



## "MODERN ASPECTS OF PREDICTION AND EARLY DIAGNOSIS OF CEREBROVASCULAR DISORDERS IN PREECLAMPSIA"

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### **Annotation**

Preeclampsia (PE) is a serious medical and social problem throughout the world, as it remains one of the main causes of perinatal and maternal mortality. In accordance with the goals and objectives of the work, a survey of 140 women will be conducted. The scientific search program will be implemented on the basis of the Bukhara Perinatal Center and the Maternity Complex of the Bukhara region, together with the Department of Obstetrics and Gynecology №2 of the Bukhara State Medical Institute.

**Keywords:** Preeclampsia, arterial hypertension, cerebrovascular diseases, hypoxic-ischemic encephalopathy, ischemic and hemorrhagic stroke and cerebral venous sinus thrombosis.

## **СОВРЕМЕННЫЕ АСПЕКТЫ ПРОГНОЗИРОВАНИЯ И РАННЕЙ ДИАГНОСТИКИ ЦЕРЕБРО- ВАСКУЛЯРНЫХ НАРУШЕНИЙ ПРИ ПРЕЭКЛАМПСИИ**

### **Аннотация**

Преэклампсия (ПЭ) является серьезной медико- социальной проблемой во всем мире, так как она остается одним из главных причин перинатальной и материнской смертности. В соответствии с целями и задачами работы будет проведено обследование 140 женщин. Программа научного поиска будет осуществлена на базе Бухарского перинатального центра и родильного комплекса Бухарского района, совместно с кафедрой акушерства и гинекологии №2 Бухарского государственного медицинского института.

**Ключевые слова:** Преэклампсия, артериальная гипертензия, цереброваскулярные заболевания, гипоксическо- ишемической энцефалопатии, ишемический и геморрагический инсульт и тромбоз церебральных венозных синусов.





## **PREEKLAMSIYALI AYOLLARDA SEREBRO-VASKULYAR BUZILISHLARNI ERTA DIAGNOSTIKASI VA ZAMONOVIIY DIAGNOZLASH TAMOYILLARI**

### **Annotatsiya**

Preeklampsiya (PE) butun dunyoda jiddiy tibbiy-ijtimoiy muammo bo'lib, perinatal va onalar o'limining asosiy sabablaridan biri bo'lib qolmoqda. Ishning maqsad va vazifalariga muvofiq 140 nafar ayol o'rtasida so'rov o'tkaziladi. Ilmiy izlanish dasturi Buxoro perinatal markazi va Buxoro viloyati tug'ruq majmuasi negizida Buxoro davlat tibbiyot institutining №2 sonli akusherlik va ginekologiya kafedrasida bilan birgalikda amalga oshiriladi.

**Kalit so'zlar:** preeklampsiya, arterial gipertenziya, serebrovaskulyar kasalliklar, gipoksik-ishemik ensefalopatiya, ishemik va gemorragik insult va miya venoz sinus trombozi.

### **Introduction**

Currently, preeclampsia is one of the most urgent problems of modern obstetrics, due to its wide prevalence, the complexity of etiopathogenesis, the lack of early and reliable measures for prevention and treatment, the high rate of maternal and perinatal morbidity and mortality, and the economic costs of their treatment.

In the world, the frequency of PE varies widely - from 3 to 14-21%. Complications during pregnancy, in particular preeclampsia, complicate approximately 10% of all births in the United States of America and are the main cause of fatal outcomes of pregnancy and childbirth (Sibai B., DekkerG.etal., 2017).

Preeclampsia, especially its severe forms, is characterized by transcendent disorders of all types of metabolic processes, clinically manifested by multiple organ failure, including impaired brain function (ChandraV., KimJ.J., 2016).

The maternal cerebral vasculature is very vulnerable to the side effects of preeclampsia. Short-term and long-term cerebrovascular complications include posterior reversible encephalopathy syndrome, reversible cerebral vasoconstriction syndrome, hemorrhagic and ischemic stroke, damage to small cerebral vessels, and vascular dementia (M.A. Sabantsev, S.V. Shramko, 2021).

