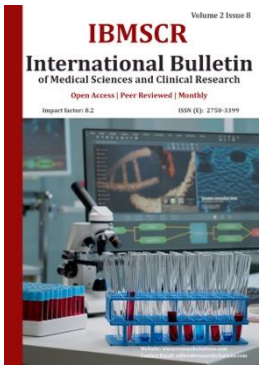

RHEUMATOID ARTHRITIS: JOINT INFLAMMATION CAUSES, CLINICAL SYMPTOMS, CONSEQUENCES, AND MODERN TREATMENT APPROACHES.

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https://doi.org/10.5281/zenodo.14508981

Abstract: Rheumatoid arthritis (RA) is a chronic systemic autoimmune inflammatory disease of the connective tissue, mainly characterized by erosive-destructive polyarthritis of the peripheral joints. RA is a chronic autoimmune disease characterized by joint inflammation, damage, and loss of function. This article reviews the etiology, pathogenesis, clinical features, diagnosis, and treatment of RA. It also discusses the impact of the disease on quality of life and future research directions as well as modern treatment approaches

Key words: rheumatoid arthritis, autoimmune, erosive-destructive changes in joints, inflammation, treatment.

Introduction. Rheumatoid arthritis (RA) is a chronic autoimmune disease characterized by joint inflammation, damage, and loss of function. Until now, the single etiological factor that caused the development of rheumatoid arthritis has not been found. Therefore, at the meeting of the WHO working group, it was clarified that rheumatoid arthritis is a chronic systemic disease of unknown etiology. RA affects approximately 1% of the global population and is 2-3 times more common in women than in men. The disease usually begins at the age of 40-60, but it can occur in people of any age. RA affects not only the joints, but the whole body, which has serious medical, social and economic consequences.

METHODS AND LITERATURE ANALYSIS To prepare this article, the PubMed, Scopus, and Google Scholar databases were searched for the keywords "rheumatoid arthritis," "autoimmune," "joints," "inflammation," and "treatment." literature search was carried out. Preference was given to research results and articles in leading scientific journals.

RESULTS. Rheumatoid arthritis etiology and pathogenesis: The exact cause of RA is unknown, but genetic and environmental factors are believed to play a role in the development of the disease. Environmental factors such as smoking, infections, and psychological stress can also increase the risk of developing RA. The pathogenesis of RA is related to the loss of tolerance of the immune system to its own tissues. This process leads to the activation of T and B lymphocytes in the synovial membranes, the release of pro-inflammatory cytokines and the development of inflammation in the joints. Chronic inflammation eventually leads to cartilage and bone destruction, joint deformity and loss of function.

Clinic. Most often, the disease begins in an acute or subacute form, first there is symmetrical damage to the proximal interphalangeal joints of the hands and feet. Later, other large-wrist-palm, calf-heel and knee, shoulder, pelvis-hip joints are added.

Slight swelling of the joints, local temperature increase, hyperemia, and pain on palpation are detected.

In most patients, joint syndrome appears in the mornings, numbness of the whole body or joints that passes after active movement, arthralgia, general weakness, weight loss, profuse sweating, subfebrile fever, ECHT is slightly begins with the rise.

