Assessment of the epidermal growth factor level in blood of patients with psoriatic arthritis during the treatment course

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Introduction

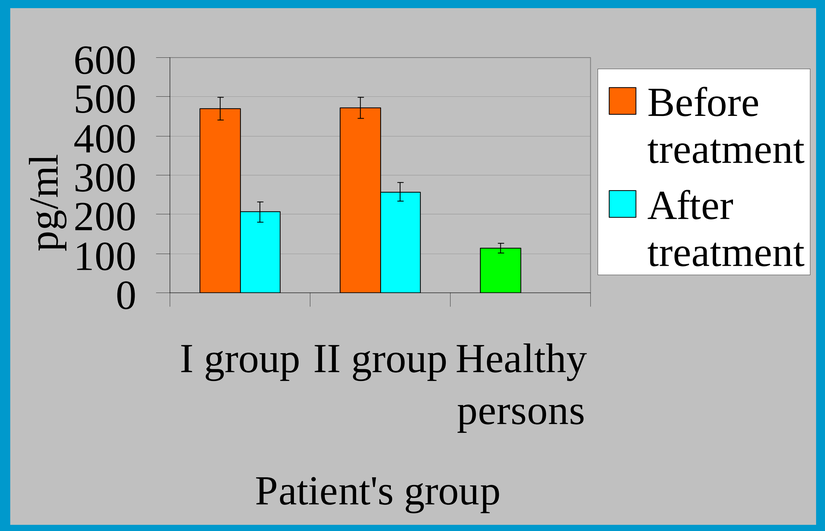
The epidermal growth factor (EGF) regulates growth, proliferation and differentiation of cells, increases the calcium release from bone and stimulates bone resorption. The aim of the study was to evaluate the dynamics of the serum EGF level in patients with psoriatic arthritis in the course of treatment.

Materials & methods

41 patients with psoriatic arthritis were examined and treated (23 male and 18 female, age range 18-69 years). The disease duration ranged from 6 months to 10 years and more. Particularly, there were 13 patients with the first degree of activity of the articular syndrome, 17 patients with the second degree of articular syndrome activity and 11 patients with the third degree one. 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 20 patients who received the complex treatment of disease-modifying antirheumatic drug (DMARD) leflunomide at saturating dose of 100 mg per day for 3 days, then maintaining dose of 20 mg per day protractedly and chondroprotector glucosamine sulfate at standard doses for 40 days. The group II was formed by 21 patients who received only leflunomide under the same arrangements.

Results

The baseline of EGF level in blood serum was significantly higher at 4.04 times ($p<0.05$) in all the patients compared with the control group. The serum level of EGF was statistically significantly correlated with PASI and the degree of activity of the articular syndrome. Against the background of the therapy a statistically significant ($p<0.05$) reduction of serum level of EGF was noted. Thus, at the end of the therapy, the serum EGF level in the patients of the group I was significantly decreased by 2.28 times, and in patients of the group II – by 1.83 times.



Conclusions

The increased production of the serum EGF level among the patients with psoriatic arthritis is connected with the hyperproliferation of keratinocytes on the one hand and on the other hand it demonstrates the presence of bone tissue resorption processes. The serum EGF level was changing significantly during the treatment course in the patients of both groups. It reduced significantly in the patients of the group I compared with patients of the group II. Thereby, the combined application of leflunomide and glucosamine sulfate allows to reach more pronounced reduce inflammatory processes in patients with psoriatic arthritis. Finally, such treatment also provides an opportunity to influence the processes of bone resorption, since the glucosamine sulfate, in addition to its anti-inflammatory and chondroprotective effects, also slows bone resorption.