



The role of the development of thrombocytopathies in pregnant women with pre-eclampsia and the principles of their correction

Diyorakhon NASRETDINOVA¹, Diloram ASRANKULOVA²

Andijan State Medical Institute

ARTICLE INFO

Article history:

Received October 2023

Received in revised form

10 November 2023

Accepted 25 November 2023

Available online

15 December 2023

Keywords:

preeclampsia,
spontaneous bleeding,
thrombocytopathies,
clexane.

ABSTRACT

One of the first places is occupied by obstetric bleeding, the second is preeclampsia, and the third is extragenital diseases in the structure of maternal mortality in the Republic of Uzbekistan. At the same time, it should be taken into account that in almost 80% of cases, bleeding is a consequence of preeclampsia (PE), and from a scientific point of view, it can be reasonably argued that I and II places should rightfully be for PE, therefore, this pathology is an urgent problem both scientifically and practical obstetrics.

2181-3663/© 2023 in Science LLC.

DOI: <https://doi.org/10.47689/2181-3663-vol2-iss6-pp5-7>

This is an open-access article under the Attribution 4.0 International (CC BY 4.0) license (<https://creativecommons.org/licenses/by/4.0/deed.ru>)

Preeklampsiyali homilador ayollarda trombotsitopatiyalar rivojlanishining o'ziga xosligi va ularni tuzatish tamoyillari

ANNOTATSIYA

Kalit so'zlar:

preeklampsi,
o'z-o'zidan qon ketish,
trombotsitopatiyalar,
klexane.

O'zbekiston Respublikasida onalar o'limi tarkibida birinchi o'rinda akusherlik qon ketishi, ikkinchi o'rinda preeklampsiya, uchinchi o'rinda ekstragenital kasalliklar turadi. Shu bilan birgadeyarli 80% qon ketish holati preeklampsi(PE)ning natijasidir va ilmiy nuqtai nazardan, I va II o'rinlar haqli ravishda bo'lishi kerakligi haqida asosli fikr yuritish mumkinligini inobatga olish lozim. Shu sababli mazkur kasallik ham ilmiy, ham amaliy akusherlikning dolzarb muammosidir.

¹ Resident of the 3-year master's program of the Department of 1-Obstetrics and Gynecology, Andijan State Medical Institute. Andijan, Uzbekistan.

² Doctor of Medical Sciences, Professor, Head of the Department 1-Obstetrics and Gynecology, Andijan State Medical Institute. Andijan, Uzbekistan.

Роль развития тромбоцитопатии у беременных с преэклампсией и принципы их коррекции

АННОТАЦИЯ

Ключевые слова:

преэклампсия,
спонтанные
кровотечения,
тромбоцитопатии,
клексан.

В структуре материнской смертности в Республике Узбекистан одно из первых мест занимают акушерские кровотечения, второе – гестоз, третье – экстрагенитальные заболевания. При этом следует учитывать, что почти в 80% случаев кровотечения являются следствием преэклампсии (ПЭ) и с научной точки зрения можно обоснованно утверждать, что I и II места по праву должны быть для ПЭ, поэтому данная патология является актуальной проблемой как в научном, так и в практическом акушерстве.

The causes of PE are multifactorial, complex and not fully understood. However, according to modern concepts, the leading role belongs to endothelial damage, changes in platelet function, changes in lipid metabolism, as well as immunological and genetic factors. According to many studies, the predominant number of pregnant women with preeclampsia have severe hypercoagulability with the development of DIC. The study of the functional properties of platelets of pregnant women with PE showed that changes in the adhesive-aggregation properties of platelets precede the involvement of the procoagulant link of the hemostasis system in the development of DIC.

