SJIF Impact Factor (2025): 8.688| ISI I.F. Value: 1.241| Journal DOI: 10.36713/epra2016 ISSN: 2455-7838(Online)
EPRA International Journal of Research and Development (IJRD)
Volume: 10 | Issue: 6 | June 2025 - Peer Reviewed Journal

RHEUMATOID ARTHRITIS, MODERN VIEWS

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Article DOI: https://doi.org/10.36713/epra22442
DOI No: 10.36713/epra22442

ABSTRACT

Rheumatoid arthritis is a systemic disease of the connective tissue with predominant damage to small joints in the form of erosive-destructive polyarthritis of unknown etiology with complex autoimmune pathogenesis. The disease is characterised by a high degree of early onset disability. The main causes of death from the disease are infectious complications and renal failure. Rheumatoid arthritis is often accompanied by other joint diseases - osteoarthritis, rheumatism, and systemic connective tissue diseases. Maintaining maximum joint mobility and muscle mass during treatment is crucial.

KEYWORDS: *Rheumatoid Arthritis, Rheumatism, Osteoarthritis, Systemic Connective Tissue Diseases*

Rheumatoid arthritis is a systemic disease of the connective tissue with predominant involvement of small joints in the form of erosive-destructive polyarthritis of unknown etiology with complex autoimmune pathogenesis. The causes of the illness are currently unknown. Indirect data, such as an increase in the number of leukocytes in the blood and erythrocyte sedimentation rate (ESR), indicate the infectious nature of the process. It is assumed that this disease develops as a result of an infection that leads to a disruption of the immune system in people with a hereditary predisposition; in this case, immune complexes (from antibodies, viruses, etc.) are formed in the immune system, which accumulate in tissues and lead to joint damage. However, the ineffectiveness of RA treatment with antibiotics, apparently, indicates the incorrectness of such an assumption.

The disease is characterized by a high degree of disability (70%) and appears quite early. The main causes of death from the disease are infectious complications and renal failure.

This may manifest for the first time after severe physical exertion, stress, fatigue, a period of hormonal restructuring, exposure to adverse factors, or infection.

Etiology

Like most autoimmune diseases, 3 main factors (rheumatological triad) can be distinguished here:

1. Genetic predisposition
2. Infectious factor
3. Activating factor (cold, hyperinsulation, intoxications, mutagenic drugs, endocrinopathies, stress, etc.).

Course of Disease

Rheumatoid arthritis develops in three stages. In the first stage, periarticular edema of the synovial sacs appears, leading to pain, local fever, and edema around the joints. The second stage is the rapid proliferation of cells, which leads to thickening of the synovial membrane. In the third stage, inflamed cells release an enzyme, which affects the bones and cartilage, often leading to deformation of the affected joints, increased pain, and loss of motor functions.

Usually, the disease develops slowly at the onset, clinical symptoms appear gradually over several months or years, significantly less often - acute or subacute. In approximately 2/3 of cases, polyarthritis is observed, in the remaining cases - mono- or oligoarthritis, in which the joint syndrome often has no clinical specificity, making differential diagnosis significantly more difficult. Joint syndrome is characterized by morning stiffness lasting more than 30 minutes and the presence of similar symptoms in the second half of the night - symptoms of "narrow gloves," "corset"; constant spontaneous pain in the joints appears, which intensifies during active movements. The disappearance of hardening depends on the activity of the process: the higher the activity, the longer the hardening lasts. Joint syndrome in rheumatoid arthritis is characterized by monotony, duration, and persistence of residual signs after treatment.

Prodromal clinical signs (mild transient pain, association of pain with weather conditions and vegetative disorders) may be observed. "Infection joints" and "exception joints" are distinguished. The first includes (by frequency of occurrence): II and III

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metacarpophalangeal, proximal interphalangeal, metacarpophalangeal, knee and wrist, elbow and ankle joints. The "exceptional joints" are the following: distal interphalangeal, I metacarpophalangeal (thumb) joints.
Rheumatoid arthritis is often accompanied by other joint diseases - osteoarthritis, rheumatism, and systemic connective tissue diseases.