Joint damage in rheumatoid arthritis can be divided into two categories:
1. Potentially reversible synovitis (in the early stages)
2. Irreversible structural changes (in late stages)
Rheumatoid arthritis diagnostic criteria recommended by the American Association of Rheumatologists: morning sickness, symptoms of arthritis in three or more joints, arthritis of paw joints, symmetrical arthritis, rheumatoid nodules, detection of rheumatoid factor in blood serum, X-ray o 'changes.
RA is diagnosed based on clinical signs, blood tests, and imaging studies. Antibodies against rheumatoid factor (RF) and cyclic citrullinated peptide (anti-CCP) are specific autoantibodies for RA. X-rays, computer tomography and magnetic resonance imaging help to identify structural changes in the joints. Treatment Approaches The primary goals of RA treatment are to reduce inflammation, prevent joint damage, and improve quality of life. The treatment approach may include medication, physical therapy, and surgery.
Nonsteroidal anti-inflammatory drugs (NSAIDs) and glucocorticoids are used for short-term management of inflammation and pain. Disease-modifying antirheumatic drugs (DMARDs), including methotrexate, leflunomide, and sulfasalazine, are prescribed as first-line treatment to slow disease progression. Biologic agents, such as TNF-alpha inhibitors and IL-6 receptor blockers, are used in patients who do not respond to conventional DMARDs. Physical therapy can help patients with RA maintain joint mobility and improve function in daily activities. Surgical procedures, such as synovectomy and arthroplasty, may be used to treat severely damaged joints.
ANALYSIS AND DISCUSSION. Impact of RA on Quality of Life RA has a negative impact on patients' quality of life due to symptoms such as decreased physical function, pain, and fatigue. The disease also affects mental health, social interaction and ability to work. Mental disorders such as depression and anxiety are more common in patients with RA. Future Research Directions A better understanding of the pathogenesis of RA may help identify new therapeutic targets and develop targeted treatment strategies. A personalized medicine approach may allow choosing more optimal treatment regimens for patients with RA. Also important is research to identify biomarkers for disease prevention and early detection
CONCLUSION. In conclusion, we can say that, unfortunately, there are no effective ways to prevent the onset of rheumatoid arthritis. Actions should be aimed at eliminating the cause of the disease and its serious consequences. Rheumatoid arthritis is a chronic autoimmune disease characterized by joint inflammation, damage, and loss of function. The exact cause of the disease is unknown, but genetic and environmental factors are believed to play a role in its development. The pathogenesis of RA is related to the loss of tolerance of the immune system to its own tissues. The main goal in treatment is to reduce inflammation, prevent joint damage and improve quality of life. Medications, physical therapy, and surgery are components of the treatment approach. Future research should focus on identifying new therapeutic targets for RA, developing personalized medicine approaches, and identifying biomarkers for disease prevention and early detection.

References:

1.McInnes, I. B., & Schett, G. (2017). Pathogenetic insights from the treatment of rheumatoid arthritis. Lancet, 389(10086), 2328-2337.

2.Smolen, J. S., Aletaha, D., & McInnes, I. B. (2016). Rheumatoid arthritis. Lancet, 388(10055), 2023-2038.
3.Firestein, G. S., & McInnes, I. B. (2017). Immunopathogenesis of rheumatoid arthritis. Immunity, 46(2), 183-196.
4.Sadullayeva Laziza Erkinjonovna. (2024). HYPERTENSION DISEASE, CLINICAL SYMPTOMS, DIAGNOSTICS, COMPLICATIONS AND PREVENTION. EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE, 4(11), 555–563.
5.ERGASHEVA, G. T. (2024). OBESITY AND OVARIAN INSUFFICIENCY. Valeology: International Journal of Medical Anthropology and Bioethics, 2(09), 106-111.
6.Ergasheva, G. T. (2024). Modern Methods in the Diagnosis of Autoimmune Thyroiditis. American Journal of Bioscience and Clinical Integrity, 1(10), 43-50.
7.Tokhirovna, E. G. (2024). COEXISTENCE OF CARDIOVASCULAR DISEASES IN PATIENTS WITH TYPE 2 DIABETES. TADQIQOTLAR. UZ, 40(3), 55-62.
8.Abdurashitovich, Z. F. (2024). MUSHAKLAR TO'GRISIDA MA'LUMOT. MUSHAKLARNING TARAQQIYOTI. MUSHAKLARNING YORDAMCHI APPARATI. TADQIQOTLAR. UZ, 40(3), 94-100.
9.Abdurashitovich, Z. F. (2024). APPLICATION OF MYOCARDIAL CYTOPROTECTORS IN ISCHEMIC HEART DISEASES. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 39(5), 152-159.
10.Abdurashitovich, Z. F. (2024). SIGNIFICANCE OF BIOMARKERS IN METABOLIC SYNDROME. EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE, 4(9), 409-413.
11.Zikrillaev, F. A. (2024). Cardiorehabilitations from Physiotherapeutic Treatments in Cardiovascular Diseases. American Journal of Bioscience and Clinical Integrity, 1(10), 96-102.
12.Toxirovna, E. G. (2024). DETERMINATION AND STUDY OF GLYCEMIA IN PATIENTS WITH TYPE 2 DIABETES MELLITUS WITH COMORBID DISEASES. TADQIQOTLAR. UZ, 40(3), 71-77.
13.Toxirovna, E. G. (2024). XOMILADORLIKDA QANDLI DIABET KELTIRIB CHIQARUVCHI XAVF OMILLARINI ERTA ANIQLASH USULLARI. TADQIQOTLAR. UZ, 40(3), 63-70.
14.Toxirovna, E. G. (2024). QANDLI DIABET 2-TIP VA KOMORBID KASALLIKLARI BO'LGAN BEMORLARDA GLIKEMIK NAZORAT. TADQIQOTLAR. UZ, 40(3), 48-54.
15. Tokhirovna, E. G. (2024). MECHANISM OF ACTION OF METFORMIN (BIGUANIDE) IN TYPE 2 DIABETES. JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH, 3(5), 210-216.
16.Tokhirovna, E. G. (2024). THE ROLE OF METFORMIN (GLIFORMIN) IN THE TREATMENT OF PATIENTS WITH TYPE 2 DIABETES MELLITUS. EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE, 4(4), 171-177.
17. Эргашева, Г. Т. (2024). Эффект Применения Бигуанида При Сахарным Диабетом 2 Типа И Covid-19. Research Journal of Trauma and Disability Studies, 3(3), 55-61.
18.Toxirovna, E. G. (2024). QANDLI DIABET 2 TUR VA YURAK QON TOMIR KASALLIKLARINING BEMOLARDA BIRGALIKDA KECHISHI. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 38(7), 202-209.
19. Эргашева, Г. Т. (2024). СОСУЩЕСТВОВАНИЕ ДИАБЕТА 2 ТИПА И СЕРДЕЧНО-СОСУДИСТЫХ ЗАБОЛЕВАНИЙ У ПАЦИЕНТОВ. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 38(7), 219-226.
20. Эргашева, Г. Т. (2024). СНИЖЕНИЕ РИСКА ОСЛОЖНЕНИЙ У БОЛЬНЫХ САХАРНЫМ ДИАБЕТОМ 2 ТИПА И СЕРДЕЧНО-СОСУДИСТЫМИ ЗАБОЛЕВАНИЯМИ. Образование Наука И Инновационные Идеи В Мире, 38(7), 210-218.

