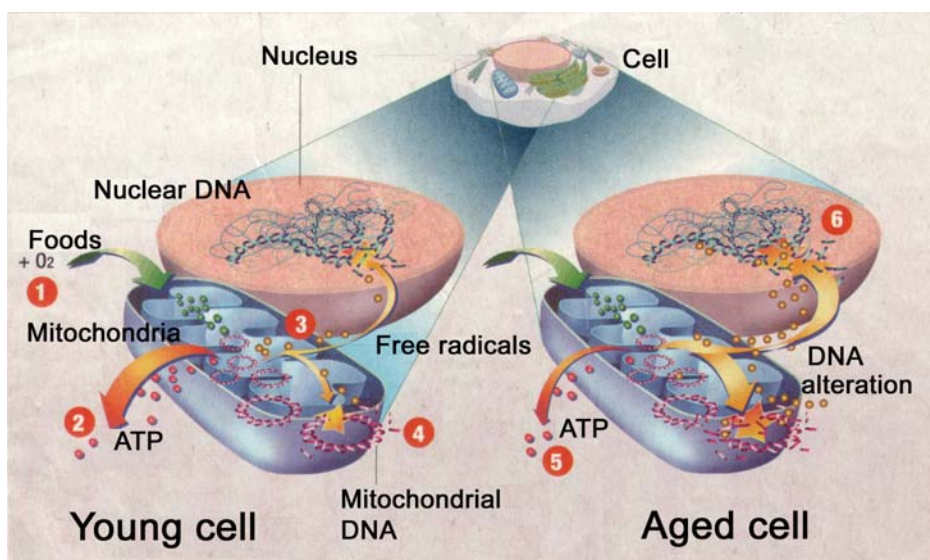


Fig. 1. A mitochondrion, one of the “intracellular powerhouses” found in every cell of the body.

The “mitochondrial respiratory chain” reflects a function decline with age, (2) involving accumulation of free radicals which accelerate oxidation of mitochondria components including proteins, lipids and enzymes. Such free radical activity also induces DNA mutation which in turn affects mitochondrial protein involved in oxidative phosphorylation (OXPHOS) or the krebs cycle. (3)



- ① Provide 90% of our energy by producing ② ATP (adenosine triphosphate).
- ③ Electrons from the ECT escape and adhere to oxygen molecules to produce free radicals known as superoxide that may damage the cellular ④ components of the mitochondria including DNA.
- ⑤ With age the processus increase and mitochondria DNA are damaged by free radicals. Because of membrane ⑥ damage free radicals escapes and can crash into the nucleus DNA of the cell decreasing its function, DNA repair, differentiation and even its death.

The brain is a fantastic sensitive computer with more than 100 billion neurons each having 2.500 possible interconnections with each other. One of the primary substances in the neuron membrane is fatty acid. Indeed, 60 percent of the brain consists of lipids which influence structure, function and communication. Neurons membrane are also lecithin high content for protection and malleability in the communication.

Age and dietary habits contribute to the saturation and damage of fatty acids in the brain which affects cell-to-cell neuron communication.

A consistently substantial influx of oxygen is necessary to support ATP production. The “ion pumps” of mitochondrial neurons inevitably produce high levels of oxy-radicals which in turn must be balanced by endogenous antioxidants such as superoxide dismutase (SOD) and catalase.

A consequence of a diet high in fats and low in antioxidants is the formation of lipofuscin in brain neurons.

Lipofuscins are made of cross-linked proteins (30%) and oxidized lipids (50%) and often accumulate in skin cells, where they are called “aging spots” (4)

In human accumulating lipofuscins may constitute up to 80 percent of the volume of a neuron before killing it. The pigment accumulates in the apex of the nerve cell thus blocking the flow of vital nutrients to the same. It may eventually destroy all the interconnecting fibers thus impairing nerve cells communication, a process leading to the gradual deterioration of mental function.

Lipofuscin pigment may appear early in life, even in children. Some researchers have observed it in fetal nerve cells. I suspect lipofuscin accumulation when the lipid ring is dense in the brain area but it can also be observed within the pupil, as shown in my aging chart.

Here, the profiling of biological aging is abetted by iridology: there are markers of oxidized lipid accumulation visible in the iris.

I spent a considerable amount of time before I was able to understand iris markers linked with the aging process. The study of oxidative stress was quite helpful in interpreting such signs.

