

Evaluation of Clinical Efficacy and Safety in Management of Patients with Moderate and Severe Forms of Psoriasis, Applying Complex Therapy of Low Dosage Methotrexate and UVB

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Introduction. Nowadays psoriasis is one of the most widespread dermatoses in Latvia and world-wide with morbidity rates 2-4.9% of the population. In the pathogenesis of psoriasis alterations in keratinization play the main role, determined by abnormal proliferation, differentiation and apoptosis process of keratinocytes. In psoriasis, immunological factors play a crucial role – migration of T-lymphocytes in the skin after their interaction with epidermal antigen-presenting cells in regional lymphnodes. T-lymphocytes and keratinocytes secrete anti-inflammatory cytokines that promote hyperproliferation and differentiation disorders. It is important to use effective and safe methods of therapy that are pathogenically well-grounded and help to provide long-term remission of the disease. UVB phototherapy has immunosuppressive influence on inflammatory mediators and apoptosis of cells infiltrating epidermis. Nowadays, complex methods of therapy are often applied, increasing the efficacy of UVB therapy and allowing decrease of duration of time of UVB irradiation; thus decreasing the development of possible side effects of therapy. Methotrexate, according to clinical guidelines, is used as the first line systemic therapy in disseminated forms of psoriasis. In low dosages in psoriasis it shows significant anti-inflammatory and immunomodulatory effect.

Aim, Materials and Methods. Retrospectively, data of medical documentation of 62 patients treated with moderate forms of psoriasis were analysed (32 female and 30 male patients, 22-64 years old; the duration of the disease between 8-23 years) treated with narrow-band UVB phototherapy (311 nm) and low dosages of methotrexate (MTX) in the period between 2013-2016. In the analysis, data of only those patients were evaluated in whose medical documentation results of immunological blood tests were available. PASI varied in the range of 30.2 ± 7.3 . According to PASI changes, the efficacy of treatment was evaluated: considerable improvement – PASI decreased by more than 80%; good improvement – PASI decreased by 79-75%; improvement – PASI decreased by 74-50%; with no efficacy – PASI decreased by less than 50%; worsening – progression of the pathological process. In the data analysis, process patients were divided into 2 groups. First group – 34 patients treated with MTX 10 mg s/c injections once a week for 4-6 weeks and 311 nm UVB phototherapy, starting with $0.1-0.3 \text{ J/m}^2$, taking into consideration the skin type, according to the protocol, 3 times per week, receiving 10-24 procedures (mean 17 ± 4.2) with the total irradiation dosage $19.9 \pm 3.6 \text{ J/cm}^2$. Second group – 28 patients treated with MTX *per os* 2.5 mg 2 times a day for 5 days (total dose per course – 25 mg). Intervals between the courses were 3-4 days, eventually patients received 4-6 treatment courses.

Results. As the result of the complex therapy, 28 (82.3%) patients from the first group and 12 (42.8%) patients of the second group reached considerable improvement by 80% and more. In 6 (17.7%) patients of the first group and in 9 (32.1%) patients of the second group good improvement was observed (PASI decrease by 79-75%), and in 13 (46.4%) patients of the second group the improvement occurred (PASI 74-50%). Side effects were observed in the second group (MTX monotherapy) in 6 (21.4%) patients.

Conclusions. Complex method of therapy of moderate and severe forms of psoriasis, applying MTX in low doses and 311 nm UVB, is effective and pathogenically well-grounded in treatment of psoriasis. Complex method of therapy is safe and improves the quality of life of patients.