Pro Index | Journal of Science in Medicine and Life

Volume: 1 Issue: 4 Year: 2023

http://journals.proindex.uz

Ozone Therapy in the Treatment of Patients with Hypertension

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Currently, the problem of hypertension (HTN) is one of the most pressing in modern cardiology. Hypertension is one of the most common forms of pathology of the cardiovascular system (7th report of the Joint National Commission on the Prevention, Detection, Evaluation and Treatment of High Blood Pressure. Such a wide prevalence of hypertension determines the fact that this pathology is one of the leading causes of mortality from cardiovascular diseases.

Despite more in-depth studies of the mechanisms of development of hypertension, the creation of modern antihypertensive drugs, the effectiveness of therapy for hypertension remains low: the level of hospitalization of patients with hypertension remains high, practitioners are not always able to select adequate antihypertensive therapy for patients and achieve stable normalization of blood pressure; Patients often experience side effects from medications (Sidorenko B.A., 2001; Kryukov N.H., 2002; Shulutko B.I., 2001). The problem of headache therapy is of particular relevance. This is due to many factors, the main one of which is the insufficient use of highly effective and safe drugs that could ensure high patient adherence to therapy. All this determines the search for new methods of treating hypertension. To achieve the target level of blood pressure and its stabilization in the treatment of hypertension, in addition to drug therapy, non-drug methods for correcting arterial hypertension are widely used: basal therapy, hirudotherapy. electrical procedures, etc. (Sorokina E.I., 1989).

Ozone therapy is a new non-drug treatment method for hypertension, which is deservedly becoming increasingly widespread throughout the world. This is due to the fact that ozone therapy has great therapeutic potential, in some cases surpassing the capabilities of drug methods, its use is technically simple and varied, and, most importantly, it is economically preferable to other non-drug treatment methods (Maslennikova O.V., Kontorshchikova KN ., 2003). Despite this, data on the effects and effectiveness of ozone therapy in the complex treatment of hypertension have not been fully studied at present, and the research results available in the literature available to us are quite contradictory.

Goal and objectives of the study:

The goal is to improve the immediate results of treatment and the quality of life of patients with hypertension through the use of low-volume ozone therapy. To achieve this goal, the following tasks were set:

1. To study the effectiveness of complex antihypertensive therapy in patients with hypertension using the technique of low-volume ozone therapy.

2 To determine the effect of the complex effect of the ozone-oxygen mixture and antihypertensive drugs on heart rate variability and electrical stability of the myocardium in patients with hypertension

3 To study the combined effect of low-volume ozone therapy and antihypertensive drugs on the lipid spectrum, processes of lipid peroxidation and the antioxidant system in patients with hypertension

4. Assess the impact of complex antihypertensive therapy using an ozone-oxygen mixture on the quality of life of patients with hypertension.

Scientific innovation

An original method of using a small-volume ozone-oxygen mixture for the treatment of patients with hypertension and the correction of concomitant metabolic disorders has been developed and implemented.

The possibility of enhancing the hypotensive effect of drugs (diuretics, ACE inhibitors, beta-blockers) with the help of ozone in patients with hypertension has been established.

Indications have been developed for low-volume ozone therapy in the treatment of patients with arterial hypertension, normal body weight, arterial hypertension no higher than stage II, the prescription of antihypertensive drugs, diuretics and angiotensin-converting enzyme inhibitors.

A favorable effect, independent of the classes of antihypertensive drugs, of the combined administration of ozone therapy with antihypertensive drugs on the lipid profile, antioxidant protection and lipid peroxidation activity was shown.

The study established a three-month positive effect of ozone therapy on the quality of life of patients with hypertension.

Provisions for protection 1 The use of low-volume ozone therapy in the complex treatment of hypertension increases the effectiveness of antihypertensive drugs, reduces the incidence of late ventricular potentials, and increases heart rate variability in patients with hypertension;

2. The use of ozone-oxygen mixture in the treatment of patients with hypertension helps to normalize the lipid profile, reduces the activity of lipid peroxidation and increases antioxidant protection;

3. Complex treatment of patients with hypertension using an ozone-oxygen mixture helps reduce anxiety levels and improve the quality of life of patients.

