Senescence (Simplified)

Senescence and its' causes are still a major riddle of medical science. The limited investigation as to the cause of aging is probably due to the consequence of the viewpoint that senescence (aging) is not a disease but a natural process of life, and one that will never be altered in its nature. Studies have been diverted from the pathological conditions associated with old age to the science of Geriatrics.

Aging in the Multicellular Animal Kingdom

The biology of cellular death is believed to be the primary index of senescence (aging) and to the degree of vitality and activity of cells to both quickly regenerate and repair. It is not unreasonable to suspect that the fundamental basis of aging in the mammal is the same as single cell organisms such as plants. The common similarity in these organisms is the rate of aging in the individual cellular mediums. Organisms who's "medium" can be considered the tissue fluids of plants and blood of mammals. Literature points to proteins that accumulate in the blood, tissue fluids and connective tissues of mammals as age increases. The accumulation of these proteins during the lifetime of the individual tends to store up in the body. Blood serum becomes more growth-inhibiting with advanced age due to protein accumulation. It has even been proposed that this characteristic be used as a marker on the basis of measuring biological age.

Normally eliminating factors I.E., sex hormones, thyroid, Adrenals, etc. remove the protomorphogen from the connective tissue storehouse into the tissue fluids or blood to be utilized for tissue repair or excreted from the organism. As age increases the organs responsible for elimination action (I.E., gonads, thyroid, and those responsible for excretion (liver, spleen, blood, kidneys, etc.) progressively regress and the whole elimination cycle is thrown out of balance. The older individual is lacking primarily the eliminating substances which remove proteins from connective tissue storehouses. In such cases the administration of homologous proteins, or elimination factors may be beneficial providing the other healing factors (explained later) are available. The female elimination factor can probably be associated solely with the estrogenic fractions and the male with the testosterone fractions by their influence over specific tissues.

Thus, the primary cause of Senescence can be linked to the progressive protein build-up over time. A direct consequence of impaired protein elimination system is the resulting gradual accumulation of toxic (waste) by products. These accumulations lower cell potential by lowering cellular PH, preventing mitosis, which is turn decreases cellular vitality, and eventually death to the organism.

Promoters of Senescence (Aging):

Cellular Atrophy
Cellular Protein buildup (debris)
Decreased Cellular Oxidation
Decreased Tissue Elasticity
Decreased CoQ10 Levels
Atrophy of Nervous System
Increased Insulin Levels (Diabetes)
Prostatectomy
Decreased Iodine Levels
Decreased Vitamin A reserves
Decreased Vitamin B reserves
Decreased Vitamin E reserves
Increased Cortisol Levels (Stress)
Decreased Sex Hormones
Suppressed Immune System
Decreased Cellular Oxygen utilization
Statins and other prescription drug use

The accumulation of polymerized (large molecule) proteins in the blood and tissue fluids with advanced age would exert toxic effects on cells of the organism. The following list are progressive age changes which have **not** been shown to be due to specific diseases.

1. Gradual removal of tissues moisture (desiccation)
2. Gradual retardation of cell division, capacity of cell growth and tissue repair
3. Gradual retardation in the rate of tissue oxidation
4. Cellular atrophy, degeneration, increased cell pigmentation, and fatty infiltration
5. Gradual decrease in tissue elasticity, and degenerative changes in the elastic connective tissue
6. Decreased speed, strength, and endurance of skeletal neuromuscular reactions
7. Decreased strength of skeletal muscle
8. Progressive degeneration and atrophy of the nervous system, impaired hearing, attention, memory, and mental endurance

The following conditions listed above can be interpreted by means of the morphogen hypothesis as a direct effect of protein accumulation in tissue fluids.
(No. 2) Retardation of cell division and capacity to repair
(No. 3) Retardation rate of tissue oxidation
(No. 4) Cellular atrophy, degeneration, increased pigmentation, and fatty infiltration
(No. 5) Degenerative changes in the elasticity of connective tissue
The balance of the progressive age changes enumerated above can be interpreted as necessary consequences to the changes listed as basically due to accumulating proteins.

Key Players in Cellular Vitality

The hypothesis: To increase cellular vitality and longevity, involve these key players in the intra and extra cellular reactions necessary to maximize cellular regeneration and repair. With the elimination of cellular debris (waste) products may hold the key to sustained life at the cellular level.

- Vitamin B Complex- An important adjunct to slowing the progression of most all degenerative and debilitating diseases.

