O‘ZBEKISTON RESPUBLIKASI

OLIY TA’LIM, FAN VA INNOVATSIYALAR VAZIRLIGI

FARG‘ONA DAVLAT UNIVERSITETI

FarDU. ILMIY XABARLAR

1995-yildan nashr etiladi
Yilda 6 marta chiqadi

2024/3-SON ILOVA TO‘PLAM

НАУЧНЫЙ ВЕСТНИК. ФерГУ

Издаётся с 1995 года
Выходит 6 раз в год

BIOLOGIYA

FarDU. Ilmiy xabarlar – Scientific journal of the Fergana State University

Volume 30 Issue 3, 2024-yil DOI: 10.56292/SJFSU/vol30_iss3_2t/a389

UO'K: 37.013:54.004.02

QARISH JARAYONI MEXANIZMINI O'RGANISH

ИЗУЧЕНИЕ МЕХАНИЗМА ПРОЦЕССА СТАРЕНИЯ

STUDYING THE MECHANISM OF THE AGING PROCESS

Nishonov Mirkozimjon[1]
[1]Farg'ona davlat universiteti professori

Mamajonov Shuxratjon Askarovich[2]
[2]Farg'ona davlat universiteti, pedagogika fanlari nomzodi, dotsent.

Annotasiya

Ushbu maqolada mualliflarning barcha tirik organizmlarning qarish jarayonining mexanizmi haqidagi fikrlari keltirilgan. Qarish jarayonining mexanizmini, qarish sabablarini, qarish jarayonini tezlashtiruvchi omillarni tushuntiruvchi nazariyalar ilmiy asoslangan faktik materiallar asosida yoritilgan.

Аннотация

В данной статье представлены мнения авторов о механизме процесса старения всех живых организмов. На научно обоснованном фактическом материале освещены теории, объясняющие механизм процесса старения, причины старения, факторы, ускоряющие процесс старения.

Abstract

This article presents the authors' opinions about the mechanism of the aging process of all living organisms. The theories explaining the mechanism of the aging process, the causes of aging, the factors that accelerate the aging process are covered based on scientifically based factual materials.

Kalit so'zlar: *qarish jarayoni, qarish mexanizmi, qarish sabablari, sog'liqni saqlash, umrni uzaytirish*

Ключевые слова: *процесс старения, механизм старения, причины старения, здравоохранение, продление жизни.*

Key words: *aging process, mechanism of aging, causes of aging, health care, life extension*

INTRODUCTION

It is no secret that the increase of the population according to the geometric progression, and the preparation of the resources for its material needs according to the arithmetic progression, caused a lot of worries for humanity.

Humanity's desire to satisfy its growing material and spiritual needs, to live well and fully, has led to the development of science and technology.

Unfortunately, as a result of mankind's efforts to satisfy its needs, the balance between nature and society is disturbed, and people's health is greatly damaged.

LITERATURE ANALYSIS AND METHODOLOGY

Of course, people's health and life expectancy are related to the environment they live in and their healthy lifestyle [1].

In the sources of folk medicine, there are mainly two important secrets of healthy and long life. First of all, this is a person's belief that he will live long, and the second is his proper nutrition [2].

All living organisms, including the human body, have a natural, legitimate process of aging over time. He makes no exception to anyone. In other words, the life span of every living organism is limited by time. From the day he was born, he grows, develops, and finally ends his life by giving birth.

Unless the same organism dies for some reason, it goes into senescence when the reproduction period ends. This also ends in death.

In fact, the aging process is very complex and can happen quickly or slowly for a number of reasons.

Currently, there are about 200 theories that explain the mechanism of aging. Even a special science called Gerontology (derived from the Greek words geron, gerontos, logia meaning old, old and science) was created, which studies the laws of the aging process, the secrets of longevity, etc.

RESULT AND DISCUSSION

According to research results, it is possible to divide the causes of aging into 2 groups (internal and external).

Internal reasons are natural, that is, the aging process occurs in the body by itself, as if planned in advance. Fatty substances (cholesterol) and some salts stick to the walls of the arteries and become narrow, as a result of which it becomes difficult for oxygen and other necessary substances to reach the cells and tissues. As a result, the function of organs slows down and gradually shrinks. For example, a 90-year-old person's lungs have shrunk by 2 times, the upper part has turned into a bone, and the chest has hardened like an "iron cage".

The synthesis of hormones (especially sex hormones) that control the reproductive organs decreases. Nerve cells do not regenerate. The resistance of the body to sudden changes in the external environment, the characteristic of fighting against various diseases - immunity decreases.

Tissues lose water, and the skin becomes dry and tight. The face and nose, especially the forehead, around the eyes and nose are wrinkled. Teeth fall out, bones become brittle and break easily from the slightest impact. Movement of the joints is reduced, the height is reduced and the stature changes. Sometimes the body bends. Eyes often darken. In some cases, the veil falls on the eyes. Memory fades and starts to warn, etc.

So, these processes continue gradually without interruption and finally one day the eye closes.