Cerebrovascular disease is the leading cause of maternal death in women with pulmonary embolism

(PE), with most deaths associated with intracerebral hemorrhage. According to US statistics, in 7.4% of maternal mortality, its main cause was maternal stroke in the





period 2016-2020, and this was directly related to an increase in the incidence of severe forms of preeclampsia (M.A. Sabantsev, S.V. Shramko, 2021).

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Acute cerebrovascular disorders, including ischemic and hemorrhagic stroke and thrombosis of the cerebral venous sinuses, are formidable complications of preeclampsia that can lead to permanent maternal disability or death, and the overall risk of pregnancy-related cerebrovascular disease is approximately 30 per 100,000 births.

Severe vasospasm due to edema of the cerebrovascular system can cause hypoperfusion to the distal points of spasm, which can lead to morphological changes in the structure of the brain of patients. In addition, hypercoagulation that occurs during preeclampsia can also provoke microthrombo formations in the brain tissue (ChandraV., KimJ.J., 2016). Most maternal strokes occur in the first weeks after delivery and often after the patient is discharged from the hospital. Although risk factors associated with pregnancy, its complicated course, have been identified, biomarkers and or screening tools have not been developed in modern obstetrics to predict the development of this insidious catastrophic complication. The role of hemodynamic disturbances in the mother and her cerebral blood flow, their correlation with the parameters of the hemostasis system and with the severity of preeclampsia have been little studied.

Monitoring of the most important indicators of the mother's systemic hemodynamics and her cerebral blood flow, the determination of hemostasiological and inflammatory markers with sufficient credibility reveals preclinical manifestations of the suffering of the blood circulation of the brain of pregnant women and creates the possibility of predicting outcomes and orienting in the results of therapy.

On the basis of the above conducted modern informative methods, new opportunities are being created to consider this problem of obstetrics - the tactics of management, the choice of adequate therapy and the term of delivery as the main lever for reducing HIE and disability in women of active reproductive age.

### **Purpose of the study**

To evaluate the role of hemodynamic, inflammatory, hemostatic markers and MRI data in the prediction and early diagnosis of hypoxic-ischemic encephalopathy in





pregnant women with preeclampsia and their significance in the choice of obstetric tactics.

### **Material and Methods**

In accordance with the goals and objectives of the work, a survey of 140 women will be conducted. The scientific search program will be implemented on the basis of the Bukhara Perinatal Center and the Maternity Complex of the Bukhara region, together with the Department of Obstetrics and Gynecology No. 2 of the Bukhara State Medical Institute.

### **Results and Discussion**

In accordance with the goals and objectives of the work, a survey of 140 women will be conducted. The scientific search program will be implemented on the basis of the Bukhara Perinatal Center and the Maternity Complex of the Bukhara region, together with the Department of Obstetrics and Gynecology No. 2 of the Bukhara State Medical Institute. Conventional laboratory and instrumental methods for diagnosing the hemocoagulation system (fibrinogen, platelets, PI, APTT, D-dimer), clinical and biochemical analyzes (CRP, complete blood count, urine) will be carried out, functional diagnostic methods will be used dopplerography of the carotid artery and MRI.

Retrospectively, 50 birth histories and puerperas who were diagnosed with severe preeclampsia complicated by multiple organ failure will be studied in order to determine the risk group for fatal complications of gestation.

An in-depth study will be conducted on a cohort of 90 women. including 30 patients with a physiological course of pregnancy and childbirth (1st control group), the main prospective group will be 60 patients, of which 30 pregnant women registered at the end of the second trimester of pregnancy did not receive appropriate preventive therapy (2nd group) and Group 3 will consist of patients who were registered from early pregnancy and underwent a comprehensive study in a timely manner and received therapy aimed at preventing hypoxic-ischemic brain damage.

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