

Ozone in complex treatment of patients with herpetic keratitis

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Abstract

As it is recognized all over the world, the virus of herpes is the most common reason of cornea injury. In modern view herpetic keratitis is a systemic viruseinduced immunopathology disease. In some cases the herpetic infection takes a lingering course and is often beyond traditional methods of treatment. Therefore the problem of searching new effective methods of herpetic keratitis treatment is of vital importance. We have conducted the study of the clinical efficiency of ozone included in complex treatment of patients with herpetic keratitis, and its influence on some immunity indices.

65 patients aged from 20 till 70 years old with herpetic keratitis have become the matter of our research. They were undergoing a course of medical treatment in the Republican Ophthalmologic Hospital of Saransk. Patients have been divided into two groups: the basic one in which patients in addition to the basic treatment received ozone (in the form of intravenous infusions and para-bulbar injections) and the alternative group in which patients underwent traditional treatment. Groups have been formed by the principle of randomization providing their comparability on clinical manifestation of the disease and severity of the clinical course.

The time for a cornea defect epithelizing and infiltration resolving, visual acuity increasing served as an assessment criteria of treatment efficiency. The immunodetection was carried out twice: in the acute period of the disease and before discharging the patients from the hospital. The inspection included: defining the quantity of CD3- and CD19- lymphocytes, quantitative definition of M, G and A antibodies in serum and functional activity of neutrophils.

Already after the first procedure of intravenous introductions of an ozonized physiological solution all patients marked significant improvement of the general condition and a rapid relief of a pain syndrome. Objective cornea amelioration is marked after the second procedure: a defect epithelization as well as reduction of the infiltration sizes was observed. It is found out that ozone included in complex treatment of patients with herpetic keratitis allows to improve results of the treatment of patients due to reduction of the periods of corneas epithelizing and infiltration resolving. In group of the patients receiving ozone the improvement of visual acuity was observed in the greater degree than in the alternative group.

Carrying out immunology inspection in the acute period, we observed the following: a decrease in the quantity of CD3-lymphocytes in comparison with healthy persons (distinction is doubtful); an explicit increase in the quantity of CD19- lymphocytes; disimmunoglobulinia (more often described as hypoimmunoglobulinia G). An authentic decrease in a phagocytotic activity in the sharp period of the disease is revealed. On repeated inspection of the patients receiving traditional treatment the quantity of CD19- lymphocytes, IgG and activity remained almost on the same, being undistinguishable from the initial level. Under ozone therapy normalization of these parameters and Ig G increase was observed. The quantity of the latter came nearer to normal values, authentically not differing from it. There was the increase in the phagocytic activity of neutrofiles to 11,9% from the initial level observed under ozone therapy action. However, the phagocytic activity of neutrofiles did not reach the level of healthy persons.

Conclusions

- 1) Immunity impairment is revealed with herpetic keratitis patients, not normalizing during early recovery period.
- 2) Ozone included in complex treatment of herpetic keratitis patients promotes the correction of humoral immunity impairment and the increase in phagocytic activity of neutrofiles.
- 3) Ozone in complex treatment of patients with herpetic keratitis promotes the improvement of the treatment results and allows to reach a higher clinical effect.