

KEKSA OSHDAGI FIZIOLOGIK O'ZGARISHLAR
ФИЗИОЛОГИЧЕСКИЕ ИЗМЕНЕНИЯ В ПОЖИЛОМ ВОЗРАСТЕ
PHYSIOLOGICAL CHANGES IN OLD AGE

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Abstract: This article analyzes the physiological changes of old age and how they affect the human body. First of all, external changes such as skin loss of elasticity and moisture, wrinkles and hair loss are considered with age. Musculoskeletal changes, including sarcopenia and reduced mobility due to osteoporosis, and increased fracture risk are discussed. Changes in the cardiovascular system are associated with a decrease in the strength of the heart, hardening of the blood vessels and an increase in the risk of hypertension. In the respiratory system, a decrease in the elasticity of the lungs and a decrease in the efficiency of gas exchange are noted.

Changes in the nervous system are also analyzed in the article, and problems such as cognitive abilities, memory and reflexes weakening and increased risk of dementia due to the reduction of neurons in the aging process are highlighted. Particular attention is paid to digestive problems, changes in hormones and the endocrine system, in particular, the reduction of sex hormones and the violation of insulin production. The last section describes the weakening of the immune system and increased susceptibility to infections.

In the conclusion of the article, it is emphasized that a healthy lifestyle, proper nutrition and regular physical activity play an important role in slowing down the aging process, as well as the need for regular medical examinations to monitor the aging process and alleviate problems

Annotatsiya: Mazkur maqolada keksa yoshdagi fiziologik o'zgarishlar va ular inson organizmiga qanday ta'sir ko'rsatishi tahlil qilinadi. Birinchi navbatda, yosh o'tishi bilan terining elastiklik va namlikni yo'qotishi, ajinlar va soch to'kilishi kabi tashqi o'zgarishlar ko'rib chiqiladi. Mushak-suyak tizimidagi o'zgarishlar, jumladan, sarkopeniya va osteoporoz tufayli harakatchanlikning pasayishi va suyak sinish xavfi ortishi kabi muammolar muhokama etiladi. Yurak-qon tomir tizimidagi o'zgarishlar yurak kuchining pasayishi, qon tomirlarning qattiqlashishi va

gipertoniya xavfini oshirishi bilan bog'liq. Nafas olish tizimida esa o'pka elastikligining kamayishi va gaz almashinuvi samaradorligining pasayishi e'tiborga olinadi.

Maqolada asab tizimidagi o'zgarishlar ham tahlil qilinib, keksayish jarayonida neyronlarning kamayishi natijasida kognitiv qobiliyatlar, xotira va reflekslarning zaiflashishi va demensiya xavfi ortishi kabi muammolar yoritiladi. Ovqat hazm qilish tizimidagi qiyinchiliklar, gormonlar va endokrin tizimda sodir bo'ladigan o'zgarishlar, xususan, jinsiy gormonlarning kamayishi va insulin ishlab chiqarilishi buzilishiga alohida e'tibor qaratiladi. Oxirgi bo'limda immun tizimining zaiflashishi va infeksiyalarga sezgirlikning oshishi tavsiflanadi.

Maqola xulosasida esa sog'lom turmush tarzi, to'g'ri ovqatlanish va muntazam jismoniy faollik qarish jarayonini sekinlashtirishda muhim rol o'ynashi, shuningdek, keksayish jarayonini kuzatish va muammolarni yengillashtirish uchun muntazam tibbiy ko'riklar zarurligi ta'kidlanadi.

Аннотация: В данной статье анализируются физиологические изменения старости и то, как они влияют на организм человека. В первую очередь с возрастом учитываются внешние изменения, такие как потеря эластичности и влажности кожи, морщины и выпадение волос. Обсуждаются скелетно-мышечные изменения, включая саркопению и снижение подвижности из-за остеопороза, а также повышенный риск переломов. Изменения сердечно-сосудистой системы связаны со снижением силы сердца, уплотнением сосудов и увеличением риска развития гипертонии. В дыхательной системе отмечают снижение эластичности легких и снижение эффективности газообмена.

В статье также анализируются изменения в нервной системе и освещаются такие проблемы, как ослабление когнитивных способностей, памяти и рефлексов, а также повышенный риск развития деменции из-за сокращения нейронов в процессе старения. Особое внимание уделяется проблемам пищеварения, изменениям гормонов и эндокринной системы, в частности, снижению половых гормонов и нарушению выработки инсулина. В последнем разделе описывается ослабление иммунной системы и повышенная восприимчивость к инфекциям.

В заключении статьи подчеркивается, что здоровый образ жизни, правильное питание и регулярная физическая активность играют важную роль в замедлении процесса старения, а также необходимость регулярных медицинских осмотров для наблюдения за процессом старения и облегчения проблем.

Key words: Old age, physiological changes, skin elasticity, sarcopenia, osteoporosis, cardiovascular system, nervous system, cognitive abilities, immune system, endocrine system, hormonal changes, digestion, aging process, healthy lifestyle, reduction of muscle mass.

Kalit so'zlar: Kexsa yosh, fiziologik o'zgarishlar, teri elastikligi, sarkopeniya, osteoporoz, yurak-qon tomir tizimi, asab tizimi, kognitiv qobiliyatlar, immun tizimi, endokrin tizim, gormonal o'zgarishlar, ovqat hazm qilish, qarish jarayoni, sog'lom turmush tarzi, mushak massasining kamayishi.

Ключевые слова: Старость, физиологические изменения, эластичность кожи, саркопения, остеопороз, сердечно-сосудистая система, нервная система, когнитивные способности, иммунная система, эндокринная система, гормональные изменения, пищеварение, процесс старения, здоровый образ жизни, снижение мышечной массы.

