Profilaktik tibbiyot va salomatlik – Профилактическая медицина и здоровье – Preventive Medicine and Health
Journal home page:
https://inscience.uz/index.php/preventive-medicine


# Introduction into the practice of medical ozone in combination with antiviral drugs for the treatment of women with herpes infection on the background of FPI

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**ARTICLE INFO**

***Article history:***
Received August 2023
Received in revised form
10 September 2023
Accepted 25 September 2023
Available online
15 October 2023

***Keywords:***
herpes infection,
ozone therapy,
miscarriage.

**ABSTRACT**

Herpetic infection caused by the herpes simplex virus (HSV) is one of the significant problems of modern health care. This is due to a sharp increase in the incidence, a wide range of clinical manifestations, the possibility of an asymptomatic course and a high contagiousness of the pathogen. The probability of intrauterine transmission of HSV, which significantly worsens perinatal outcomes, has been proven. Over 90% of people in the world are infected with HSV, and only 20% of it manifests itself clinically.

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DOI: https://doi.org/10.47689/2181-3663-vol2-iss5-pp32-35
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# Ayollarning FPY fonidagi gerpes virus infeksiyasini davolash maqsadida tibbiy ozonni antivirus dorilar bilan birga amaliyotga tatbiq etish

***Kalit so‘zlar:***
gerpes infeksiyasi,
ozon terapiyasi,
abort.

**ANNOTATSIYA**

Herpes simplex virusi (HSV) keltirib chiqaradigan herpetik infeksiya hozirgi kunda sog‘liqni saqlashning muhim muammolaridan biri hisoblanadi. Bu kasallanishning keskin o‘sishi, klinik ko‘rinishlarning keng doirasi, asiptomatik ko‘rinish ehtimoli va patogenning yuqori yuqumliligi bilan bog‘liq. Perinatal natijalarni sezilarli darajada yomonlashtiradigan HSVning intrauterin yuqishi ehtimoli isbotlangan. Dunyodagi odamlarning 90% dan ortig‘i HSV bilan kasallangan va uning faqat 20% klinik ko‘rinishda namoyon bo‘ladi.

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Profilaktik tibbiyot va salomatlik – Профилактическая медицина и здоровье – Preventive Medicine and Health
Issue – 2 № 5 (2023) / ISSN 2181-3663

# Внедрение в практику медицинского озона в комбинации с противовирусными препаратами для лечения женщин с герпесной инфекцией на фоне ФПН

***Ключевые слова:***
герпетическая инфекция,
озонотерапия,
аборт.

**АННОТАЦИЯ**

Герпетическая инфекция, вызванная вирусом простого герпеса (ВПГ), является одной из важных проблем современного здравоохранения. Это связано с резким ростом заболеваемости, широким спектром клинических проявлений, возможностью бессимптомного течения, высокой инфекционностью возбудителя. Доказана возможность внутриутробной передачи ВПГ, что значительно ухудшает перинатальные исходы. Более 90% людей в мире инфицированы ВПГ, и только у 20% он проявляется клинически.

The purpose of the research is to study the effectiveness of the use of medical ozone in the complex of prevention and treatment of FPI in pregnant women with herpes infection. The basis of treatment is the early initiation of systemic antiviral therapy. The minimum recommended duration of treatment is 5 days, with a primary episode – 7-10 days. Therapy reduces the duration of the disease and is indicated in all cases, even with a mild course.

Recommended treatment regimens for a primary episode of HSV:

- acyclovir 200 mg 5 times or 400 mg 3 times a day for 7-10 days;
- valaciclovir 500 mg 2 times a day for 7-10 days;
- famciclovir 250 mg 3 times a day for 7-10 days.

The effectiveness of suppressive therapy has been proven in a multicenter open study involving 75 patients, during which the use of valacyclovir was evaluated for episodic (500 mg 2 times a day for 5 days) and continuous treatment (500 mg per day continuously). The results showed that the likelihood of recurrence of genital herpes was reduced by 78% in patients who received a course of suppressive therapy. In recent years, parenteral ozone therapy has been increasingly used in the treatment of various diseases.

Fundamental biochemical, immunological, morphological, ultrastructural, physiological studies and clinical trials of parenteral use of ozonized solutions indicate high efficiency in activating the microsomal system of the liver, optimizing the antioxidant activity of the body. Thus, it becomes possible to use ozone in clinical toxicology in the toxicogenic and somatogenic stages, as a powerful antihypoxic and antioxidant agent. Ozone (Oz) is an allotropic form of oxygen, a gas with a pungent characteristic odor. Ozone is a much stronger oxidizing agent than oxygen.

In this regard, ozone oxidizes many substances that are inert to oxygen under normal conditions. Characteristic products of a number of chemical reactions of ozone are ozonides, which are formed during the reaction of ozone with C=C bonds. Numerous studies have shown that therapeutic doses of ozone stimulate the antioxidant system and reduce the intensity of lipid peroxidation (LPO). In the process of ozone therapy, the

initial activation of free radical oxidation under the influence of ozone therapy naturally occurs, since ozone, oxygen, and free radicals are introduced into the body, but at the same time, the antioxidant system (AOS) is quickly launched, which ozone indirectly stimulates.

Regulation of LPO and AOS processes in the body, apparently, is one of the mechanisms of the therapeutic effect of ozone therapy. At the same time, many authors consider LPO activation to be one of the universal pathogenetic factors in various diseases. The pathogenetic expediency of using medical ozone (correcting uteroplacental-fetal blood flow, improving hemorheological properties of blood, immune and biochemical parameters of homeostasis of a pregnant woman) fully extends to the newborn, whose adaptive capabilities increase significantly.

**MATERIAL AND METHODS**

We have examined and treated 74 women with threatened miscarriage in the first trimester, aged 19 to 34 years. Of these, 47 patients made up the main group, who were treated with medical ozone in the complex of therapeutic measures, and 27 patients made up the control group, who were treated with traditional methods. A thorough analysis of the clinical characteristics of patients showed that most of them have a combination of several factors of miscarriage (infectious-inflammatory, hormonal, immunological, etc.), which makes it difficult to distinguish groups of patients in accordance with the etiology of the disease.

The medical ozone therapy unit “Medozon” was used as the hardware for ozone therapy. A parenteral drip injection of 0.9% ozonized sodium chloride solution with an ozone concentration of 2-3 μg/ml was carried out at a rate of 30 drops for the first 5 minutes and then 40-50 drops per minute. For the first 5 days, ozone therapy was carried out every other day, then 2 times a week (6-8 procedures in total for the course of treatment). To evaluate the effectiveness of treatment of pregnant women with the threat of miscarriage, the following clinical criteria were taken into account: complaints, the intensity of pain syndrome, gynecological examination data, and pathological discharge from the genital tract.

Changes in hematological, immunological, biochemical, microbiological and instrumental research methods were evaluated.

**CONCLUSION**

Thus, FPI largely determines the condition of the newborn, increasing the frequency of various complications, mainly associated with an insufficient supply of oxygen and nutrients to the fetus through the placenta.

At the same time, the use of medical ozone as part of the complex therapy of FPI helps to reduce the severity of such manifestations, bringing it closer to the average population. Herpes infection is an extremely common sexually transmitted disease characterized by a relapsing lifelong course. Conducting oral antiviral therapy significantly reduces the duration, and severity of the disease and the risk of infection of the sexual partner.

The most frequent appointment of valaciclovir is justified by the lower frequency of use of the drug and its high bioavailability. The use of valaciclovir and medical ozone in combination in women with herpes infection against the background of FPI, in whose anamnesis there were cases of miscarriage, gave a good result in practice.

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