Extra-Articular Manifestations
• From the cardiovascular system: pericarditis, vasculitis, granulomatous lesions of the valves, atherosclerosis.
• Respiratory system: pleurisy, interstitial diseases.
• Skin: rheumatic nodules, thickening and hypotrophy, vasculitis.
Nervous system: compression neuropathy, sensorimotor neuropathy, multiple mononeuritis, cervical myelitis.
Organs of vision: dry keratoconjunctivitis, episcleritis, scleritis, peripheral ulcerative keratopathy.
• Kidneys: amyloidosis, vasculitis, nephritis, nonsteroidal anti-inflammatory drug nephropathy
• Blood: anemia, thrombocytosis, neutropenia.

Classification
I. Stages of clinical manifestations
• very early: lasts up to 6 months;
• early: 6-12 months;
• advanced: more than one year;
• evening: more than two years.

II. Disease activity (DAS28)
• 0 (remission): DAS28 less than 2.6;
• 1 (low): DAS28 2.6 - 3.2;
• 2 (average): DAS28 3.2 - 5.1;
• 3 (high): DAS28 above 5.1.

III. Instrumental characteristic
• Presence of erosion
• Radiological stage (1-4)

IV. Immunological characteristics
• Rheumatoid factor: seropositive/seronegative;
• Anti-TSP: seropositive/seronegative.

V. Functional class
Diagnosis
The diagnosis of rheumatoid arthritis is a process in which for a long time there was no specific test confirming the presence of the disease. Currently, the diagnosis of the disease is based on biochemical blood analysis, changes in the joints visible on X-rays, and the use of the main clinical signs. These include joint syndrome, as well as general clinical manifestations - fever, weakness, weight loss, etc.

In blood tests, ESR, rheumatoid factor (rheumo-factor), platelet count, and others are studied. The most advanced analysis is the titer of antibodies to the cyclic citrullinated peptide - ACCP, anti-CCP, anti-CCP. The specificity of this indicator is about 90%, which occurs in 79% of the serum of patients with RA. [1]

Diagnostically important clinical features include the unchanged color of the skin over the inflamed joints, the development of inflammation of the flexor or extensor tendons of the fingers and the formation of amyotrophies, typical hand deformities - the so-called "rheumatoid hand."
The criteria for an unfavorable forecast are:
• early damage to large joints and the appearance of rheumatoid nodules.
• enlargement of lymph nodes
• involvement of new joints in subsequent excitation;
• systemic nature of the disease;
• constant activity of the disease without remission for more than one year;
• steady increase in ESR;
• early onset of symptoms (during the first year) and high titers of the rheumatoid factor.
• early (up to four months) radiological changes - rapid development of destructive changes in the affected joints;

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• detection of antinuclear antibodies and LE-cells;
Carriage of HLA-DR4 antigens; poor tolerance of basic drugs.

Clinical signs
Rheumatoid arthritis can begin in any joint, but most often in small joints of the fingers, palms, and wrist joints. Usually, joint involvement is symmetrical, meaning that if a joint in the right hand hurts, the same joint in the left hand should also hurt. The more joints affected, the more advanced the disease is considered.

Other Common Symptoms
• Fatigue
• Morning stiffness. Usually, the longer the hardening lasts, the more active the disease becomes.
• Weakness
• Flu-like symptoms, including low temperature.
• Pain associated with prolonged sitting
• exacerbation of the disease with remission.
• Muscle pain
• Loss of appetite, depression, weight loss, anemia, cold and/or sweaty palms and soles
• Disruption of the glands around the eyes and mouth leads to a decrease in tear and saliva production.

Treatment
If an infection is present or suspected (tuberculosis, yersiniosis, etc.), treatment with the appropriate antibacterial drug is necessary. In the absence of pronounced extra-articular symptoms (e.g., high fever, Felty's syndrome, or polyneuropathy), treatment of articular syndrome begins with the selection of NSAIDs. Corticosteroid drugs are administered simultaneously to the most inflamed joints. The immunocomplex nature of the disease indicates the need for courses of plasmapheresis, which in most cases gives a significant result. The instability of the results of the indicated therapy serves as an indication for the inclusion of so-called basic drugs. These drugs have a slow effect, therefore they should be used for at least 6 months, and with a pronounced positive effect, treatment with them should be continued later (for years).