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Relevance of the topic: The relevance of physiological changes in old age is demonstrated in the article through the following aspects:

1. Population aging: In many countries, the composition of the population is changing, and the number of elderly people is increasing. This demographic change makes the issues of maintaining the health of elderly people and providing them with appropriate care urgent.

2. Burden on the health care system: Chronic diseases such as cardiovascular disease, dementia, diabetes and osteoporosis are common among older people. These diseases are a great burden not only on human quality, but also on the healthcare system. Therefore, understanding the physiological changes of old age and measures to eliminate them are important today.

3. Prevention and healthy aging: Studying the physiology of the aging process can help determine the preventive measures necessary for healthy aging and prevention of chronic diseases. This allows many people to live longer and improve their quality of life.

4. Advances in Research: In recent years, a lot of research is being done in the medical, pharmaceutical and technological fields to slow down the aging process and support healthy aging. By providing a better understanding of the aging process, these studies pave the way for the development of new prevention and treatment methods.

5. Social and economic impact: Supporting the health of older people helps them lead active lives, which contributes to increased economic and social activity in the community where they live. This topic is also relevant for the development of society.

Thus, the study of physiological changes associated with aging is of great importance today and is an urgent issue for medicine, health care system and society.

Purpose of the study: The main purpose of the research in this article is to analyze the physiological changes of old age and determine how they affect various systems and organs of the human body.

The specific objectives of the study include:

1. Studying changes in body systems: Identifying physiological changes that occur in the skin, musculoskeletal, cardiovascular, nervous, respiratory, digestive, and immune systems and their impact on the aging process analysis.

2. Exploring the possibilities of healthy aging: Identifying ways to reduce negative physiological changes that occur during the aging process, to ensure healthy aging with the help of a healthy lifestyle and preventive measures.

3. Contribute to the development of health care and preventive measures: Assist the health sector to develop recommendations for medical and preventive measures to prevent and alleviate problems associated with changes in old age.

Research Findings: The following are key findings from scientific research on physiological changes in aging:

1. Changes in the nervous system

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According to research, the volume of gray matter in the brain decreases by about 0.2-0.5% annually in people over 65 years old, which leads to a decline in cognitive abilities, in particular, short-term memory and quick thinking.

The risk of Alzheimer's disease doubles after age 65 and doubles again every 5 years (Alzheimer's Association, 2020).

2. Changes in the cardiovascular system

According to research conducted by the American Heart Association, the risk of hypertension increases by 60% in people over the age of 60, which significantly increases the risk of coronary heart disease and stroke (AHA, 2019).

The heart rate of elderly people slows down by an average of 10-15%, which reduces blood pressure and cardiac output.

3. Changes in the respiratory system

Research shows that in people over 65, lung volume and elasticity decrease by about 1% each year, causing breathing problems and reduced oxygen delivery to the body (Journal of Gerontology, 2018).

Among the elderly, the risk of developing pneumonia is 8-10 times higher than that of young people, which is due to the weakening of the immune system.

4. Changes in the immune system

In studies of the immune system, T-cell numbers and activity decrease by 30-50% in people over 70 years of age. This makes them significantly more vulnerable to infectious diseases (Aging Cell, 2019).

Elderly people are 5-10 times more likely to get the flu than younger people, and their death rate from the flu is also higher.

5. Changes in the endocrine system

According to research, growth hormone production decreases by about 15% per year in people over the age of 60, which causes a decrease in muscle mass and fat accumulation (Endocrine Society, 2018).

Also, due to menopause and andropause, estrogen and testosterone levels decrease, which reduces bone density by 10-15%.

6. Changes in the digestive system

As we age, secretion and peristalsis in the gastrointestinal tract slow down, increasing the risk of constipation by 50% (Digestive Diseases Research, 2020).

In addition, acid production in gastric juice decreases, which reduces the ability to absorb vitamin B12 and other necessary substances.

Conclusion: the conclusions of the article are as follows

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1. The natural process of aging: Physiological changes in old age are part of the natural aging process of the human body and have some negative effect on all major systems and organs. This process causes changes in the skin, musculoskeletal, cardiovascular, respiratory, nervous, digestive, endocrine and immune systems.

2. Quality of life and health care: These physiological changes negatively affect a person's overall quality of life and health. Therefore, it is important to understand the aging process and develop ways to support health. Factors such as regular medical checkups, a healthy diet, physical activity, and stress management play a major role in improving the quality of life for older adults.

3. Support for healthy aging: A healthy lifestyle and preventive measures can help reduce the negative changes that occur during the aging process. Health care systems also need to focus more on older people to support healthy aging.

4. Importance of scientific research: Research in the field of studying the physiology of the aging process is important not only for prolonging human life, but also for improving the quality of life and prevention of chronic diseases. Therefore, research on this topic is relevant in finding ways to manage the healthy aging process in the future.

In general, the article covers issues such as the impact of physiological changes in old age on the body, meeting the needs of the elderly in health care, and providing opportunities for healthy aging. This is important for supporting healthy and active aging in society.

7. Changes in the musculoskeletal system

Muscle mass decreases by 1-2% per year in people over 70 years old. This leads to loss of mobility and balance, while increasing the risk of falls (Journal of Musculoskeletal Health, 2020).

The risk of osteoporosis increases by an average of 30-40% in postmenopausal women, which leads to increased bone fragility and fractures.

These goals are aimed at providing the concepts necessary to support the health of older people and improve their quality of life, and to make the issues of healthy aging relevant for society.

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5. https://uz.wikipedia.org/wiki/Blood_circulation
6. Alyaviya O.T, Nishanova A.A, Kadirov Sh.K: Hormonal control of physiological functions

Links:

1. <https://cyberleninka.ru/article/n/measures-of-conversation-with-elderly-and-elderly-aged-people-and-features>

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