The Research and Development of Anti-Aging

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Abstract: Humankind is living things which characterize like any living thing to own a same period of born and death. The human lust of extending life. Lengthening and lifespan increased which make the humankind summarizing a novel conception of longevity and current theories of aging level, in which two themes were generally revolved. Aging is a physiology phenomenon that is controlled by genomic, life habit and Environment factor. The environment factor are included the radiation, noises etc. That was not described about the environment factor that is related the Environment healthy of the social security. What described above are the important several factors to affect aging only that were knew by people self. It would be great benefits for the long life in human to study the several affecting human aging factors above.

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Keywrods: Humankind; living things; lifespan; physiology; people

1. Introduction

Humankind is living things which characterize like any living thing to own a same period of born and death. Then, with the evolution of living things and the scientific development of human, people desire to prolong the live the more and the more, The anti-aging has been a main topic to talk the longevity a few decades recently.

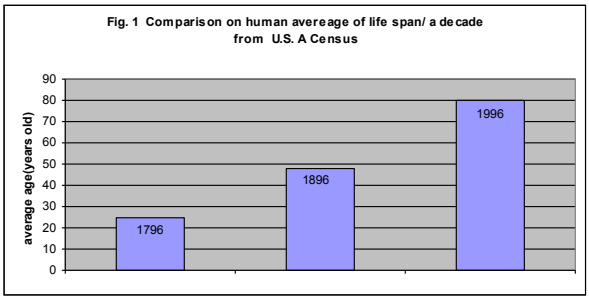
In fact, the human lust of extending life, would almost be the same source with accompanying life primary, never stop to be found and to be investigated.

Organization was found in 1993 by a small group of physician and scientists dedicated to slowing, and eventually halting, the aging process. The name is American Academy of Anti-Aging Medicine (called, A4M). Dr. Robet Goldman is Chairman of the Board; And Dr. Robald Klatz is Present. The official slogan is "Aging is not inevitable! The war on aging has begun." Since 1993, A4M has become the world's leading non-profit and scientific society. And the anti-aging is not only a desire, but also a planed perspective in a schedule being possible.

Achieved which is the symbol that the new anti-aging has been started, and called "The Anti-Aging Revolution".

2. The Future of the Anti-Aging

The biology research has been early contributed the biological data that show the human equivalent life spans is about 120-150 years old. But when the U.S Census was taken in 1970, half the population was under age sixteen. The average life span is 25 year old on 1786, 48 years old on 1896, 80 years (a healthy, productive average was almost) on 1996, respectively (Fig. 1). This average of life span is double increase a decade.



3. The lifetime

Lengthening and lifespan increased which make the humankind summarizing a novel conception of longevity and current theories of aging level, in which two themes were generally revolved.

1) Aging is programmed; Programmed aging theories are based on the idea that is from conception to death, human development is governed by a biological "clock". This clock sets the appropriate times for various changes in vision, loss of calcium in the bones, decreasing hearing acuity, and lowered vital capacity of lungs all are examples of programmed aging.
2) Aging is accidental; this theories of aging rely on chance-the nation that organism get older by a series of random events. An example is DNA damage from free radicals, Solar ultraviolet B (UVB), the wear and tear of daily life.

These census data show that the average of life span is less more than 120-150 years old, and two themes established are a revolution on anti-aging which indicates human life span is not only a target from inheritance, but also is initiative target from the active effort after birth. At present, it is some difficult by changing the function of gene to carry out the life span increasing. However, it will be possible to lengthen the life time and lifespan by the human make a subjective effort to avoid or decrease the any reason to effects the biological "clock" and DNA damage. In the fact, the revolution.

On anti-aging has been processing, the human lifetime and lifespan have been lengthening. The persons have been not only to follow the life to stop but also to do best to achieve a desired lifetime and lifespan under the allowance factor of gene and inheritance. Why we do aging? Our humankind lifespan is 150-180 years old.

4. Longer Life Spans has been being the Results of Modern & Technology

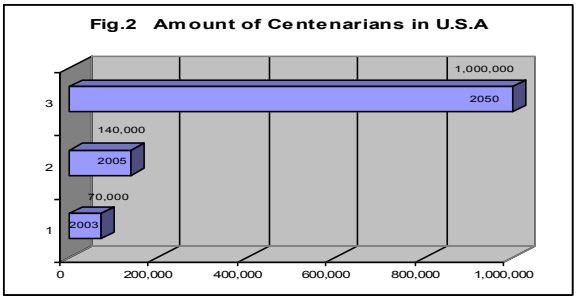
By opening the humankind's history we could find that the life span is not fixed (Fig. 1). As we age, we become more mature adults, growing older developmentally, not Chronologically. A chronologically sixty year old person may have the physiological Age of a forty five years old person or a 50 years old person may have the diseases and ill health paralleling the physiological decline of an eighty years old person.