Practical value

A new ozonothermal technique has been proposed to improve the immediate results of treatment and the quality of life of patients with hypertension using small volume ozonated physiological solution (positive decision of Rospatent FGU FIPS

It has been established that the use of an ozone-oxygen mixture with antihypertensive drugs is accompanied by more pronounced antihypertensive effects compared to the use of antihypertensive drugs alone

The use of complex antihypertensive therapy using an ozone-oxygen mixture increases heart rate variability and reduces the incidence of late ventricular potentials in patients with hypertension.

The use of low-volume ozone therapy in patients with hypertension normalizes the lipid profile, increases the activity of the antioxidant system and reduces the activity of lipid peroxidation.

Antihypertensive therapy has been shown to be highly effective in patients with stage 1 arterial hypertension who have normal body weight.

Implementation of research results

An original method of using a small-volume ozone-oxygen mixture for the treatment of patients with hypertension has been developed and implemented.

The results of these studies are used in the treatment of patients with hypertension at the Ulyanovsk Regional Clinical Hospital of War Veterans - the International Center for Aging "Care", the Regional Center for Arterial Hypertension.

The results of the study are used in the educational process for students of the Faculty of Medicine of the Institute of Medicine, Ecology and Physical Culture of Ulyanovsk State University, as well as students of the Faculty of Postgraduate Education

Approbation of the work The dissertation materials were reported and discussed at the 40th scientific and practical interregional conference of doctors (Ulyanovsk, 2005), 41st scientific and practical interregional conference of doctors (Ulyanovsk, 2006); International Northern Social-Ecological Congress "Cultural and natural palette of the northern territories of Russia": "Horizons of gerontological and Orthodox medical social movements" (Syktyvkar, 2005).

The dissertation was tested at a joint meeting of the departments of faculty therapy, hospital therapy, occupational diseases and propaedeutics of internal diseases of the medical faculty of the Institute of Medicine. Ecology and Physical Culture Ulyanovsk State University.

Scope and structure of work

The dissertation consists of an introduction, a literature review, materials and research methods, 3 chapters of own research, discussion, conclusions, practical recommendations, a reference list, including 201 sources, including 120 domestic, 81 foreign. All the dissertation material was received, processed and analyzed personally by the author. The work was completed on 122 pages of typewritten text, illustrated with 22 tables. 5 drawings

CONCLUSION

1 The use of ozone in complex antihypertensive therapy increases the effectiveness of treatment in patients with hypertension: a more pronounced hypotensive effect during ozone therapy was observed during the daytime in patients with stage 1-P hypertension with normal body weight. The hypotensive effect of ozone therapy was accompanied by an increase in the number of patients with a favorable type of daily blood pressure profile - dipper.

2. The use of ozone in complex antihypertensive therapy improves the electrophysiological properties of the myocardium and affects the autonomic regulation of the heart, which is expressed by a decrease in the incidence of late ventricular potentials and an increase in heart rate variability in patients with hypertension.

3. Antihypertensive therapy with the use of ozone is accompanied by positive dynamics of metabolic parameters: a decrease in the level of triglycerides, total cholesterol, VLDL, an increase in the level of HDL, antioxidant activity of blood serum and a decrease in the processes of lipid peroxidation in patients with hypertension.

4. Complex antihypertensive therapy using ozone improves the quality of life, reduces personal and reactive anxiety in patients with hypertension and has an aftereffect for three months.

PRACTICAL RECOMMENDATIONS

1. In order to improve immediate treatment results and quality of life in patients with hypertension, it is recommended to use the technique of intravenous low-volume ozone therapy, which includes a 7-10 day course of daily infusions of an ozone-oxygen mixture of 50 ml with an ozone concentration of 4 μg/l.

2. To achieve a pronounced antihypertensive effect, it is recommended to use the technique of low-volume ozone therapy in patients with hypertension of 1-11 degrees with normal body weight.

3. A course of ozone therapy is recommended for patients with hypertension to increase vital activity and mental health, and reduce anxiety levels.

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