21. Tokhirovna, E. G. (2024). CLINICAL AND MORPHOLOGICAL ASPECTS OF THE COURSE OF ARTERIAL HYPERTENSION. Лучшие интеллектуальные исследования, 12(4), 234-243.
22.Tokhirovna, E. G. Studying the Causes of the Relationship between Type 2 Diabetes and Obesity. Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN, 2456-6470.
23.Toxirovna, E. G. (2024). ARTERIAL GIPERTENZIYA KURSINING KLINIK VA MORFOLOGIK JIHATLARI. Лучшие интеллектуальные исследования, 12(4), 244-253.
24. Эргашева, Г. Т. (2024). НОВЫЕ АСПЕКТЫ ТЕЧЕНИЕ АРТЕРИАЛЬНОЙ ГИПЕРТОНИИ У ВЗРОСЛОГО НАСЕЛЕНИЕ. Лучшие интеллектуальные исследования, 12(4), 224-233.
25. Эргашева, Г. Т. (2024). ФАКТОРЫ РИСКА РАЗВИТИЯ САХАРНОГО ДИАБЕТА 2 ТИПА. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 36(5), 70-74.
26.Abdurashitovich, Z. F. (2024). Cardiovascular System. Heart. Aorta. Carotid Artery.
27.Abdurashitovich, Z. F. (2024). MORPHO-FUNCTIONAL ASPECTS OF THE DEEP VEINS OF THE HUMAN BRAIN. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 36(6), 203-206.
28.Abdurashitovich, Z. F. (2024). ASTRAGAL O'SIMLIGINING TIBBIYOTDAGI MUHIM AHAMIYATLARI VA SOG'LOM TURMUSH TARZIGA TA'SIRI. Лучшие интеллектуальные исследования, 14(4), 111-119.
29.Abdurashitovich, Z. F. (2024). ODAM ANATOMIYASI FANIDAN SINDESMOLOGIYA BO'LIMI HAQIDA UMUMIY MALUMOTLAR. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 41(4), 37-45.
30.Abdurashitovich, Z. F. (2024). THE IMPORTANCE OF THE ASTRAGAL PLANT IN MEDICINE AND ITS EFFECT ON A HEALTHY LIFESTYLE. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 41(4), 88-95.
31.Abdurashitovich, Z. F. (2024). Department of Syndesmology from the Science of Human Anatomy General Information About. Research Journal of Trauma and Disability Studies, 3(3), 158-165.
32.Abdurashitovich, Z. F. (2024). THE COMPLEXITY OF THE FUSION OF THE BONES OF THE FOOT. JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH, 3(5), 223-230.
33.Abdurashitovich, Z. F. (2024). ANATOMICAL COMPLEXITIES OF JOINT BONES OF THE HAND. EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE, 4(4), 198-206
34. Эргашева, Г. Т. (2024). ОСЛОЖНЕНИЯ САХАРНОГО ДИАБЕТА 2 ТИПА ХАРАКТЕРНЫ ДЛЯ КОГНИТИВНЫХ НАРУШЕНИЙ. TADQIQOTLAR. UZ, 30(3), 112-119.
35. Эргашева, Г. Т. (2023). Исследование Причин Связи Диабета 2 Типа И Ожирения. Research Journal of Trauma and Disability Studies, 2(12), 305-311.
36.Tokhirovna, E. G. (2024). Risk factors for developing type 2 diabetes mellitus. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 36(5), 64-69.
37.Toxirovna, E. G. (2024). QANDLI DIABET 2-TUR VA O'LIMNI KELTIRIB CHIQARUVCHI SABABLAR. Лучшие интеллектуальные исследования, 14(4), 86-93.
38.Tokhirovna, E. G. (2023). Study of clinical characteristics of patients with type 2 diabetes mellitus in middle and old age. Journal of Science in Medicine and Life, 1(4), 16-19.
39. Toxirovna, E. G. (2024). GIPERPROLAKTINEMIYA KLINIK BELGILARI VA BEPUSHTLIKKA SABAB BO'LUVCHI OMILLAR. Лучшие интеллектуальные исследования, 14(4), 168-175.
40. Toxirovna, E. G. (2023). QANDLI DIABET 2-TUR VA SEMIZLIKNING O'ZARO BOG'LIQLIK SABABLARINI O'RGANISH. Ta'lim innovatsiyasi va integratsiyasi, 10(3), 168-173.