With the review of the average of human lifespan, we know that the aging is developmental and also know the normal and pathologic aging that is critical for lifespan. Which one is the normal aging that is some difficult to make an exact definition at present. But the pathologic aging would be understood easily, in which the pathologic aging is the aging process that is brought on by the presence of disease, such as adult-onset diabetes or arthritis, which may later bring on cardiovascular disease or osteoporosis, is not considered "normal" aging. However, if a person, who is due heredity, lifestyle and /or lives long enough, to develop cataracts, is considered as the "normal' aging.

The distinguishability of "normal" and pathologic aging were recognized by the development of modern science and technology. And the pathogenesis of disease were also known clearly by the modern science and technology too. The discoveries of vaccination, insulin, antibiotics, new surgical technique, hormone Replacement therapies, and treatment for life-threatening disease all contribute to staying younger.

5. Longer.

Accompanying the developing period when the loner life spans have been being the results of modern and technology, we have entered an newly era when older people make up the greatest percentage of American's population. When the first U.S. Census was taken in 1790, half the population was under age sixteen. In 1990. less than one –fourth the population was under age sixteen. The percentage of American over age sixty-five today has tripled from 1900 to 1990 from 4 percent to 12.5 percent, while the total number has been increased tenfold, from 3 to 31.6 million. Every day in 1990, some 6,000 people celebrated their sixty-five birthdays almost every body who turned sixty-five in 1990 was expected to live an average of 17.3 years more. Look around today. It's not uncommon to see people who are still healthy and vibrant in their eighties and nineties. Centenarians is the symbol for longevity. The past, today and future forecast record of centenarians in U.S.A (Fig.2) show that the increasing amount of centenarians is surprised.



The human life is from the generation and development of inheritance gene.

The life after birth will be long life or short life that is controlled by the modern science and technology. The human average of life spans on 1786, 1896 and 1996.

Have been demonstrated (Fig. 1). The same inheritance gene produced the different.

Life spans that the basis reason is from the developing modern science and technology.

The longer life spans are not only to have been the result of the developing modern science and technology, but also to have been a potential power to lengthen the human lifetime. How long the human life spans will be in future? Nobody might be answer for you. But the developing modern science and technology will be answered.

Aging is a phenomenon of life, and this phenomenon is a regular accompanying the process of life. To know this regular of life process is necessary to find an anti-aging way. By the effort of Census and modern scientific investigates, there are 19 theories of aging; to be has been established, in the investigate

period of anti-aging. But none fully expresses the how and why for the process of aging, each account for some aspects of the process. These theories established have been provided the principal to find an effective method for anti-aging.

1) Wear and Tear

(1) Established by: Dr. August Weismanna, a German biologist, first introduced in 1882.

(2) Content of Theories: Wear and Tear which means the Human and its cells were damaged by overuse and abuse in some period of process of life.

The organs- liver, stomach, kidneys, skin, and so on- are worn down by(1) toxins in the diet and in the environment; by (2) the excess consumption of fat, sugar, caffeine, alcohol, and nicotine; by(3) the ultraviolet rays of the sun; by(4) the many other physical and emotional stresses. Wear and Tear is not confined to human bodies organs, however, it also takes place on the cellular level. The cell level damage that effect the function of organs take place progressively. The organs function gradually decline to decrease the life span. When you are young, the body's own maintenance and repair system keep compensation for the effects of both normal and excessive wear and tear.That is why young people can easily get away with a night of heavy drinking or a bring of pizza or sweets. With you are age, your body loses its ability to repair damage. So the Wear and Tear would be happened, the age is happening more and more.

(3) In the Anti-Aging: Wear and Tear happening is avoided that may carry out the anti-aging.

2) Neuroendocrine System

(1) Established: This theory was developed by Vladimir Dilman, ph.D. on the Wear and Tear by focusing on the neuoendocrine system.

(2) Content of Theories: Neuroendocrine System is complicated network of biochemicals that governs the release of hormonas and other vital bodily elements.

The different organs release various hormones, all under the governance of the hypothalamus. Hormones are vital for repairing and regulating bodily function, and when aging causes a drop in hormones production, it causes a decline in the body's ability to repair and regulate itself as well. Moreover, hormone production is highly interactive: the drop in production of any one hormone is likely to have a feedback effect on the whole mechanism, signalling other organs to release lower of other hormones, which will cause other body parts to release lower levels of yet other hormones. The hormones are secreted from neuoendocrine system, the age effects neuoendocrine system to secret the level of hormones. When a person who is aging, the hormones must be a lower level expression. So the neuroendocrine system is vital for the aging.

(3) In the Anti-Aging: How to keep the function of neuroendocrine system to keep the hormones level is the vital for carrying out anti-aging**.** Hormone replacement therapy a frequent component of any anti-aging treatment that is helping to reverse or delay the effects of aging.

