MAGNETIC-INFRARED AND EXTREMELY HIGH FREQUENCY THERAPY IN OPHTHALMOLOGICAL PRACTICE

T.S. Kheilo, O.A. Plyukhova

The Center of Therapeutic Ophthalmology, Moscow

The rate of inflammatory eye diseases secondary to systemic connective tissue diseases has been growing over the recent years. About 30 percent of such patients have recurrent uveitis which has been reported to cause partial or complete loss of sight in 9 to 19 per cent of cases.

Eye disease in diabetes mellitus also remains a problem. Up to 90 percent of patients with diabetes mellitus have ophthalmic diseases, and diabetic retinopathy accounts for 13 percent of the total blindness rate.

Success of therapy and prevention of these diseases depends on early and systematic therapy comprising symptomatic and pathogenetic interventions complete with immunotherapy, as immune disorders are a major determinant of eye disease.

Our center jointly with the Institute of Rheumatology and the Russian Endocrine Research Center has developed a therapy of eye diseases associated with systemic connective tissue diseases and diabetes mellitus. The therapy is immunocorrection through stimulation of systemic immunity concurrently with suppression of the local immune response.

Extracorporeal immunocorrection (plasmapheresis) with interleukin-2 treatment of leucocytes was used in patients with acute uveitis. Steroids (dexamethasone and a cenolog-40 solution) were used topically (subconjuctival and retrobulbar instillations). Enterosorption (polyphepam) and drug immunomodulation (tactivin, timalin) were carried out during autumn and spring remissions.

Limitations of this medical immunocorrection regimen are the need for frequent injections, psychological discomfort, the risk of injection-related intoxication and allergy, and exacting requirements for staff skills and sanitary conditions of therapy.

With this in mind, we started studies looking for potential of various modes of electromagnetic radiation in these conditions.

Magnetic-infrared laser (MIL) therapy using a MILTA therapeutic device was employed for reversal of local inflammation. Systemic immunotherapy used extremely high frequency irradiation of the sternum (wavelength, 7.1 mm).

This regimen was used to treat 20 patients of 15 to 45 years of age with recurrent uveal diseases in the presence of collagenosis (rheumatism, n=7; Reiter syndrome, n=3; Behcet disease, n-1; Sjogren syndrome, n=3; rheumatoid arthritis, n=5; temporal arteritis, n=5). Five of these patients were in an exacerbation phase, five in remission and six had bilateral uveitis.

Therapy was controlled by laboratory tests.

All patients showed improvement if the immune status (a decrease in total T cells, an increase in T suppressors and in the stimulation index) and of electrooculograms and electoretinograms. Visual acuity increased by 0.1 in two patients. All patients reported a better general well-being. Their immunoassays and electrocoagulograms also improved.

CONCLUSIONS

Electromagnetic radiation therapy has proved more effective as compared to earlier conventional interventions in the same group. General improvement was seen five to ten days sooner. The therapy was not associated with pain, discomfort, allergy and intoxication, and its costs were markedly lower. Therefore, our experience with MIL and extremely high frequency therapy used alone and in combination with drug treatment suggests its high effectiveness in ophthalmology.