-Nerve integrity and cell energy reactions. Oxidation mechanisms accomplished enzymatically.
-Carbohydrate metabolism, oxidation of Lactic Acid
-The energy that a cell needs to maintain itself and perform its various functions is supplied by the oxidation of the food within the cell. In this respect Vitamin B complex performs an important role by catalyzing the various chain reactions through its co-enzymes. This to a very large extent is related to carbohydrates metabolism and as such the requirements for Vitamin B vary according to the amounts of carbohydrates ingested, particularly sugars.

- Chlorophyll- Increases platelet counts, which is concerned with the elimination of protein tissue toxic debris which accumulate in tissue fluids. This is a consequence of protein metabolism, which is also often released after injury.

-Improves blood purification
-Decreases protein debris
-Neutralizes quinidine
-Prevents nerve atrophy
-Increases Vitamins A, E, K, and F, and real blood count
-Aids the reticuloendothelial system in decreasing protein waste
-Decrease nerve termination by neutralizing quinidine

- CoQ10- Increases cellular oxidation (highest concentrations found in cell mitochondria). Mitochondria are high in fatty acid substances (EFA's), nucleoproteins, and phospholipids.

-Vital for energy production
-Antioxidant protects cell from negative byproducts and free radicals
-Critical in brain health
-Destroyed by statin drug use

- Cruciferous Vegetable- Supports Phases I and II liver, as well as kidney detoxification through the Cytochrome P450 enzyme system obtained from vegetables, such as Kale and Brussel Sprouts.

-Maintains normal liver function
-Highest concentration of phytonutrients high in antioxidant activity
-Helps neutralize free radicals which can lead to cancers
-Support healthy eye function

- Choline (methyl group)- deficiency results in thymic involution (reduction in size). Methyl donors, choline is most important and are necessary for phosphatide production and reprocessing of sheathing phosphatides in the liver. Phospholipid=phosphorus + lipid + methyl group + Chg (choline)

-Lipotropic factor
-Critical in the metabolic cycle of protein sheathing
-Promoting the elimination of proteins associated with senescence along with lecithin (EFA) and phosphorus
-95 percent of the plasma phospholipids contain choline.
-Decrease in liver phosphatides with diet deficient in choline
-Both kidney and liver lesions result from choline deficiencies due to failure of phospholipid synthesis

- DHEA- superstar of super hormones. One of the most powerful tools available for enhancing and extending life. Produced in the adrenal glands. DHEA is metabolized into Androstenedione which is converted directly into testosterone. Precursor to most all hormones, both male and female.

-Decreases with age, by age 40 we have about half of what we had in our 20's
-Increased feeling of energy and well being
-Improved insulin sensitivity and glucose tolerance
-Decrease coronary heart disease
-Decreased obesity
-Slows progression of arteriosclerosis
-Enhanced libido and erectile ability
-Reduced depression
-Improved cognitive function

- Lecithin- Key component is phospholipid formation necessary for protein debris elimination. Antagonist to cholesterol due to phospholipids opposing the influence of cholesterol. Because phospholipids offer "sheathing" layers between which cholesterol and proteins are held, thus rendering cholesterol harmless.

-Nuclei of liver cells are high in phosphatides (mainly lecithin)
-High concentration found in eggs
-Deficiencies result in protein metabolism interference
-Phospholipid=phosphorus + lipid (lecithin) + methyl group (like choline)

- Iodine- EFA/Iodine balance essential in the health and vitality of every tissue in the body.

-Iodine and Thyroid are utilized in the EFA transfer reaction of the lipoprotein protein molecule in the liver
-Key link in the biochemistry of the "sheathing" material
-Predisposes an important component in all thyroid functions
-Receptor sites in the body are blocked by chlorine, fluorine, and bromine exposure.

- Anterior Pituitary- Anterior pituitary seems to assume a position of primary importance in the control of aging senescence.

-Anterior pituitary through its control of other endocrines and through the medium of adrenotropic hormones like DHEA may well be the key organ of preventing the degenerative changes of old age.

> Hypothesis-life span is determined by some key organ which is "wound up like an intrinsic biological clock," and gradually runs down during the metabolic activities associated with the life cycle. Protein metabolism strongly suggests it is the master organ (anterior pituitary) whose control of the life cycle is in turn determined by heredity. Its' medium of determination of the Life Cycle may revolve around its control over the system of elimination of proteins. Particularly its maintenance of the Immune System. I.E., high percentages of neutrophile polymorpho-leukocytes and high total leukocytes. The accumulated protein is the basic cause of degenerative changes of "Old age" and the inevitable death of the organism.

