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Rasulova Gulmira Rustamjon kizi
Yuldasheva Azadakhan Sabirovna
Department of Obstetrics and Gynecology No. 2
Andijan State Medical Institute

ASSESSMENT OF THE ANGIOGENIC SYSTEM IN THE CASE OF SEVERE PREECLAMPSIA

Rezyume: Preeclampsia (PE) according to foreign authors complicates the course of 2 to 8% of all pregnancies, with a severe form developing in every tenth case. Annually 8.5 million cases of PE are registered in the world. In different countries in the structure of maternal mortality, PE and its complications take the II-IV place each year.

Key words: preeclampsia, extragenital pathology, pregnancy, angiogenic status.

Расулова Гульмира Рустамжон кизи
Юлдашева Азадахон Сабировна
Кафедра акушерства и гинекологии №2
Андижанский государственный медицинский институт

ОЦЕНКА АНГИОГЕННОЙ СИСТЕМЫ В СЛУЧАЕ ТЯЖЕЛОЙ ПРЕЭКЛАМПСИИ

Резюме: Преэклампсия (ПЭ) по данным зарубежных авторов осложняет течение от 2 до 8% всех беременностей, при этом тяжелая форма развивается в каждом десятом случае. Ежегодно в мире регистрируется 8,5 миллионов случаев ПЭ. В разных странах в структуре материнской смертности ПЭ и ее осложнения ежегодно занимают II-IV место.

Ключевые слова: преэклампсия, экстрагенитальная патология, беременность, ангиогенная статус.

Relevance. According to foreign authors, preeclampsia (PE) complicates the course of 2 to 8% of all pregnancies [3.8], while the severe form develops in every tenth case [1.6]. 8.5 million cases of PE are registered annually in the world [5,7]. In different countries, PE and its complications annually occupy the II-IV place in the structure of maternal mortality [5],. It has been established that over the past decade, maternal mortality in the world with PE has decreased almost twofold: from 110 thousand in 1999 to 60 thousand in 2014, it is known that PE is the cause of death of 500 thousand newborns every year [4,6]. At the same time, there is a clear trend in Russia towards an increase in the incidence of severe forms of this pregnancy complication: severe PE was registered in 27.14 cases per 1000 births in 2011, and in 30.28 per 1000 births in 2012 [6]. PE remains one of the main causes of neonatal morbidity (640-780%) and perinatal mortality (18-30%) [6]. Thus, PE still represents one of the most serious and, unfortunately, unresolved problems of modern obstetrics.

Modern clinical, laboratory and experimental research methods are aimed at studying the mechanisms of occurrence and development of this obstetric complication. Many theories have been proposed, but even today we have to agree with Jeffcoate T. N. and Baksheev N. S., who called PE a "disease of theories" and a "disease of riddles and assumptions" 50 and 40 years ago, respectively, as in the 30s of the last century, most modern articles devoted to the study of PE begin with the statement, that the full causes of this disease are unknown [1,3,4]. Diagnostic criteria are still based on non-specific clinical and laboratory signs, and timely accurate recognition of the development of PE is an important task for modern researchers [5].

In the course of numerous studies, it has been shown that with endothelial dysfunction occurring in PE and leading to complications at the level of placental vessels, the activity of factors synthesized by the endothelium or being its elements changes. In addition, increased attention is paid to the factors involved in trophoblast invasion at the turn of the I-II trimesters of pregnancy.

There are many reports of changes in the level of pro- and antiangiogenic factors during PE, which play a central role in the process of implantation, cell proliferation, and angiogenesis. However, in the vast majority of studies, attention is paid to individual factors without taking into account the content of other compounds involved in the pathogenesis of the discussed pregnancy complication.

As a result of studying the scientific literature, we have not found information about the relationship of these factors to each other, about the correlation with the main manifestations of PE after its manifestation. According to the literature, the dependence of blood concentrations on their expression by placental tissue is also presented in fragments and, importantly, without reference to individual types of placental cells.

In accordance with the above, the purpose of this study is to improve methods for assessing severe preeclampsia by determining the indicators of the angiogenic status of a pregnant woman.