In the treatment of rheumatoid arthritis, prevention of osteoporosis is of great importance - it is carried out by restoring the disturbed calcium balance, increasing its absorption in the intestines and reducing its excretion from the body. A diet with a high calcium content should be included as a necessary component of the complex of anti-osteoporosis measures. Sources of calcium are dairy products (especially hard cheese containing 600 to 1000 mg of calcium per 100 grams of product, as well as melted cheese; a smaller amount of cottage cheese, milk, cream), almonds, nuts, etc., as well as calcium preparations used in combination with vitamin D or its active metabolites.

Therapeutic physical education, aimed at maintaining maximum joint mobility and preserving muscle mass, is of great importance in treatment.

Physiotherapeutic procedures (electrophoresis of nonsteroidal anti-inflammatory drugs, hydrocortisone phonophoresis, dimexide applications) and sanatorium-resort treatment are of auxiliary importance and are used only in mild cases of arthritis.

In persistent mono- and oligoarthritis, syneptoectomy is performed - this is done by injecting gold, yttrium, and other isotopes into the joint or by surgical intervention. Reconstructive operations are performed for persistent joint deformities.

Modern Therapy.
Systemic drug therapy includes the use of four groups of drugs:
1. Nonsteroidal anti-inflammatory drugs (NSAIDs),
2. Basic Preparations,
3. Glucocorticosteroids (GCS),
4. Biological Agents.

Nonsteroidal Anti-Inflammatory Drugs
NSAIDs are still a first-line treatment. They are aimed, first of all, at eliminating acute symptoms of the disease, as well as ensuring stable clinical and laboratory remission. In the acute phase of the disease, NSAIDs, GCS, and glucocorticosteroids are used in combination with pulse therapy or cytostatic immunosuppressants. Modern NSAIDs have a pronounced anti-inflammatory effect, which is associated with a decrease in the activity of cyclooxygenase (COH), the main enzyme of arachidonic acid metabolism. Of particular interest was the discovery of two isoforms of COH - COH-1 and COH-2. They play different roles in the regulation of

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prostaglandin (PG) synthesis. It has been proven that NSAIDs reduce the activity of COH isoforms, but their anti-inflammatory effect is associated with a decrease in COH-2.
Most known NSAIDs, first of all, reduce the activity of COH-1, which leads to the development of such complications as gastropathy, impaired renal function, encephalopathy, hepatotoxicity.

Thus, depending on the ability to block COH, NSAIDs are divided into selective and non-selective COH-2 inhibitors. Representatives of selective COX-2 inhibitors are meloxicam, nimesulide, and celecoxib. These drugs have minimal side effects and retain high anti-inflammatory and analgesic activity. COG-2 inhibitors can be used in all programs of treatment of rheumatoid arthritis requiring the use of NSAIDs. Meloksikam (Meloflex, Movalis, Lem) is prescribed at 15 mg per day at the beginning of treatment, when the inflammatory process is active, and subsequently shifted to 7.5 mg per day as supporting therapy. Nimesulid is prescribed at a dose of 100 mg twice a day.

Basic Preparations
Basic drugs still play an important role in the complex therapy of rheumatoid arthritis, but now a new approach to their prescription has emerged. Instead of gradually intensifying the therapy of rheumatoid arthritis ("Pyramidal Principle"), early active treatment with basic drugs is now recommended immediately after diagnosis. The goal is to change the course of rheumatoid arthritis and ensure remission of the disease. This is based on the fact that in the early stages of rheumatoid arthritis, there is a high probability of pannus, deformities, osteopenia, severe complications, the absence of formed autoimmune mechanisms, and the development of remission.