41. Saidova, L. B., & Ergashev, G. T. (2022). Improvement of rehabilitation and rehabilitation criteria for patients with type 2 diabetes.
42.Эргашева, Г. Т. (2023). Изучение Клинических Особенностей Больных Сахарным Диабетом 2 Типа Среднего И Пожилого Возраста. Central Asian Journal of Medical and Natural Science, 4(6), 274-276.
43. Toxirovna, E. G. (2023). O'RTA VA KEKSA YOSHLI BEMORLARDA 2-TUR QANDLI DIABET KECHISHINING KLINIKO-MORFOLOGIK XUSUSIYATLARI. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 33(1), 164-166.
44. Ergasheva, G. T. (2022). QANDLI DIABET BILAN KASALLANGANLARDA REABILITATSIYA MEZONLARINI TAKOMILASHTIRISH. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 2(12), 335-337.
45. Ergasheva, G. (2024). METHODS TO PREVENT SIDE EFFECTS OF DIABETES MELLITUS IN SICK PATIENTS WITH TYPE 2 DIABETES. Журнал академических исследований нового Узбекистана, 1(2), 12-16.
46. ГТ, Э., & Саидова, Л. Б. (2022). СОВЕРШЕНСТВОВАНИЕ РЕАБИЛИТАЦИОННО-ВОССТАНОВИТЕЛЬНЫХ КРИТЕРИЕВ БОЛЬНЫХ С СД-2 ТИПА. TA'LIM VA RIVOJLANISH TAHLILI ONLAYN ILMIY JURNALI, 2(12), 206-209.
47. Зикриллаев, Ф. А. (2024). АНАТОМИЧЕСКОЕ СТРОЕНИЕ ОРГАНОВ ДЫХАНИЯ И ЕГО ЛИЧНЫЕ ХАРАКТЕРИСТИКИ. TADQIQOTLAR. UZ, 40(3), 86-93.
48. Abdurashitovich, Z. F., & Komoliddinovich, S. J. (2024). DIGESTIVE SYSTEM. ANATOMY OF THE STOMACH. TADQIQOTLAR. UZ, 40(3), 78-85.
49. Abdurashitovich, Z. F. (2024). UMURTQA POG'ONASI BIRLASHUVLARI. TADQIQOTLAR. UZ, 40(3), 40-47.
50.Saloxiddinovna, X. Y. (2024). Modern Views on the Effects of the Use of Cholecalciferol on the General Condition of the Bod. JOURNAL OF HEALTHCARE AND LIFE-SCIENCE RESEARCH, 3(5), 79-85.
51.Халимова, Ю. С., & Хафизова, М. Н. (2024). МОРФО-ФУНКЦИОНАЛЬНЫЕ И КЛИНИЧЕСКИЕ АСПЕКТЫ СТРОЕНИЯ И РАЗВИТИЯ ЯИЧНИКОВ (ОБЗОР ЛИТЕРАТУРЫ). TADQIQOTLAR. UZ, 40(5), 188-198.
52. Халимова, Ю. С. (2024). Морфологические Особенности Поражения Печени У Пациентов С Синдромом Мэллори-Вейса. Journal of Science in Medicine and Life, 2(6), 166-172.
53.Xalimova, Y. S. (2024). Morphology of the Testes in the Detection of Infertility. Journal of Science in Medicine and Life, 2(6), 83-88.
54.Халимова, Ю. С., & Хафизова, М. Н. (2024). ОСОБЕННОСТИ СОЗРЕВАНИЕ И ФУНКЦИОНИРОВАНИЕ ЯИЧНИКОВ. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 55(2), 188-194.
55.Хафизова, М. Н., & Халимова, Ю. С. (2024). МОТИВАЦИОННЫЕ МЕТОДЫ ПРИ ОБУЧЕНИИ ЛАТЫНИ И МЕДИЦИНСКОЙ ТЕРМИНОЛОГИИ. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 55(2), 165-171.
56.Хафизова, М. Н., & Халимова, Ю. С. (2024). ИСПОЛЬЗОВАНИЕ ЧАСТОТНЫХ ОТРЕЗКОВ В НАИМЕНОВАНИЯХ ЛЕКАРСТВЕННЫХ ПРЕПАРАТОВ В ФАРМАЦЕВТИКЕ. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 55(2), 172-178.