For instance, we know that skeletal muscle is dependent on OXPHOS for its energy supply. So it is not surprising that deteriorating brain and muscle function is paramount in aging process. The loss of muscles mass is mainly due to declining mitochondrial activity.

Patients may manifest signs of physiological deterioration and aging at any age, from the early neonatal period to adulthood and even late adulthood. In the iridology chart the muscular system occupies an important area so it should be well checked during iris observation.

The neurons system is another important iris marker area which must be analysed when a prognostic of early aging is made.

From the standpoint of iridology I have clearly determined that the condition of the Central Nervous System (CNS) provides the first indication of biological aging, and this includes the Autonomic Nervous System (ANS), which at the present time is under a high degree of insult.

We now have reason to believe that individuals inherited OXPHOS genotypes (mitochondrial DNA mutations via the female) define the initial energy capabilities and potential functioning of tissue and organs.

The nervous system as observed in the iris of a patient, especially a teenager, as well as its constitutional strength is determined both by chromosomes from the father and mother, which account for about half, but also by inherited mitochondrial DNA mutations.

In the iris chart each organ of the body is dependent on the ANW. Without strong nerves and a normal collarette, the body deteriorates and ages. My thirty years of iris observations bolster this conclusion.

An inherited mutation may be the missing link in our search for clues to early aging. Acquired mutations we may quickly precipitate such diseases as Alzheimer's. (6).

An individual's inherited OXPHOS genotypes define the initial energy capabilities and potential functioning of tissues and organs.

Hence through iridology we may calculate:

- constitutional strength - (IFD)
- autonomic nervous system – (ANS)
- central nervous system - (CNS)

or any inherited weakness in tissues and organs.

Aging signs in the iris

Experience-derived evidence has shown me that some physiological deterioration may differ greatly from one person to another even before there are visible signs of such deterioration. For instance, diabetes is a disease linked with early aging.

According to the well-known biologist Roy Walford, diabetic patients reflected an aging pattern that is 15 to 20 years ahead of their chronological age. When we examine the irises of diabetics we see signs that their bodies are older than they “should be”.

One can suddenly “feel old” and in a matter of weeks literally be older, tired and depressed and have brown spots (lipofuscin) and wrinkling on the face and hands. I have seen such cases many times, particularly in female patients.

As I mentioned, teenage diabetics may be much older than their chronological age. I recall the case of a girl who was 14 years old when her diabetes was diagnosed. She died last year at age 34. Diabetics evidence decreasing total SOD activity in most organs, particularly the kidneys (72%) and heart (45%). Hence we understand why kidneys are failing from oxidative injury. (7)

The lifespans of mammals, including humans, are directly related to their levels of SOD protection against the deleterious effects of reactive oxygen species (ROS).

In a 1997 study of 250 female patients aged 40 to 50 (though some younger patients were later added to the study), and through iridology, peripheral blood analysis and the Vega DFM 722 monitoring machine we found the following conditions and correlations.

Partial lost of memory	100%	Loss of sensation	40%
Amnesia	50%	Vertigo	70%
Insomnia	80%	Nerve dysfunction	100%
Anxiety/Sadness	70%	Chronic constipation	80%
		Stress (nerve ring)	70%

Low brain energy level - 80%

Iridology an early-warning diagnostic system

For me, iridology is an early-warning diagnostic system (EWDS), which may profile biological aging. My interest and research in this area led me to the idea of creating a statistical profile of abnormal physiological processes with related symptoms and signs in the iris (ARCS).

In my chart of iris signs presented at the New Millennium International Iridology Symposium 2000, you notice that some 14 signs found in iris observation correspond to the aging profile.

The chart reveals neuron damage, oxidized proteins, chronic stress, unbalanced lifestyle and an exhausted nervous system. I investigated other signs and organ dysfunction related to the bowel, thymus gland, and the HPA (hypothalamus pituitary adrenal) axis, a major component of the body's response to stress, since ARC'S in the HPA axis reactions have been reported.

Without a doubt, autointoxication is a major cause of early aging together with oxidized lipid accumulations in blood circulation, especially when visible through iridology (check the brain area between 11 o'clock and 1 o'clock and see clinical example photos).

The sodium ring is associated with aging and Alzheimer's. This sign in the iris indicates hardening of the arteries and calcium deposits in the brain. Calcium deregulation activates ROS, hence provoking chain reactions of toxic free radicals, including lipid peroxidation.

The sodium ring is not visible in children's irises and usually appears only in old age. However my own observations are that the sodium ring may now appear in patients 25 to 45 years old. So look carefully for the ring in your patients: it is a major sign of biological aging and Alzheimer's.

