

FIRST INTERNATIONAL CONGRESS OF AEPROMO
"NEW HORIZONS FOR THE OZONE THERAPY"
Pontevedra (Galicia) Spain
Friday 5 and Saturday 6 June, 2009

Original language: English

Abstract

New methods of ozone therapy and control of its efficacy.

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1. Autohemotherapy major with the automated method of venous blood taking, processing of a portion of blood with ozone-oxygen mixture (OOM) and return of the ozonized blood to the blood system. All these procedures are carried out by a complex consisting of the ozone therapy installation "Bozon-N+" and specialized peristaltic pump "Bozon-MAGT". A special sterile, apyrogenic plastic package is used for carrying out the procedure. Blood taking is made at the speed which may be within the limits of 5 - 30 ml/min. It allows to use needles of 0.7 mm in diameter for taking blood that essentially reduces discomfort experienced by the patient and allows to use cubital veins of small diameter.

2. **Hemosorption with the ozonized sorbent (HOS).** The Russian scientists and physicians showed that 3-5 procedures of HOS: 1) result in stable cure of viral hepatitis A, C and D diagnosed by biochemical parameters and a method of DNA-testing, 2) provide compensation of diabetes, reduces glucosuria and daily requirement in insulin in patients with severe forms of diabetes, 3) remove polyresistance of mycobacteria of tuberculosis that allows to treat polyresistant tuberculosis with usual antituberculosis drugs. The procedure consists in extracorporeal hemosorption of 7 litres of blood by pumping blood through the special carbon sorbent preliminary processed by the ozonized saline solution. During the procedure 1.5 of total amount of the circulating blood (100 ml of blood per 1 kg of the patient's weight) undergoes hemosorption. The HOS procedure is carried out by a complex consisting of the ozone therapy installation "Bozon-N + " and a specialized module "Bozon-HOS" having peristaltic pumps for ozonization of the sorbent, taking and return of blood, a measuring instrument of ozone concentration in the saline solution used for ozonization of the sorbent. The enterprise "Econika" supplies complete sets for carrying out HOS including columns with a special sorbent, connecting main pipes and filters.

3. **Infusion of the ozonized saline solution from automatically set and supported concentration of ozone in the saline solution** during intravenous infusion. This procedure is carried out by a complex consisting of the ozone therapy installation "Bozon-N+" and a specialized portable module "Bozon-MOS" having tools for measurement of ozone concentration in the saline solution. At present "Bozon-N+"-"Bozon-MOS" is a unique complex in the world allowing to make procedure of infusion of the ozonized saline solution metrologically correct.

4. **Inhalation of ultrasonic dispersion consisting of pure ozonide and water.** The enterprise "Econika" has developed a composition consisting of chemically pure ozonide of the fatty acid and natural emulsifying agent allowing to provide effective delivery of ultradisperse aerosol of ozonide into the lung alveoluses with the subsequent absorption in blood while using a specialized inhaler "Bozon-INGA". Inhalation of such aerosol exerts both local and systemic influence of ozonides. Local action of the inhalation form of ozonide on the bronchopulmonary system allows to treat destructive forms of bronchitis, recurrent and chronic forms of respiratory diseases. Systemic effects of ozonide inhalation are similar to other methods of ozone therapy. We have shown that application of inhalation of chemically pure ozonides can be considered as a real alternative to other methods of systemic ozone therapy - autohemotherapy major, rectal insufflation of ozone and infusion of the ozonized saline solution.

5. Anesthesia while carrying out procedures of hypodermic and intraarticular introduction of ozone-oxygen mixtures. Anesthesia is achieved by complex influence of complex modulated interference currents and cold influences. For realization of these influences the enterprise "Econika" produces the device of electro- and cold analgesia "Bozon-SNEG". Electroinfluence is carried out through the suckers made of electrically conducting rubber and cold influence by means of a specialized cryomassager. The application of the device "Bozon-SNEG" allows to lower a pain threshold in hypodermic injection with ozone-oxygen mixture several times or to increase concentration of ozone in injection up to 20-40 mg/litres.