The main drugs of basic therapy for rheumatoid arthritis are: methotrexate, leflunomide (elarfa), sulfasalazine, gold preparations, D-penicillamine, aminoquinoline preparations. Reserve agents include cyclophosphamide, azathioprine, cyclosporine A (Sandymmun). The new group includes the following drugs: remikeid (inflicsimab) - chemical monoclonal antibodies against human tumor necrosis factor (TNF) -a; enbrel (etanercept) - recombinant soluble receptors for TNF; timodepressin - a selective peptide immunosuppressant acting at the level of T-lymphocytes; leflunomide (Arava) and others. Baseline drugs that are ineffective for 1.5-3 months should be replaced or their combinations with GCS in small doses should be used. This makes it possible to reduce the activity of rheumatoid arthritis before the onset of the action of the basic drugs. Six months is an important period, and effective basic therapy should be chosen no later than that. During treatment with basic drugs, it is necessary to carefully monitor the activity of the disease and side effects.

Glucocorticosteroids
The new approach consists in the use of high-dose GCS (pulse therapy) in combination with slow-acting agents, which allows to increase their effectiveness; combinations of aminoquinoline derivatives with methotrexate, gold salts, sulfasalazine, as well as selective immunosuppressant cyclosporin A are used.

GCS is used with high activity of the inflammatory process, in systemic manifestations of rheumatoid arthritis - in the form of pulse therapy (only GCS or cytostatic - in combination with cyclophosphamide), without systemic manifestations - in the form of course therapy. GCS is also used as supportive anti-inflammatory therapy when other drugs are ineffective.

In some cases, GCS is used in local treatment. Indications for their use are: mono- or oligoarthritis of large joints; prolonged exudative process in the joint; the predominance of the "local situation" over the systemic situation; Presence of contraindications to the systematic use of GCS. The depot form of corticosteroids also has a systemic effect when administered intra-articularly. Diprospan, which has a long-term effect, is a drug of choice.

REFERENCE

1. *Fayzrakhmanova, G. M., Akhtyamov, I. F., Chikaev, V. F., Fasakhov, R. R., & Slastnikova, E. S. (2015). POSTOPERATIVE REHABILITATION OF PATIENTS WITH RHEUMATOID ARTHRITIS (literature review). Bulletin of Contemporary Clinical Medicine, 8 (Supplement 1), 153-159. (Russian)*
2. *Shynkulova, Zh. A. (2013). Rheumatoid arthritis. Bulletin of the Kazakh National Medical University, (3-2), 62-64.*
3. *Babayeva, A. R., Kalinina, E. V., & Karateev, D. E. (2016). Tophacitinib in the baseline therapy of rheumatoid arthritis: personal clinical experience. Medical Council, (8), 92-98. (Russian)*
4. *Chichasova, N. V. (2019). Tofacithinib: effectiveness and safety during long-term use. Medical Council, (1), 64-71. (Russian)*
5. *Khudoykulova, F. V. (2024). The importance of diet therapy and physical activity in the treatment of non-alcoholic fatty liver disease. Science and Education, 5 (9), 54-63. (Uzb)*
6. *Khudoykulova, F. V., & Kalonov, S. S. (2024). Assessment of bile acid circulation in the liver and intestines in non-alcoholic fatty liver disease. Science and Education, 5 (3), 125-133. (Uzb)*
7. *Matmurodov R., Egamova M. Evaluation of clinical aspects of rehabilitation of children with cerebral palsy //Journal of Neurological Sciences. - 2021. - T. 455.*