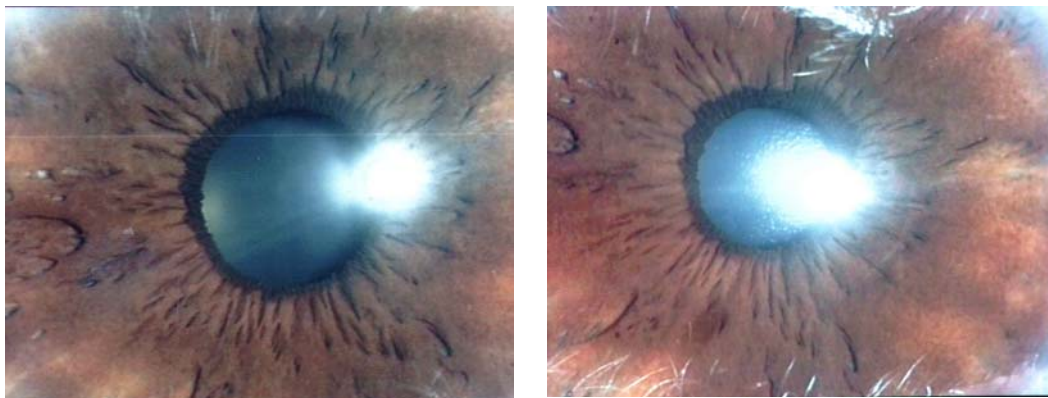
A full explanation of the chart is too lengthy to be described in this article. Those interested in the full explanation should consult the www.sergejurasunas.com website.

Examples of Iris Interpretation

Case 5426

F.47 years – left iris – color brown

Biological age – 55 years



Notice around the pupil a very dense and thick irregular ring, which I identified as the degeneration of the CNS (consult my document how to interpret iris signs to profile iridology).

It indicates damages of neurons, exhausted nervous system and aging. The left pupil is enlarged while the right is smaller. It shows a serious dysfunction of the parasympathic nerve, which influence the brain and specially the hypothalamus, which in turn control our emotional condition and coordinate the autonomic function of all physical organs. In the right iris the collarette is almost inexistent, close to the pupil involving intestinal dysfunction.

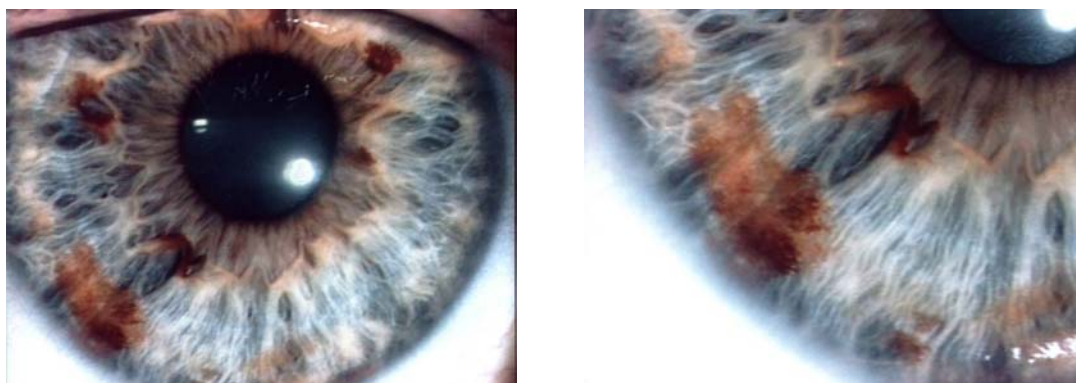
The color is dark, quite toxic and we are speaking about autointoxication and toxins infiltration in body's tissue and cells.

An arcus senilis (not visible here) is visible from 11 o'clock to 1 o'clock. The arcus senilis is often associated with failing memory and a decline in cerebral function.

Lipid ring is visible in the left iris from 1 o'clock to 5 o'clock. Her father die from a vascular stroke, paralyse. She herself had a facial vascular damage. She really feels old, tired, nervous with serious cognitive dysfunction premature to her age.

Case 10182

M. 35 years – R. Iris – color blue abnormal



This is a bad case of aging with serious neurological disease, which occurs at 4 years of age. Lately the patient was considered abnormal and mental retarded with psychiatric internment.

