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Title: Nitric Oxide System as the Essential Pathogenetic Link in Stevens-Johnson Syndrome

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Introduction. The increase in the frequency of toxic-allergic diseases is the result of an increase in the number of drugs on the pharmaceutical market, which leads to mass self-medication of the population. Most often, patients seek medical help after self-medication, using drugs of various pharmacological groups. Stevens-Johnson syndrome is the most common side effect of the drug.

Objective: to determine the probable role of the nitric oxide system as the pathogenetic link in Stevens-Johnson syndrome (SJS) depending on the severity of the disease.

Materials and methods. 13 patients (6 women and 7men) with Stevens-Johnson syndrome aged 35-50 were under the observation. The investigation of the nitric oxide system (NO–NOS) functioning in the blood serum was held in 11 patients with SJS with varying severity of the disease. The concentrations of nitrite anions (NO_2^-), the levels of nitrate anions (NO_3^-), activity of general (NOS) - (Ca^{2+}- dependent and Ca^{2+} - independent), constitutive (cNOS) and inducible NOS (iNOS) isoforms of nitric oxide were determined.

Results. The increase in NO_2^- level by 1.53 times, NO_3^- level – by 3.33 times, activity of general NOS – by 5.78 times, cNOS – by 1.81 times and iNOS – by 13.34 times in blood serum was established in patients with SJS. Severe form of the disease was accompanied by increased levels of nitrite anions, general NOS and its both isoenzymes.

Comparison of indicators in patients with different severity of the process revealed significant increase of nitrite anions levels, decrease of nitrate anions levels in patients with mild and moderate forms of the disease versus severe SJS ($p < 0.05$).

Thus, the study of NO - NOS in patients with Stevens - Johnson syndrome showed an intensification of the oxidative metabolism of L-arginine, which is expressed in different quantitative degrees in SJS.

Discussion. The intensity of the system of nitric oxide (NO-NOS) functioning was studied and dependence of the changes of its parameters from clinical manifestations of the disease was detected in patients with Stevens - Johnson syndrome. It was established that the determination of the level of nitrite and nitrate anions in the blood serum can be used to predict the disease progression and to choose therapeutic treatment for patients with SJS.