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8. *Khudoykulova, F. V. (2024). Assessment of the effectiveness of diet therapy with the addition of a special food product in the treatment of non-alcoholic steatohepatitis.Science and Education, 5 (9), 38-53. (Uzb)*
9. *Karateev, D. E. (2013). Kinase inhibitors in rheumatoid arthritis: reality and prospects. Medical Council, (12), 90-96. (Russian)*
10. *Khudoykulova, F. V. (2024). Diagnosis of non-alcoholic fatty liver disease.Science and Education, 5 (9), 64-72. (Uzb)*
11. *Karateev, D. E., Luchihina, E. L., & Misiuk, A. S. (2017). Russian and International Experience in Using the Yanus-Kinaz Inhibitor for Rheumatoid Arthritis. Medical Council, (10), 87-92. (Russian)*
12. *Demidova, N. V., Luchikhina, E. L., & Karateev, D. E. (2016). Pronounced and rapid therapeutic effect of tofacytinib in combination with subcutaneous methotrexate in a patient with rheumatoid arthritis, having unfavorable prognostic factors, resistant to standard basic agents and genetically engineered biological preparations (clinical case). Modern Rheumatology, 10 (1), 37-40.*
13. *A., Samigullina, R. R., & Gaidukova, I. Z. (2018). The role of tofacitinib in the treatment strategy for rheumatoid arthritis. Scientific and Practical Rheumatology, 56 (2), 152-156. (Russ)*
14. *Sizova, L. V. (2013). Modern concepts of early rheumatoid arthritis pharmacotherapy. Orenburg Medical Herald, 1 (2), 48-54.*
15. *Alimov, A. V., & Shomuradova, Sh. (2016). Main Directions of Treatment of Juvenile Rheumatoid Arthritis (A Brief Review of Literature). Bulletin of New Medical Technologies, 23 (4), 343-348.*
16. *Erdes, Sh. F., Dubinina, T. V., Lapshina, S. A., Myasoutova, L. I., & Abdulganiyeva, D. I. (2015). Modern principles of drug therapy for ankylosing spondylitis. Practical Medicine, (4-2 (89)), 181-185. (Russian)*
17. *Liza, A. M., Olunin, Yu. A., & Gordeev, A. V. (2020). Assessment of the status of rheumatoid arthritis patients. Current trends. Contemporary Rheumatology, 14 (2), 7-13. (Russian)*
18. *Rybakova, V. V., Olyunin, Yu. A., Likhacheva, E. V., & Nasonov, E. L. (2020). Indicators of rheumatoid arthritis activity. Connection with the patient's psychological status. Contemporary Rheumatology. pp. 14 (2), 27-34. (Russian)*
19. *Olunin, Yu. A. (2019). Pain assessment in rheumatoid arthritis. Practical significance. Contemporary Rheumatology. (Russian)*
20. *Karateev, A. E., & Nasonov, E. L. (2019). Chronic pain and central sensitization in immuno-inflammatory rheumatic diseases: pathogenesis, clinical manifestations, possibility of using targeted basic anti-inflammatory drugs. Scientific and Practical Rheumatology, 57 (2), 197-209. (Russian)*
21. *Fatel ECS, Rosa FT, Simao ANC, Dichi I. Adipokines in rheumatoid arthritis. Rheumatol. 2018 Aug 15;58 (1):25. doi:10.1186/s42358-018-0026-8.*
22. *E.L. Nasonov, editor. Russian clinical recommendations. Rheumatology. Moscow: GEOTAR-Media. 2017. 446 p. [Nasonov E.L., editor. Russian clinical recommendations. Rheumatology [Russian clinical guidelines. Rheumatology. Moscow: GEOTAR-Media. 2017. 446 p. (in Russian)]. ISBN 9785-9704-4261-6.*
23. *Orlova, E. V., & Karateev, D. E. (2016). Effectiveness of orthography in the rehabilitation of patients with rheumatoid arthritis. Modern Rheumatology. (Russian)*
24. *Orlova, E. V., & Karateev, D. E. (2014). Effectiveness of training patients with rheumatoid arthritis in the early stages of the disease. Modern Rheumatology. (Russian)*
25. *Orlova, E. V., Denisov, L. N., Arsenev, A. O., & Karateev, D. E. (2012). Assessment of rheumatoid arthritis patients' adherence to pharmacological and non-drug treatment methods and its dynamics under the influence of the educational program. Scientific and Practical Rheumatology, (3 (52)), 68-74. (Russian)*
26. *Orlova, E. V., Karateev, D. E., & Kochetkov, A. V. (2013). Comprehensive rehabilitation of patients with early rheumatoid arthritis: results of a 6-month program. Scientific and Practical Rheumatology, 51 (4), 398-406. (Russian)*