

**MODERN METHODS OF EARLY DIAGNOSTICS OF OSTEOARTHRITIS IN
OLDER AGE GROUPS**

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Abstract: This article is devoted to the study of modern methods of early diagnosis of osteoarthritis in older age groups. Osteoarthritis is a degenerative disease of the joints, which is common mainly in older people. Early detection of the disease is important for improving the quality of life of patients and for effective organization of the treatment process. Modern diagnostic methods, including technologies such as digital radiography, magnetic resonance imaging, ultrasonography, computer tomography, laboratory analyzes and arthroscopy are considered. These methods are important in identifying early signs and symptoms of osteoarthritis, as well as in monitoring the progression of the disease.

Key words: osteoarthritis, degenerative disease, modern medicine, patients, joint swelling, arthroscopy.

Annotatsiya: Ushbu maqola katta yoshdagi guruhlarda osteoartritni erta tashxislashning zamonaviy usullarini o'rganish haqida ma'lumolar berilgan. Osteoartrit — bu bo'g'imlarning degenerativ kasalligi bo'lib, asosan yoshi katta insonlarda keng tarqalgan. Kasallikning erta aniqlanishi bemorlarning hayot sifatini yaxshilash va davolash jarayonini samarali tashkil etish uchun muhimdir. Zamonaviy tashxis usullari, jumladan, raqamli rentgenografiya, magnit-rezonans tomografiya, ultrasonografiya, kompyuter tomografiyasi, laboratoriya tahlillari va artroskopiya kabi texnologiyalar ko'rib chiqiladi. Ushbu usullar osteoartritning dastlabki belgilari va simptomlarini aniqlashda, shuningdek, kasallikning rivojlanishini monitoring qilishda muhim ahamiyatga ega.

Kalit so'zlar: osteoartrit, degenerativ kasallik, zamonaviy tibbiyot, bemorlar, bo'g'imlarning shishishi, artroskopiya.

Аннотация: Статья посвящена изучению современных методов ранней диагностики остеоартроза в старших возрастных группах. Остеоартроз – дегенеративное заболевание суставов, которое встречается преимущественно у пожилых людей. Раннее выявление заболевания важно для улучшения качества жизни пациентов и эффективной организации лечебного процесса. Рассмотрены современные методы диагностики, в том числе такие технологии, как цифровая рентгенография, магнитно-резонансная томография, УЗИ, компьютерная томография, лабораторные анализы и

артроскопия. Эти методы важны для выявления ранних признаков и симптомов остеоартрита, а также для мониторинга прогрессирования заболевания.

Ключевые слова: остеоартроз, дегенеративные заболевания, современная медицина, пациенты, отек суставов, артроскопия.

INTRODUCTION.

Osteoarthritis is a degenerative disease of the joints, which is common mainly in older people. This disease is associated with inflammation of the joints, pain, limitation of mobility and decrease in the quality of life. Early diagnosis of osteoarthritis in older age groups is very important to slow down the progression of the disease and improve the quality of life of patients. Modern medicine has a number of advanced methods for early detection of osteoarthritis. These methods not only help to identify the initial signs and symptoms of the disease, but also make it possible to develop treatment strategies in accordance with the individual condition of patients. Modern methods such as digital technologies, imaging diagnostics and laboratory analysis, as well as innovative approaches aimed at improving the health of patients, play an important role in the early diagnosis of osteoarthritis. Osteoarthritis occurs when the bursa and other tissues inside the joint break down or change in structure. This is not due to normal wear and tear on the joints. Instead, tissue changes can cause the disorder, which usually occurs gradually over time.

In the elderly (80 years and older), 55% of X-ray data show osteoarthritis. About 60 percent of these adults experience symptoms associated with the disease. According to WHO, 528 million people worldwide were living with osteoarthritis in 2019. The typical onset of osteoarthritis is in the late 40s to mid-50s. However, this does not mean that the disease cannot affect young people. Osteoarthritis can also develop in the younger population due to trauma or injury, joint deformity or genetic defect.

MATERIALS AND METHODS.