The second stage consisted in the examination of 34 pregnant women who made up the main group. Pregnant women were selected from among patients with so-called "pure" PE (58 people) by randomization, using random number generation in the Microsoft Excel 2013 package (serial number 00201-10123-54512-AA875). Before identifying the main group, we analyzed the data of pregnant women with early (n=19) and late (n=15) PE. As a result, we found no significant differences in the indicators and further considered both variants of severe PE in the same group.

The purpose of the study: to study the clinical features of preeclampsia and to develop methods of modern treatment.

Research materials and methods: From 2022 to 2023, 240 pregnant women were delivered at the AOPC. During this period, 14 women were diagnosed with severe preeclampsia, which is 0.98% of all hospital deliveries. All patients were included in the main group of the first stage of the study.

The results of the study: It is obvious that the majority of the surveyed are women from 19 to 34 years old (80%), patients of the late reproductive period (35 years and older) made up 16% (39 people).

All pregnant women lived in satisfactory social and living conditions. Most of the patients had secondary (94 people; 38.52%) and secondary specialized education (67 people; 27.46%) and were residents of rural areas (140 people; 57.36%)

In the structure of extragenital diseases in pregnant women with severe PE, the main share was made up of diseases of the cardiovascular system (51.08%), among which hypertension prevailed. A large number of obese patients (87 people) attracts attention.;

46.77%), up to its morbid forms. It was not always possible to clarify the genesis of obesity, and these patients were not isolated to the group of endocrinopathies on this basis. Kidney pathology ranks third among the diseases associated with PE (32.26%), mainly chronic pyelonephritis (52 cases). In addition, there were pregnant women with thyroid diseases, diabetes mellitus (type I and gestational), as well as 16 people (8.6%) with chronic cholecystitis.

The majority of the subjects had a regular normalizing menstrual cycle, a violation of the cycle by the type of opsomenorrhea occurred in 3 (1.48%) cases, dysmenorrhea was observed in 5 (2.46%) cases.

Analyzing the gynecological history, it should be noted that 124 (61.08%) patients with severe PE had a history of gynecological diseases, 24 (11.82%) of them had a history of infertility (lasting from 2 to 17 years).

In a quarter of the subjects with upcoming repeat births, the previous pregnancy ended with cesarean section, which was indicated by severe PE in 11 people. In total, this pregnancy complication occurred in 20 patients in the anamnesis and developed repeatedly during this pregnancy, in 3 of them severe PE led to antenatal fetal death during previous pregnancies.

In our study, we observed several clinical variants of PE: the classic Zangemeister triad was observed in 58.2% (142 women) of cases, the edematous proteinuric form occurred in 14.75% (36 cases) of observations, on the basis of isolated high hypertension, the diagnosis of severe PE was made in 16.8% of cases (other criteria of severe were added to the clinic PE).

Conclusions. The majority of pregnant women in the Stavropol Territory with severe PE 1. (58.2%) have classic symptoms of PE with the presence of the Zangemeister triad. Severe PE significantly affects the term and method of delivery (70.5% were delivered abdominally, early delivery took place in 61.07% of cases). The low weight of newborns from mothers with severe PE is characteristic (2240.92 gy., SD 836.66), most (65.7%) are estimated by Apgar at 5-7 points, nursing children requires a long stay in the hospital with transfer to the second stage of nursing (67.35%) and the use of modern resuscitation measures (ventilators, surfactant preparations).

In pregnant women with severe PE, the serum concentration is 2.

the antiangiogenic factor is significantly higher compared with sFlt-1 in pregnant women without hypertensive disorders (4362±570.12 and 1080±435 pg/ml, respectively; p0.05), the value of the sFlt-1/VEGF ratio is almost 6 times significantly higher in patients with severe PE (503±67 and 86.22±11.81, respectively; p0,01).

In severe PE, the serum level of adhesion molecules is as 3.

indicators of endothelial dysfunction are higher, a high positive relationship is determined between them (r=0.74; p0,0001), a significant difference occurs when considering sVCAM-1 (1391±308.33 and 966.2±165.22 ng/ml, respectively; p0,05).

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