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Title: Dynamics of the level of some indicators of inflammation regulation in blood of patients with psoriatic arthritis during the complex treatment course

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Introduction & Objectives

Psoriatic arthritis (PsA) is a chronic inflammatory immune-mediated disease. It's known, that the epidermal growth factor (EGF) regulates growth, proliferation and differentiation of cells, increases the calcium release from bone and stimulates bone resorption. The aim of the study was to evaluate the dynamics of the level of some indicators of inflammation regulation (interleukin-1β (IL-1β), C-reactive protein high sensitivity (CRPhs), EGF) in blood serum and the dynamics of joint pain in patients with PsA in the course of treatment.

Materials and methods

72 patients with PsA were examined and treated (39 male and 33 female, age range 18-67 years). Particularly, there were 22 patients with the first degree of activity of the articular syndrome, 34 patients with the second degree of articular syndrome activity and 16 patients with the third degree of activity of the articular syndrome. The control group consisted of 20 healthy persons of comparable age and sex. All patients depending on the type of therapy were classified into 2 groups. The group I included 38 patients who received the complex treatment of methotrexate for 1 month at doses depending on the severity of disease and chondroprotector glucosamine sulfate at standard doses for 40 days. The group II was formed by 34 patients who received only methotrexate under the same arrangements.

Results

The baseline levels of IL-1β, CRPhs and EGF in blood serum were significantly higher at 4.58, 8.27 and 4.8 times (p<0.05) respectively in all the patients compared with the control group. The serum levels of IL-1β, CRPhs and EGF were statistically significantly correlated with PASI and the degree of activity of the articular syndrome. In all patients before treatment VAS pain index was from 6 to 8 cm. Against the background of the therapy a statistically significant (p<0.05) reduction of serum levels of IL-1β, CRPhs and EGF were noted. At the end of the therapy the serum levels of IL-1β, CRPhs and EGF in the patients of the group I were significantly decreased by 2.32, 2.3 and 1.81 times respectively, and in patients of the group II – by 1.74, 1.86 and 1.51 times. At 40 day the indicator VAS in patients of I group decreased by 3-4 cm, in patients of group II – by 2 cm.

Conclusions

The serum levels of IL-1β, CRPhs and EGF reduced significantly in the patients of the group I compared with patients of the group II. Thereby, the combined application of methotrexate and glucosamine sulfate allows to reach more pronounced reduce inflammatory processes in patients with PsA. Finally, such treatment also provides an opportunity to influence the processes of bone resorption and makes possible to use the non-steroid anti-inflammatory drugs (NSAIDs) in shorter courses in these patients, since the glucosamine sulfate, in addition to its anti-inflammatory and chondroprotective effects, also has analgesic action and slows bone resorption.