3) Free Radical

(1) Established: Being first introduced by R. Gerschman in 1954, developed by Dr. Denham Harman of the University of Nebraska College of Medicine.

(2) Content of Theories: Free Radical is a term used to describe any molecule that differs from conventional molecules in that it possesses a free electron, a property tThat makes it react with other molecules in highly volatile and destructive way.

The free radical, on the other hand, has an extra electron, creating an extra negative charge. This unbalanced electrical energy makes the free radical tend to attach itself to other molecules, as it tries to steal a matching electron and attain electrical equilibrium. Some scientists speak pf these free radical as "promiscuous," breaking up the happy marriage of paired electrons in neighbouring, molecules in order to steal an electron "partner" for themselves. In doing so, that create new free radical-and extensive bodily damage.

Free radical damage that was thought of it as oxidation that is a process of adding oxygen to a substance. Another word for oxidation, of course, is rust, and in a sense, human body aging process is analogous to the rusting away of once-intact piece of metal. Because forms of oxygen itself are free radicals, our very breathing, and our otherwise healthy aerobic exercise, generate free radical that help promote the aging process.

(3) In the Anti-Aging: How to prevent free radical products or to find a substance that prevent the harmful effects of oxidation which are known as anti-oxidation. Anti-oxidation is effective ant-aging. Have been proved the natural anti-oxidants include vitamin C, E, beta-carotene and Algometric Proanthocyanidin Complexes (OPC), that is from Grape seed extract etc.

4) Genetic Control

(1) Established: It seems an obsolescence theory because it was proved by molecular.

Method and technology: In fact, it also implies a number of un-understanding principle in age and anti-aging.

(2) Content of Theories: The gene has been brought the genetic programming DNA encoded. This

encoded DNA that is a predetermined tendency to certain types of physical and mental functioning. And that genetic inheritance has a great deal to say about how quickly you age and how long you will live, and has a biological clock ticking away, set to go off at a particular time, give or take a few years. Follow the Genetic DNA signal encoded, the biological clock will be ticking away gradually, so that it signals our bodies first to age and then die.

(3) In the Anti-Aging: It would be difficult for anti-aging to prevent the aging from the Genetic Control on special Gene inheriting. A way to change the inheriting gene must be fund by the Medical Scientist in future.

5) Sleep effect Aging

(1) Healthy Sleep: There are two basic stage that is the REM (rapid eye movement) and non-REM sleep in the healthy sleep. The non-REM stage includes four sub-stages of sleep. The first two stages are light sleep. During stages three and four, delta sleep occurs. Delta sleep is the deepest and most restorative sleep stage. After the fourth stage of non-REM sleep, the sleeper enters REM sleep, where dreams occur.

(2) Sleep in Elderly People: As people age, they typically spend less time in deep sleep. Sleep tends to be shallower and older individuals wake more often. Older people also spend less time in REM sleep, need more time to fall asleep and tend to fall asleep earlier and wake earlier than younger adults (a condition called advanced sleep phase syndrome).

(3) In the Anti-Aging: Keeping a regular sleep schedule **is very** important to have a healthy sleep**,** many factors affect aging and sleep in elderly individuals. Physically, changes in body temperature, decreases in sleep-regulating hormones and aging bladders can disrupt sleep.Sleep hygiene describes behavior that encourages sleep. Older adults can improve their sleep hygiene by: 1) Avoiding caffeine, alcohol and nicotine in the hours before bedtime, 2) Developing a bedtime routine , 3) Limiting daytime naps.

The lifestyle changes common to aging also affect sleep in elderly individuals, including: 1) Changes in diet, 2) Daytime inactivity, 3) Decreased exposure to natural light, 4) Decreased mental stimulation.

6. Obesity Is the Pre-Aging

(1) Normal Body Weight: Percentage body fat increased slightly between ages 20 to 39 years, but, that percent is less 2-3%. Keep the normal body weight is important for the healthy body.

(2) Obesity Accelerate Aging: There were many studied to show that the fat distribution changes with aging, and inherent changes in fat cell progenitors may contribute because fat cells turn over throughout life. Another way, Obesity induce II-Diabetes and cardiovascular disease that are the strong reason to accelerate aging too.

(3) In the Anti-Aging: Obesity is disease with gene inheriting and a not healthy dietary action. Many research data have been shown every one that the diet (included the sorting and amount of the food) and to increase exercise to avoid the obesity occurrence. But, there are still many people who always forget the diet to make obesity. For your healthy body, please don't forget to make your body losing.

7. Summary and Conclusion on the Anti-Aging

Aging is a physiology phenomenon that is controlled by genomic, life habit and Environment factor. The environment factor are included the radiation, noises etc.

That was not described about the environment factor that is related the Environment healthy of the social security. What described above are the important several factors to affect aging only that were knew by people self. It would be great benefits for the long life in human to study the several affecting human aging factors above.

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