57.Saloxiddinovna, X. Y., & Ne'matillaevna, X. M. (2024). FEATURES OF THE STRUCTURE OF THE REPRODUCTIVE ORGANS OF THE FEMALE BODY. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 55(2), 179-183.
58.Халимова, Ю. С., & Хафизова, М. Н. (2024). КЛИНИЧЕСКИЕ АСПЕКТЫ ЛИЦ ЗЛОУПОТРЕБЛЯЮЩЕЕСЯ ЭНЕРГЕТИЧЕСКИМИ НАПИТКАМИ. TADQIQOTLAR. UZ, 40(5), 199-207.
59.Халимова, Ю. С., & Хафизова, М. Н. (2024). КЛИНИЧЕСКИЕ ОСОБЕННОСТИ ЗАБОЛЕВАНИЙ ВНУТРЕННИХ ОРГАНОВ У ЛИЦ, СТРАДАЮЩИХ АЛКОГОЛЬНОЙ ЗАВИСИМОСТЬЮ. TADQIQOTLAR. UZ, 40(5), 240-250.
60.Халимова, Ю. С., & Хафизова, М. Н. (2024). кафедра Клинических наук Азиатский международный университет Бухара, Узбекистан. Modern education and development, 10(1), 60-75.
61.Халимова, Ю. С., & Хафизова, М. Н. (2024). МОРФО-ФУНКЦИОНАЛЬНЫЕ И КЛИНИЧЕСКИЕ АСПЕКТЫ ФОРМИРОВАНИЯ КОЖНЫХ ПОКРОВОВ. Modern education and development, 10(1), 76-90.
62.Nematilloevna, K. M., & Salokhiddinovna, K. Y. (2024). IMPORTANT FEATURES IN THE FORMATION OF DEGREE OF COMPARISON OF ADJECTIVES IN LATIN. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 55(2), 150-157.
63.KHALIMOVA, Y. S. (2024). MORPHOFUNCTIONAL CHARACTERISTICS OF TESTICULAR AND OVARIAN TISSUES OF ANIMALS IN THE AGE ASPECT. Valeology: International Journal of Medical Anthropology and Bioethics, 2(9), 100-105.
64.Salokhiddinovna, K. Y., Saifiloevich, S. B., Barnoevich, K. I., & Hikmatov, A. S. (2024). THE INCIDENCE OF AIDS, THE DEFINITION AND CAUSES OF THE DISEASE. ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ, 55(2), 195-205.