Clinical evaluation is the first step in diagnosing osteoarthritis. During this process, the doctor takes the patient's history, evaluates the symptoms, and performs a physical examination. Pain and movement restrictions in the patient's joints, as well as swelling and heat of the joints are determined. Digital roentgenography (X-ray) is widely used in the diagnosis of osteoarthritis. This method shows joint position, bone changes and joint spacing.[2]

Early stages of osteoarthritis can be detected using digital roentgenography. Ultrasonography is used to show the internal structure of joints. This method can detect joint fluid, swelling, and tissue changes. Ultrasonography is also useful in evaluating joint motion. Magnetic resonance imaging is one of the most accurate methods for diagnosing osteoarthritis. With this method, it is possible to obtain detailed information about the soft tissues, bones and fluids of the joints. MRI is very effective in detecting the early stages of osteoarthritis. Laboratory tests, such as blood tests and joint fluid analysis, provide additional information in the diagnosis of osteoarthritis. These analyzes help to identify inflammatory processes and exclude other diseases.

RESULTS AND DISCUSSIONS.

Modern methods for diagnosing osteoarthritis include: Digital radiography is widely used to determine the condition of bones and joints. Digital X-rays can show early signs of osteoarthritis, such as bone growth and changes in the distance between joints. Magnetic resonance imaging shows the soft tissues of the joints, such as bones, ligaments, and cartilage, in detail. This method is very useful in detecting the development of osteoarthritis and other problems. Ultrasound is used to detect fluid, edema and other changes in the joint. Using ultrasonography, it is possible to assess the mobility of joints and the state of tissues. Computer tomography allows you to get a 3D image of the joints and shows the position of the bones more clearly. This method is useful in identifying severe forms of osteoarthritis. Blood tests and other laboratory tests detect markers of inflammation, such as CRP (C-reactive protein) and ESR (erythrocyte sedimentation rate). It helps in evaluating inflammatory processes. Arthroscopy surgical method allows access to the joint with the help of a small camera and instruments. Through arthroscopy, it is possible to see the internal state of the joint and, if necessary, carry out treatment. In some cases, the exact cause of the disease can be determined by taking samples of joint tissue and examining them under a microscope. These modern methods of diagnosis play an important role in the diagnosis and treatment of osteoarthritis, and also help to improve the condition of patients. Early diagnosis of osteoarthritis has several advantages. Treatment methods, such as drugs, physical therapy, and other conservative methods, are more effective in osteoarthritis patients diagnosed at an early stage. This helps slow down the progression of the disease. Through early diagnosis, patients are able to quickly begin the treatment needed to reduce pain and discomfort. This improves their quality of life. Patients diagnosed early, as a result of treatment in the early stages of the disease, feel more comfortable in continuing their daily activities. Early detection of osteoarthritis can prevent the progression of the disease to severe forms. This reduces the need for surgical interventions. Patients diagnosed early are more successful in the rehabilitation process because they receive help in the early stages of the disease. Early diagnosis allows patients to be informed about the disease and prepare them psychologically. This increases their ability to fight disease. Slowing the progression of the disease through early diagnosis and treatment will reduce health care costs in the long run, as severe cases are more expensive to treat.[5]

These advantages indicate the importance of early diagnosis of osteoarthritis and play an important role in maintaining the health of patients. Osteoarthritis is a degenerative joint disease that affects millions of people worldwide. The condition is characterized by symptoms such as joint pain, redness, swelling, loss of flexibility, reduced range of motion, and more. Osteoarthritis risk factors include obesity, metabolic disorders, menopause, trauma, and joint deformities. Osteoarthritis is managed with medication and physical therapy. In severe cases, joint replacement surgery is performed.[3]

Osteoarthritis surgery may be considered when conventional treatments fail to relieve symptoms of stiffness, discomfort, and loss of function. Commonly used surgeries include bone-straightening surgeries to relieve pressure on the injured joint and arthroscopy, which uses minimally invasive techniques to damage the tissue. [1]

Joint replacement surgery, such as knee or hip arthroplasty, replaces damaged joint surfaces with artificial implants to restore function and reduce pain. In other cases, joint fusion,

which fuses the bones together to stabilize the joint, should also be considered. For those with arthritis, surgeries are aimed at increasing mobility, reducing pain, and improving the overall quality of life.[4]

After surgery, the patient is monitored for any immediate complications in the recovery room. Pain relievers, antibiotics, and blood thinners may be prescribed to treat pain, prevent infection, and reduce the risk of blood clots. Physical therapy begins shortly after surgery to increase joint mobility, strengthen muscles, and facilitate recovery.

CONCLUSION.

Early diagnosis of osteoarthritis in older age groups is carried out using modern methods. Clinical assessment, digital X-ray, ultrasonography, MRI and laboratory analysis play an important role in the diagnosis of osteoarthritis. Early diagnosis is important in improving the quality of life of patients and slowing down the progression of the disease. Through early detection and treatment of osteoarthritis, patients have the opportunity to maintain their health and improve their quality of life.

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