WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 5, Issue 01, January, 2024

AGE-RELATED ASPECTS OF OSTEOARTHRITIS IN WOMEN

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ABSTRACT

A survey of 122 women with osteoarthritis of large and small joints, permanently residing in the environmental conditions of the city of Samarkand and the Samarkand Territory, was conducted, the purpose of which was to determine the somatometric characteristics of these patients, depending on age. The objectives of the study included conducting an anthropometric and somatometric examination and establishing body types in women with osteoarthritis in the age aspect. Somatotyping allowed us to establish that the majority of the studied women with osteoarthritis had a megalosomal constitution. The component composition of the body of women with osteoarthritis in the age aspect indicated that older patients differed in lower indicators of height, body weight and body mass index (BMI). The percentage of fat mass in catfish in these women was higher than in women of the second mature age, and bone and muscle mass tended to decrease. The results of the study can be used in practice to identify the risk group of women with ostearthritis in relation to osteopenic and sarcopenic syndromes and to carry out preventive and therapeutic measures.

Keywords: osteoarthritis, soma, constitution, height, body weight.

INTRODUCTION

Osteoarthritis (OA) is becoming one of the most common diseases of modern society, affecting more than 20% of the world's population over the age of 50, and the number of patients with OA is constantly growing, which is associated with an increase in life expectancy. Osteoarthritis (OA) is the most common joint disease associated with age, leading to the development of functional insufficiency and disability. According to forecasts According to the World Health Organization (WHO), the expected increase in life expectancy and the global aging of the population by 2020 may make OA the fourth leading cause of disability. In Russia, about 15 million people suffer from OA, which is 10-12% of the country's population, and the incidence rate is at about 20% per year. Generally The etiology of OA is multifactorial and includes both constitutional (old age, gender, obesity, heredity, state of reproductive function) and mechanical factors. The results of sample studies conducted in Russia suggest that

currently at least 30% of the working–age population of our country is overweight and 25% is obese. A steady increase in obesity is observed in almost all countries of the world: over the past 10 years, its prevalence in the world has increased by an average of 75%. In the literature repeatedly An unfavorable course of various diseases has been reported with uneven distribution of adipose tissue, especially with abdominal type of obesity. OA of the knee and hip joints is more common in women, as well as abdominal obesity. However, despite the high prevalence, the effect of abdominal obesity on the course of OA in women has not been studied. It is known that adipose tissue, especially localized in the abdominal area, is a source of synthesis and secretion of adipokines with various local, peripheral and central effects OA develops as a result of an imbalance in the articular cartilage of anabolic and catabolic processes, while affecting not only cartilage, but subchondral bone and periarticular tissues. The disease is based on genetic, endocrine causes, irrational overloads, and obesity. Late diagnosis and ineffective therapy lead to a decrease in the quality of life of patients with OA, an increase in temporary disability and early disability of people of working age. OA is accompanied by changes in the bone and muscle systems, which is reflected in the component composition of the patients' body. A number of authors conducted a study of the component composition of the body in patients with comorbidity of osteoarthritis and osteoporosis. At the same time , the component composition of soma, especially the quantitative characteristics of bone and muscle mass, when OA is insufficiently covered in the literature, and its The study is very relevant for the early detection of osteopenic and sarcopenic syndromes that may develop in this category of patients.

MATERIALS AND METHODS OF RESEARCH

We examined 122 women with OA of large and small joints who permanently live in the environmental conditions of the city of Krasnoyarsk and the Krasnoyarsk Territory. Taking into account the age gradation used in accordance with the recommendations of the VII All-Union Conference on Problems of Age Morphology, Physiology and Biochemistry The APN of the USSR (Moscow, 1965) patients with OA were divided into two groups. Women of the II mature age (40-60 years old) elderly women made up 27% of the total number of subjects (from 61 to 74 years old) — 73%. Diagnosis of OA was performed using diagnostic criteria of the American College of Rheumatology. A technique adopted at the Moscow State University Research Institute of Anthropology and described by V.V. Bunak was used, which allows quantifying the component composition of the body of women. The obtained

somatometric indicators of women with OA were compared with similar indicators of women in the population of the, which were studied in the work of .

All anthropometric indicators were processed by the method of variational statistics using the interactive SOMA software package and the Statistic 7.0 application software package. Calculations of the average statistical value (M), the standard deviation from the average (δ), the error of the average (m) were carried out. The reliability of the intergroup differences of the studied features was assessed using the Student-Fisher t-criterion and χ2.

THE RESULTS AND THEIR DISCUSSION

The analysis of somatometric data showed that women with OA were statistically significantly more likely to have lower height, greater body weight, BMI, more fat and bone mass against the background of lower values of muscle mass compared to women of the same age population. In women with OA , the decrease in the proportion of muscle mass in the soma reached almost 10%. The somatometric characteristics of women with OA in the age aspect are,from which it follows that older women compared with women of the second mature age had statistically significantly lower indicators of height, body weight and BMI. The body fat mass of elderly women was different statistically significantly higher rates compared to younger patients, and the muscle and bone mass of these women tended to decrease. In the works of a number of researchers , the possible mechanisms of the effect of adipokines on the course of OA in women have been theoretically explained. Adipokines produced by adipose tissue have a variety of biological effects and affect the severity of processes in many organs, directly or through neuroendocrine mechanisms. The action of adiponectin is aimed at reducing inflammation and increasing tissue sensitivity to insulin. The adiponectin content in people with visceral obesity is lower than in people with normal body weight. Adiponectin reduces the severity of inflammatory changes by suppressing the effect of tumor necrosis factor α (TNFa) and reducing the response of macrophages to TLR4 by activating ADIPOR1. Cytokines produced by adipose tissue (IL6, IL4) may be involved in the local regulation of the metabolism of articular cartilage, since they are capable of altering the production of proinflammatory cytokines by macrophages (TNF, IL1β,IL12 and others).

When comparing algofunctional indices In patients with various types of obesity, we found that with the abdominal variant, these indicators are statistically significantly higher. There was also a significant positive correlation between the severity of pain according to VAS, the Lequesne, WOMAC indices and the IL6 level; The reverse is

with levels of IL4, adiponectin. With abdominal type of obesity, joint pain was more intense than with femoral-gluteal. In addition, with abdominal type of obesity, damage to a larger number of joints, more pronounced X-ray changes and functional disorders were observed. An increase in the OT/O ratio was associated with a more severe course of OA, and the level of adipokines correlated with the X-ray stage of OA and the degree of functional insufficiency of the joints.

Among the examined women, a megalosomal constitution was detected in 83% of cases, a mesosomal constitution was registered in 15% of cases and a leptosomal constitution was practically not detected. The megalosomal constitution is characterized by high height, increased body weight, strong development of musculature and bone tissue, as well as pronounced development of adipose tissue. These women are overweight and obese, which is an additional risk factor in the development and progression of OA. Despite the peculiarities of the component composition of the body of women of megalosomal constitution, with age, they have a decrease in muscle and bone tissue.

In addition, women with OA had a higher amount of fat and bone mass against a background of lower muscle mass.

CONCLUSIONS

Somatotyping allowed us to establish that the majority of the studied women with OA had a megalosomal constitution and among them there were practically no women with a leptosomal constitution. Investigation of the component composition of soma In the age aspect, it was indicated that older women had statistically significantly lower indicators of height, body weight and BMI compared with women of mature age II. Their fat mass differed significantly They had high rates compared to younger patients, and muscle and bone mass tended to decrease.

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