

mixed therapy: for example, surgery plus chemotherapy or surgery with radiation therapy.

**Conclusions.** Cancer is a very big problem nowadays, but it should be said that over the last 50 years, great progress has been made in the field of research on cancer prevention and treatment. Oncologists are testing cancer drugs that will help overcome it in the future. But despite this, the problem of low and high incomes remains. Access to innovative and often prohibitively expensive cancer drugs, even for high-income countries, is a widely discussed and relevant topic. The financial burden that currently accompanies many new cancer agents, a problem that is also relevant to high-income countries, has prompted the European Society of Medical Oncology and the American Society of Clinical Oncology to develop measures to curb the cost of various pharmaceutical products.

## **AGE CHANGES OF THE MICROBIOM IN THE HUMAN BODY**

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**Introduction.** In recent years, evidence of the potential effect of the microbiome on the functioning of the human body. The human microbiome is considered as a separate organ that is actively involved in various physiological processes, including a major role in age-related changes in the human body. Age-related changes in the microbiome can adversely affect health because they lead to dysfunction of microbial communities and failure of the metabolic chain.

**Aim.** The aim of the study was to analyze modern literature sources with research on age-related changes in the microbiome in the human body.

**Materials and methods.** Analysis of scientific articles by researched topic.

**Results and discussion.** Numerous scientific studies have been conducted on the relationship between microbiota and age. In old age, the relationship between the human body and its associated microbial communities undergoes complex changes that can lead to a variety of consequences for humans, including dysbiosis, infections, somatic diseases and general deterioration of functional status.

In old age (after 50-60 years) in the intestinal microbiome there is a decrease in the diversity of the microbiota. Such changes are accompanied by a decrease in the number of beneficial symbionts (bifidobacteria, bacteroides, lactobacilli) and a numerical increase in potentially harmful microbes (microorganisms of the genus

Candida, Streptococcus, Staphylococcus, Clostridium perfringens). The composition of the microbiome of the elderly is characterized by an increase in the content of pro-inflammatory microorganisms, whose populations are growing due to the weakening of immune mechanisms. Scientists have shown that the microbiome of long-lived people differs from the adult population and people under the age of 70 years. Changes in the microbiota were associated with an increase in the number of facultative anaerobes, including commensal and pathogenic species, and changes in the number of Firmicutes types, including a decrease in the number of Faecali bacterium prausnitzii. According to experts, the prevention of microbiome disorders from a young age is one of the most important protective measures to improve the quality of life of the older generation.

**Conclusions.** The richness and diversity of microbiota communities are markers of longevity. Knowledge of the characteristics of the microbiome with age will help solve problems in improving the health of the elderly and longevity.

## **STUDY OF THE STATE OF CARBOHYDRATE METABOLISM IN PATIENTS WITH ISCHEMIC HEART DISEASE WITHIN THE METABOLIC SYNDROME**

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**Introduction.** An important scientific and practical problem is the study of metabolic syndrome in general and its components due to the high risk of cardiovascular complications in this group of patients.

**Aim.** Study of the features of changes in carbohydrate metabolism in patients with coronary heart disease (CHD) within and without metabolic syndrome.

**Materials and methods.** We examined 32 patients with coronary heart disease, of which 22 (68.8%) patients had the disease within the metabolic syndrome, and 10 patients (31.2%) had no manifestations of metabolic syndrome. All patients were hospitalized in the therapeutic departments of the 2nd city clinical hospital of Kharkov. The age of patients ranged from 45 to 73 years (mean age  $59.18 \pm 1.28$  years). The state of carbohydrate metabolism was assessed by blood glucose and insulin levels, the levels of which were determined by bilateral enzyme-linked