We notice a very confuse iris structure with poor tissue constitution. The collarete in zigzag indicates a disturbed nervous system and affect many organs such the liver. Brown spots is visible specially a large one between 7 and 8 o'clock with 2 chronic lesions on liver area. Strictures in the small intestine are visible and the whole bowel suffers from nerve tension and intoxication. The H.P.A axis is quite disturbed.

Between 3 o'clock and 7 o'clock we notice inflammation and oxidation of tissue.

This is a condition of high acidity and high oxidative process. The brain area (not visible) show chronic lesions, oxidation process, sign of proteins and lipids oxidation and aging. The mother's patient shows a similar iris structure condition including brain tissue oxidation. We have explained that inherited mitochondria come only from the mother and add to acquired mitochondria mutation or hypomitochondrisis that quickly favour aging disease and collapse of the nervous system. Beside the psycho neurological condition that we manage to reverse physically the patient look much older. His appearance is between 45 and 48 old age.

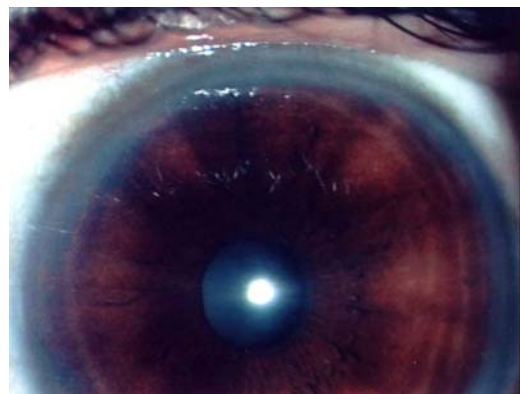
Observation

If you carefully study the figure n° 1 of subjective factors of biological aging is easier to understand this particular case. Foods are very important same as detoxification to improve or keep good health status. The patient took enormous quantity of neurological drugs and all kind of drugs from his childhood. Drugs can really affect mitochondria leading to inhibition of the RC or induce somatic mutations with a significant decrease of ATP production in the nervous system and brain neurons.

Childhood chronicle/degenerative diseases is mostly connected with inherited mitochondria DNA mutations and acquired mutations can developed under physical aggression such vaccination and pharmaceutical drugs. Therefore childhood is a sensitive period where health status can be build specially the first 3 or 4 years of an infant using good nutrition.

Case 8566
M. 36 years – left iris
Color brown

Clinical history: Stress, fatigue, lost of memory, insomnia.

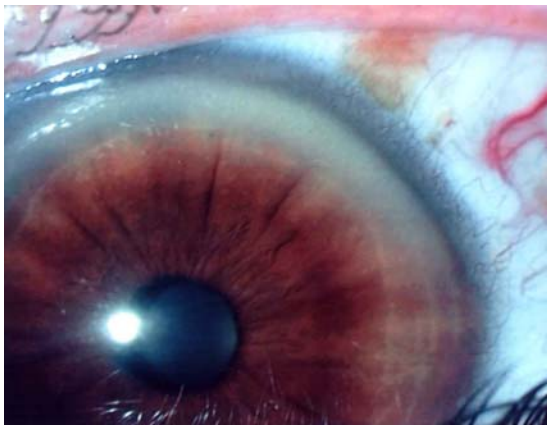


Notice the very dense lipid ring all around the iris periphery, more pronounced on brain area. The patient has bad dietary habit with high fat intake. We are speaking of oxidized lipid from free radicals damage. This is a process of vascular aging produced by atherosclerosis lesions. Vitamin E attracts lipids peroxide from vascular membrane to avoid damage and lesions. Vitamin C and Glutathione take action in surgery with vitamin C and E. Modern diet is very poor in Vitamin C and E which favour lipids peroxide damage.

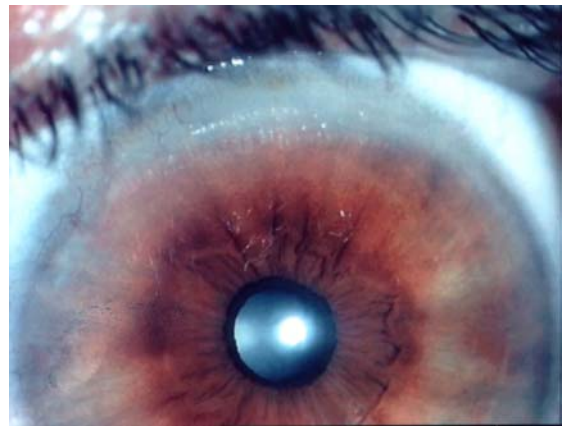
Possible events: Brain stroke. Myocardial infraction.