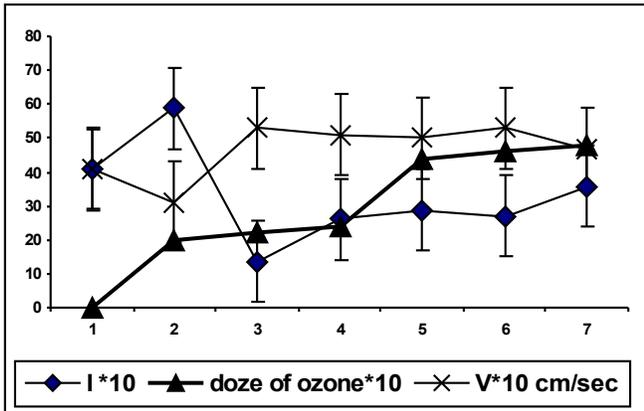


Fig. 1. Dependence of IC intensity of blood serum and average velocity of the capillary blood flow of patients with hypertension of 2 class. Abscissa axis –number of the procedure. MAHT and ozonated saline solution (2 mg/l).

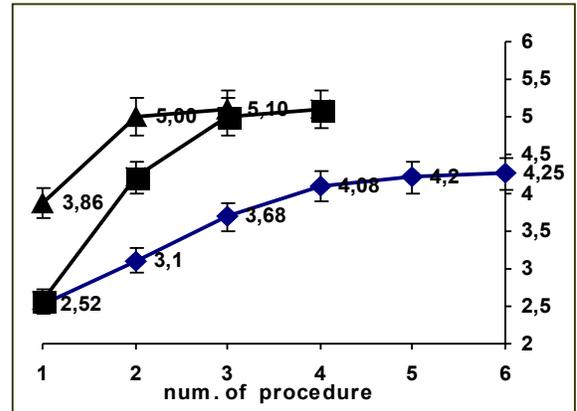


Fig. 2. Dynamics of average velocity of the peripheral blood flow of patients receiving ozone therapy. ■▲ -patient P., aged 25 diabetes of I type. ■ –the first course, ▲ -repeated, in 4months. ◆ - patient O, aged 60, stenocardia, 2 class

The actual problem of modern ozone therapy is **diagnosis of efficacy of ozone influence on an organism of patients**. It is known that physiological action of the ozone influence is based on balance of the pro- and antioxidant systems of an organism (POL-AOS). Change of the POL=AOS balance is manifested in change of the contents of products of the peroxide oxidation of lipids (POL) in biological liquids - blood, urine, saliva and others. One of methods of the contents measurement of products of the peroxide oxidation is the method of measurement of induced chemiluminescence (IC) of blood serum. We developed a specialized device "Bozon-BCL" for express- testing of the level of products of the peroxide oxidation of lipids in samples of blood serum. The device allows to estimate the initial level of POL in patients' blood serum and according to it to choose intensity of the ozone therapy course. Other important advantage which is received by the ozone-therapist using "Bozon-BCL" is a correct substantiation of duration of the ozone therapy course. Figures 1 and 2 illustrate it. Fig. 1 shows a change of amplitude of the IC scintillation of blood serum during ozone therapy. Comparison of curves ◆ and x shows that average velocity of the capillary blood flow and a level of POL products are interconnected (correlation coeff.= 0.96 ± 0.7 , $p > 0.95$), which proves the physiological importance of IC intensity. The analysis of dependence of IC and velocity of the capillary blood flow on the ozone dose (curve ▲) shows that time dependence has a plateau on which the maximal effect of ozone therapy is achieved. Further continuation of the course of ozone therapy (after the 6-th procedure) causes reduction of results achieved before. The data shown on Fig.1. are obtained in a specially selected group of patients homogeneous on key parameters. In general character of this dependence is of individual character (Fig.2.) that requires an individual approach to planning a course of ozone therapy and monitoring of POL-AOS balance condition during treatment.