External factors affecting aging include rapid environmental change, water, air and soil pollution, poor nutrition, lack of mobility, diseases, accidental injuries, alcoholism, drug addiction, interpersonal relationships, family environment, type of activity, political views, depression, etc.

The physiological extinction limit of life, that is, natural aging processes, has been studied to some extent in animals. For example, some insects live for a few hours, mice and rats live for 3-5 years, rabbits - 10 years, dogs - 15 years, elephants - 80 years, turtles - 150-200 years, crocodiles - 300 years, etc. But the limit of natural aging and death in humans has not yet been determined. This is easily explained as "you will see the life written on your forehead" in the vernacular. In science, there is the same abstract explanation of life: there is a unique substance-DNA (deoxyribonucleic acid) in the cell, which preserves hereditary characteristics and passes them from generation to generation, and in it the height, stature, mental perception, etc., the length of life of a person is "hidden" written down". Current research is focused on reading this inscription. The research conducted in this regard has found that cancer cells do not "die" in a laboratory environment if the conditions are good. Perhaps, in time, such a feature of human cells will be discovered and new conclusions will be drawn. Nowadays, the duration of human life depends on the strength of the factors affecting aging.

The generations that lived in ancient times were short-lived due to poor living conditions, infectious diseases, terrible natural disasters and attacks by wild animals. Their average age was 20-30 years. Even after some improvement in conditions, due to conflicts and destructive wars, the average life expectancy of people has remained almost unchanged. In the 18th and 19th centuries, the average age was 34 years for the Dutch, 33 years for the British, 33-35 years for the Germans and Swedes, and 32 years for the USA. In general, in 1900, the average life expectancy of European nations was 32 years. Today, the average life expectancy in developed countries is around 70-80 years. Fortunately, the average life expectancy of the population in our country is 73.5 years, for women it is 75.8 years. It has been found that women live 5-7 years longer than men. It is believed that the reason for this is that it renews the body of women during childbirth and relieves them from the shock of life's losses and sorrowful days.

But in all eras there were people who lived a long life. According to the ancient Greek philosopher Plato, those who had pure morals and engaged in constant physical and mental work

in Hellas lived for about 200 years. However, Plato himself lived for 81 years. His teacher Socrates lived 75 years, Aristotle lived 62 years. At that time, Hippocrates, the founder of medicine, lived for 104 years.

There is information that the pious Kentiger, who lived in 600, lived 185 years, the Ossetian woman Toyabad Anieva, who lived in recent times, lived 182 years, Sherali Muslimov from Azerbaijan lived 168 years.

Currently, it is recognized that the oldest living Turkish farmer named Musa (born in 1889) lived for 125 years. When he was asked the secret of his long life, he answered: "I never once drank alcohol, did not use tobacco products, prayed 5 times and fed my children with honest work." If you pay attention to this information, "Is there a limit to youth and old age?", "Is it possible to prolong life?" It is natural to ask questions. In ancient medical books, it is written that when a person reaches the age of 36-40, all vital processes become normal, and when they reach the age of 60, they decline. Later studies showed that old age begins at the age of 70. But currently, based on the achievements of biology and medicine, according to the World Health Organization (WHO), it is recognized that those who die before the age of 85 die from a complete illness, and those who die after the age of 85 die from both disease and old age.

Some scientists believe that humans can live an average of 120-130 years, while others believe it to be 150-200 years. Roger Bacon and Abu Ali Ibn Sina wrote that if there were no diseases, people could live up to 1000 years. People have dreamed of living a long life since time immemorial. But, until now, this dream remains a dream. Unfortunately, many thinkers, famous artists, writers-poets and worldly sultans did not live long. The saddest thing is that Ibn Sina, who created more than 450 works, died at the age of 57 from the disease he was treating so many patients. Zakhiridin Muhammad Babur lived for 47 years. If these nobles had lived at least 70-80 years, they would have done many good deeds. The most famous composer, Mozart, lived for 35 years, Alexander the Great, who shook the world, only 33 years. Our most talented poet Muhammad Yusuf died before he was 50 years old.

When it comes to life, one of the sages, Le Compote, wrote: "I should live at least 85-90 years. My early departure is a disaster for society, because I owe it a lot." "It is equal to my size in the blanket." Academician I.P. Pavlov explained the reason for not living long: "People can live to be 100 or more years old. But we shorten our lives due to our impatience, lack of appetite, indifference to our health. However, social relations, prejudice, incitement, etc. were also very important for the early death of famous people.

SUMMARY

So it can be said that people are more emotional than rational thinking. Because of this, before losing their physical endurance, they lose their mental vitality and begin to age.

REFERENCES

1. Nishonov M. Jalolov I. J., Oblayorova T. T. Some comments on the secrets of a healthy lifestyle and long life. Modem problems and prospects for organizing a healthy lifestyle and proper nutrition International scientific-practical conference on the topic. (April 26-27, 2024, Karshi, pig 32

2. Jalolov I.J., Nishonov M., Oblayorova T.T. Human health and chemistry. Modem problems and prospects for organizing a healthy lifestyle and proper nutrition International scientific-practical conference on the topic.(April 26-27, 2024, Karshi, pig 21.