A certain role of hemocoagulation disorders in the pathogenesis of PE has now been proven. However, many aspects of the development and progression of PE during pregnancy are still far from being resolved. It has been established that during PE in pregnant women, platelet activation develops, which leads not only to their disseminated intravascular aggregation and damage to the walls of the vessel but also inevitably to activation of blood coagulation and the development of DIC. Small doses of heparin, antiplatelet agents, vitamin E antioxidant, and fresh frozen plasma are used To eliminate these disorders in the complex therapy of such patients. The use of these drugs led to the correction of disorders in the hemostasis system. At the same time, the frequency of thrombohemorrhagic complications decreased by 2-3 times. However, in some cases, this therapy does not provide a sufficient corrective effect, which is probably due to high plasma heparin resistance in patients with DIC. The data accumulated to date suggest that this condition is due to a sharp increase in the content of acute phase proteins (APF) some of which have a high affinity for heparin and prevent its interaction with antithrombin III II. It is possible to temporarily overcome the effect of BOF only by a sharp increase in the dose of administered heparin, however, this is fraught with the risk of bleeding and secondary depression of AT-III.

The **purpose of the research is** to study the platelet link of the hemostasis system and determine their role in the development of thrombohemorrhagic complications in preeclampsia and their prevention.

Research methods are to assess the condition of women, the following will be carried out: a thorough collection and analysis of anamnestic data, a general blood test, a general urinalysis, a Nechiporenko urinalysis, a general examination, a gynecological and obstetric examination, blood biochemical parameters: total protein, bilirubin, urea,

creatinine, enzymes (ALT), indicators of hemostasis, dynamic cardiotocographic study (CTG), the study of the state of the platelet, procoagulant and fibrinolytic components of the hemostasis system.

Platelets are an important component of the hemostasis system: platelet adhesion to the site of vessel injury, aggregation, secretion of coagulation factors, subsequent clot retraction, spasm of small vessels, and the formation of a white platelet thrombus stop bleeding in microcirculatory vessels with a diameter of up to 100 nm. Activation of the coagulation system induces the formation of fibrin on the surface of activated platelets and the formation of a full-fledged thrombus.

Clinical manifestations depend on the characteristics of qualitative and quantitative defects in platelets – the severity of the hemorrhagic syndrome can vary significantly and does not directly depend on the degree of the defect. With mild bleeding, there may be a tendency to bruising with small and minor injuries, at the site of compression with an elastic band; periodic non-abundant nosebleeds, family prolonged menstruation in women, etc. In the case of the development of a massive hemorrhagic syndrome, life-threatening blood loss may develop.

Conclusion: We used a new approach to prevent obstetric bleeding against the background of preeclampsia using low molecular weight heparin Clexane, which contributes to the normalization of platelet function, the elimination of thrombophilic conditions, and heparin resistance. As a result of the implementation of the principles developed by us for managing women with PE, the frequency of obstetric bleeding will be reduced, which will reduce maternal morbidity and mortality in women, as well as reduce their disability as a result of preserving the main reproductive organ – the uterus.

REFERENCES:

1. Thon J.N., Italiano J.E. Platelets: production, morphology and ultrastructure. *Handb Exp Pharmacol* 2012; 210: 3–22.
2. Bolton-Maggs P.H., Chalmers E.A., Collins P.W. et al. A review of inherited platelet disorders with guidelines for their management on behalf of the UKHCDO. *Br J Haematol* 2006; 135: 603–33.
3. Salles I.I., Feys H.B., Iserbyt B.F. et al. Inherited traits affecting platelet function. *Blood Rev* 2008; 22: 155–72.
4. Nurden A.T., Nurden P. Congenital platelet disorders and understanding of platelet function. *Br J Haematol* 2014; 165: 165–78.
5. Кокрановское руководство: Беременность роды / под ред. Г.Т. Сухих; пер. с англ. – М.: Логосфера, 2010. – 410 с.
6. Alanis M.C., Johnson D.D. Early initiation of severe preeclampsia induction of labor is versus elected cesarean delivery and newborn // *American Journal of Obstetrics and Gynecology* 2008; 199 (3): 262. e1. – 262. e 6.
7. Aydin T., Varol F.G., Sayin N.C. Third trimester maternal plasma total fibronectin levels in pregnancy-induced hypertension: results of a tertiary center // *Clin. Appl. Thromb. Hemost.* 2006. – Vol. 12, – № 1. – PP. 33–39.