Biological age – About 55 years chance to lifespan without modified diet and supplementation: 10 to 15 years.

Two cases of AD while the wife is already in advanced stage; the Husband is still in fair condition.



Case 8441 – wife – 76 years



Case 8442 – husband – 73 years

We notice in both cases the sodium ring but more pronounced in the wife. Both iris show the degeneration of CNS with the brown ring around the pupil. There are also congestion of brain blood vessels in both case but again more pronounced with the wife. Dr. Jensen stressed that iridology is an important but neglected diagnostic tool in identifying AD.



Lipofuscin (age pigments) in a 55 years old women



Patient M. 14 years
Left iris
Color – mixed

Clinical history: Melancholy, fatigue, inactivity, lack of energy, indifference, and loss of interest for life.
AAMI.

This is a case where aging start early in life and here we understand my explanation about lipofuscin in brain neurons. In this case I want to show only the gastro intestinal system. The interest is to demonstrate the inherited intestinal system similar to his father who at 50 years of age suffers from AD with symptoms of violence, aggressiveness, deep memory lost. We may wonder at which age his process start to began.



We notice a very toxic colon especially visible at the transversal which by reflex (cervical plexus) affect the brain. Degenerative lesion is visible just near 12 o'clock, which is the energy and psychosomatic center. At about 12 o'clock we have the sensory locomotion center. This is the center to control muscle and mental coordination, strength, sensation, exhaustion.

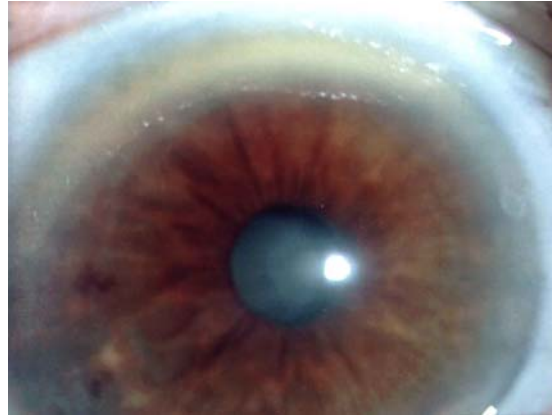
The collarette is thickened, in zigzag with area of orange color. These are signs of intestinal dysfunction, difficulty to break down foods that brain need.

Therefore we realize that here nutrients to brain are reduce including antioxidants to control ROS activity.

There is also one interest subject to explain concerning the relationship between the intestine and brain. We know that the intestine content over 100 millions of neurons and neurologists discovered that patients with AD and PD exhibit the same lesions both in intestine and brain. We have now reason to believe that the intestine may play a pivotal role in the origin of disease such AD and PD.

I always believe that autointoxication of the colon, poor detoxify body's systems and damaged intestine lead to earlier aging process.

Case 7075
F. 24 years
Brown iris – Left
Dense sodium/cholesterol ring.



Clinical history – Neuro-psychological disorders, depression, insomnia, fatigue. She suffers from AAMI, very difficult to concentrate her brain.

She has bad bowel movement, very toxic colon (auto-intoxication). She was raised in South Africa with bad dietary habits especially high fat intake. Her blood observation shows large masses of lipid with platelets aggregation. We have reason to believe that sodium/cholesterol ring should appear only at age between 55 or 65 years. Therefore this patient is biologically aged.

Abbreviations that appear in this article

OXPHOS – Oxidative Phosphorilation or Krebs cycle

AAMI – Age Associated Memory Impairment

ARMD – Age-Related Mitochondrial Decline

ARC'S – Age Related Change Symptoms

ROS – Reactive Oxygen Species

Superoxide radical
Hydrogen peroxide
Hydroxyl radical
Nitric oxide
Peroxynitrite

CNS – Central Nervous System

ANS – Anatomic Nervous System

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About the Author

Serge Jurasunas is a pioneer in the field of Integrative Medicine and a specialist in cancer disease and aging. He is member of the American Association of Anti-aging Medicine and certified Naturopathic Physician from the American Naturopathic Medical Certification Accreditation Board, Inc. and member of the American Naturopathic Medical Association.

In 1976 he was elected Member of New York Academy of Science for his work in the field of iridology. Appointed University professor Serge Jurasunas is the author of several books, scientific papers on oxidative stress, aging, cancer and iridology including breast cancer profile.