- E-Manganese- enhances support to the Anterior Pituitary gland and its modulation of hormones.

-Precursor in the Creb (energy) cycle
-Mineral factor necessary for pituitary activity

- Vitamin E- increases tissue oxidation (oxygen carrying capability).

-Precursor to sex hormones
-Antioxidant
-Retards the development of cancers by influence of cell maturation and differentiation
-Involved in the protective association (much like Vitamin A of protein with lipid sheathing)

- Vitamin A- protects against protein cellular debris activity with lipoids in developing (catalyzing) protective sheathing materials with EFA's like Vitamin F, etc.

-Powerful antioxidant, anti-inflammatory, anti-cancerous properties

-Beneficial in arthritis, iodine utilization, burn treatments, cancer, and lecithin metabolism
-Deficiency can lead to sterility like that of Vitamin E
-Platelet counts diminished in Vitamin A deficiency

- Thymus- promotes a youthful epidermis (so called thymic complexion), smooth and juvenile. Possibly due to its activity in promoting the protective association of proteins with lipoids.

-Thymus is concerned with the metabolism of sheathing material
-Thymus extract and choline as well as other methyl groups act as anti-carcinogens
-T-cell producer-Aids in antibody production
-Immune system enhancer

- RNA- The nucleic acid of the Cytoplasm.

-The RNA in the cytoplasm is an index of intensity of metabolism and protein synthesizing capacity of the system
-RNA is the growth promoter when added to tissue. Associated with protein synthesis and cell division.
-Supports growth by activating protein synthesis memory factor of the cell. Promotes healing.
-Aids in memory support
-Relative of protomorphogens (proteins)

- Symplex M (male) and Symplex F (female)- unique nucleoprotein-mineral extracts support endocrine cellular health and balance.

- Prostate- secretes a highly significant fluid responsible for transporting proteins to the site of chromosomal construction. Chromosome networks are reproduced only in germ centers. These tissues are the only local in which individual morphogens can be produced. Sex hormones are concerned with elimination function in releasing the intact proteins from connective tissues.

-Connective tissues have been described as having a powerful affinity for all protein molecules.
-Prostate secretes a hormone both externally and internally that hinders the hydrolysis of proteins concentrations in the blood and tissue fluids that can overload elimination mechanisms having adverse influences of cellular vitality and death. Prostate fluids help prevent hydrolysis or breakdown of intact proteins.
*Thus, the acceleration of degenerative and senile changes following prostate removal is significant.

Hormone Balance for Preventing Premature Senility

We know that estrogens are also always present in the male and testosterone in the female. Their irreducible minimum necessary to prevent senility can be estimated as the amount of female principle normally in the male, or male principle normally in the female. In clinical practice, therefore there may be some substantial support for the administration of testosterone which should be accompanied by a small amount of estrogen and vice versa. On the other hand, if eliminative mechanisms such as liver, kidney, or reticuloendothelial defenses are inadequate, the addition of elutogenic hormone factors may by exceedingly toxic since they raise the blood and tissue fluid concentrations above optimum levels. Excessive administration of sex hormones

and thyroid may be disastrous in the elderly for this reason. (Protomorphology, Lee & Hansen Pg. 271). Sex hormones are concerned with the elutogenic function of releasing the intact proteins from connective tissues for both protein synthesis and elimination.

The Morphogen Hypothesis: Cytotropic Extracts Cytotoxins

Basically, contends that the chromosome material exhibits a constant dynamic metabolism that consequently secretes fractions into the medium surrounding the cell. In a depolymerized (less acidic) form, these protein fractions are used as material for protein synthesis at the cytoplasm boundary, stimulating growth and mitosis (cellular expression). In a concentrated and polymerized (more acidic) form, they prevent further excretion resulting in "waste" product (proteins) accumulation in the cell. These accumulations lower the cell potential preventing mitosis, decreasing cellular vitality, and eventually death.

Protomorphogens (PMG's)- concerns the protein component of the cell structure and characteristics not specific to cell function. PMGs are composed of mineral fractions of animal tissue which are found in association with the protein molecule.

A PMG (protein) is the component of the cell chromosome that is responsible for morphogenic determination of cell characteristics.

a. It is the smallest unit in the cell blueprint.
b. The smallest unit of the gene system that guides the cell into its hereditary form as it grows, develops, and repairs itself.
c. Without sufficient proteins in the chromatin the cell degenerates, de-differentiates, and becomes senile and dies.

Learn how certain proteins regulate the life and vitality of all cells. Thus, the balance of cellular proteins is concerned with the specific influence on disease.