# ULTRALOW DOSES

# Clinical Efficiency and Tolerability of Artrofoon in Patients with Rheumatoid Arthritis Associated with Osteopenic Syndrome

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Clinical, laboratory, densitometric, and prognostic parameters were evaluated in 50 patients with rheumatoid arthritis complicated with osteopenic syndrome, 30 of these received artofoon for 12 months in addition to basis therapy. Antiinflammatory and analgesic effects of artrofoon were demonstrated and the possibility of using this preparation in pharmacotherapy of rheumatoid arthritis associated with osteopenic syndrome was proven.

**Key Words:** *rheumatoid arthritis; osteopenic syndrome; artrofoon*

The problem of osteoporosis in rheumatic diseases attracts much attention of rheumatologists [1,4,10]. Rheumatic diseases result from severe disturbances in the immunity system leading to the development and progression of chronic inflammation [3,5,9,14] and are a unique model for deciphering of the role of immune mediators in the pathogenesis of osteoporosis [9,13].

Osteoporosis is a systemic pathology of the skeleton characterized by a decrease in bone weight per volume unit, which increases bone fragility and the risk of fractures [4,7,8].

There are published data that some antiosteoporosis drugs indirectly modulate the inflammatory and immune processes underlying the critical pathogenesis stages of not only rheumatoid arthritis (RA), but also osteopenic syndrome (OS) [2,3,5,9,11,12,14].

Mediators of the immune system, primarily cytokines and growth factors, play the major role in the regulation of bone metabolism and chronic inflammation [6,13].

An important achievement of rheumatology of the lest decade is introduction of preparations constituting a groups of so-called "biological agents" or "biological modificators of the immune response" into clinical practice; these preparations produce a selective inhibiting effect on humoral and cellular components of the inflammatory response [5,6,9].

Here we studied the efficiency and safety of artrofoon in the treatment of RA and OS.

## MATERIALS AND METHODS

The study comprised 50 patients with RA diagnosed according to criteria of American Rheumatological Association (grade 2 clinical and laboratory activity, X-ray stage 2-3, and grade 2 functional insufficiency of the disease). Clinical parameters evaluated were morning stiffness (in min), pain intensity by visual analog scale (VAS), and Lee and Ritchie indexes. Laboratory

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studies included blood test with measurement of acute phase markers (C-reactive protein, haptoglobins, and circulating immune complexes). Mineral density of the bone tissue was measured by dual-energy X-ray absorptiometry before and after treatment. Treatment efficiency was evaluated by the physician and the patient. Informative prognostic criteria were quantified using Health Assessment Questionnaire (HAQ).

All patients received individual basis therapy (methotrexate, 7.5 and 10 mg per week), nonsteroidal antiinflammatory drugs, prednisolone 5 and 7.5 mg/day, and calcium D3 (1 tablet 2 times a day).

The patients were divided into 2 groups: group 1 patients (control, $n$=20) received basis and antiinflammatory therapy, group 2 patients ($n$=30) additionally received artrofoon in a dose of 8 tablets per day.

## RESULTS

After 12 months, general state improved in 80% patients of group 2, joint pain decreased from 61.5±1.9 to 14.2±1.1 mm (VAS), physical activity increased, index of disease severity decreased from 8.7 to 2.1 and functional index decreased from 9.4 to 1.8. A significant dynamics of the content of C-reactive protein and circulating immune complexes was observed in this group; these parameters approached the mean values of the reference interval. Mineral density of the bone tissue in group 2 increased by 26% compared to group 1. These results indicate more optimistic prognosis. HAQ score improved for physical, psychic, and social health aspects.

Analysis of side effects revealed good tolerability of artrofoon, no cases of drug withdrawal was recorded. In 2 patients, mild epigastric pain persisting no more than 6 h were noted; the pain disappeared after administration of spasmolytic drugs. According to physician's assessment, the efficiency of artrofoon was good and moderate in 19 (63.33%) and 11 (36.67%) patients, respectively; according to patient's assessment, it was good and moderate in 17 (56.67%) and 13 (43.33%), respectively.

Our study revealed antiinflammatory and analgesic effects of artrofoon and its additive effect in complex therapy with antiinflammatory drugs. We also demonstrated the possibility of using artrofoon in the therapy of OS in patients with RA, which was determined by its effect on the critical stages of osteoporosis development. No negative side effects requiring drug discontinuation were observed during treatment.

The use of artrofoon for the treatment of OS in patients with RA increases the efficiency of basis pharmacotherapy, improves clinical and laboratory parameters, stabilizes mineral density of the bone tissue, and improved the prognosis.

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