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## Respiratory Disease Of Newborns In Women With Preeclampsia

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### ABSTRACT

The paper shows that the comparative analysis of neonatal period course in 68 newborns in patients with pre-eclampsia reveals that the highest frequency of respiratory disorders is 17.6% in severe pre-eclampsia. At the same time, respiratory disorders in premature infants in premature and abdominal deliveries were due only to the severity of the pre-eclampsia course, and in premature infants also to the functional immaturity of the fetus's lungs.

### KEYWORDS

Preeclampsia, fetal respiratory distress syndrome, premature and premature newborns.

### INTRODUCTION

Preeclampsia is the most important cause of maternal morbidity and mortality and is one of the leading factors of high risk of perinatal complications [1,3,6]. The frequency of preeclampsia varies from 1,4 to 23,2 among all pregnant women, severe forms of preeclampsia develop in 8-10% of patients [2,4,7].

Preeclampsia occupies one of the first places (5-13%) in the mortality structure of

pregnant women, women in labor, and women in childbirth [5,9]. Preeclampsia is the main cause of perinatal morbidity and mortality. In 20% of newborns from mothers with pre-eclampsia, psycho-emotional and physical development disorders are recorded, and the frequency of infant morbidity increases significantly [1,5,9]. Hypertensive disorders during pregnancy worldwide are a major cause of maternal, perinatal morbidity and mortality [4,6,8]. A monument to the

scientist who will reveal the etiology of preeclampsia will be erected at the University of Chicago Clinic Colonnade. It has not yet been built, as the main cause of acute hypertension in pregnancy remains unclear. However, some aspects of the pathophysiology of preeclampsia have been partially studied and relatively effective therapeutic measures have been developed.

Pregnancy and childbirth with pre-eclampsia still present a high risk not only to the mother but also to the fetus [3,5,7,9]. Since preeclampsia remains one of the most severe complications of pregnancy and childbirth and is accompanied by high perinatal morbidity and mortality, it is an urgent problem not only for obstetrics but also for neonatology [2,6,9,10].

Respiratory distress of newborns syndrome is a serious complication of premature labor and the main cause of disability and early neonatal death [4,6,8,10]. The frequency is higher the lower the gestational age and the more often pathological conditions associated with the pathology of respiratory, circulatory and central nervous systems occur.

Respiratory distress syndrome (RDS) is the result of ischemia of pulmonary tissue, in which the production of the surfactant is disturbed on the one hand, and its inactivation by the fibrinogen plasma due to the increased permeability of the alveolar capillary membrane in hypoxia with the formation of hyaline membrane of newborns on the other hand. That is, hyaline membranes of newborns are a consequence, not a cause of respiratory distress syndrome [3,5,9].

**Purpose:** The aim of this work was to study respiratory pathology in newborns with different gestation periods from mothers with preeclampsia.

## MATERIALS AND METHODS

The study was based on an analysis of the clinical course of the neonatal period of 68 newborns from mothers whose pregnancy occurred against a background of varying degrees of pre-eclampsia severity. The work was performed on the basis of maternity hospital No.2 in Samarkand and in the Department of Pathology of Newborns of the Regional Multidisciplinary Children's Hospital of Samarkand from 2018-2019. 68- newborns were divided into 2 groups. The first main group of 33 (48,5%) newborns from mothers whose pregnancy took place against the background of severe pre-eclampsia. The second group compares 38(55,8%) newborns from mothers whose pregnancy occurred during mild pre-eclampsia.

Both groups were well comparable in age and parity. Their age varied from 18 to 40 years, averaging 29.1±6.5 years for the 1st (main) group and 28.2±6.5 years for the 2nd group. By parity, they were distributed as follows: the main group of 33 women in labor: 25 (75,5%) had first births, 8 (24,5%) repeated births; 28 (73,7%) out of 38 women in the comparison group had first births, 10 (26,3%) repeated births. Thus, the women in labor were almost equally matched and there was no reliable difference between the groups ( $p \geq 0,05$ ).

Clinical examination of women in labor included study of somatic, obstetrical and gynecological anamnesis, accounting of diseases transferred before and during this pregnancy. Particular attention was paid to the outcomes of previous pregnancies and births. According to indications, there were consulted therapists, neurologists and ophthalmologists.

In women with pre-eclampsia, 33 children were born in the main group, in the

comparison group 38. The weight of children in the main group ranged from 2000g to 4400g and averaged  $3200 \pm 50.4$ g. The first-born children had  $3450 \pm 60.2$ g, the second-born children had  $3150 \pm 140.0$ g and  $3400 \pm 80.2$ g, respectively, in the comparison group. In the main group of women who had preeclampsia of premature babies, there were 4 (12.1%), in the comparison group 3 (7.9%). There were 3 (7.9%) of children over 4000g in the main group and 4 (12.1%) of children in the comparison group.

The woman in childbirth was examined using general clinical and special methods. The observation maps were filled in for entry into the database and subsequent static processing using Excel 70 static applications.

## RESULTS OF THE RESEARCH

Comparative analysis of the neonatal period flow showed that the highest frequency of respiratory disorders was observed in the main group 6 (18.2%), A in the comparison group 5 (13.1%). Respiratory disorders in the main group were due to the severity of preeclampsia and in premature infants in both groups to functional immaturity of the fetus's lungs.

In the comparison group, 3 (9.1%) premature infants were born in the early delivery group, while in the main group 4 (10.5%) premature infants were born prematurely.

In the comparison group, 3 (9.1%) of reported children with a score of 7-6 on the Apgar scale had indistinct cyanosis and first-degree respiratory failure, which was manifested by respiratory rhythm disorders only when anxious. In analyzing respiratory disorders in the main group, 5 (13.1%) children

with a score of 4-5 on the Apgar scale had respiratory disorders in the same way as premature infants had respiratory disorders, cyanosis, auxiliary muscles, swordlike process and intercostal, brady heart rate deafness, and tachycardia. (respiratory insufficiency of II degree). Symptoms of respiratory failure increased with the child's anxiety. In the comparison group in 2 (6.1%) cases with respiratory distress syndrome there were observed neurological disorders. The newborns were not very active and restless, and there was a decrease in muscle tone, reflexes, and extremity tremor, which indicates that the CNS is excitable. On 3-4 days of neonatal period the condition of newborns was satisfactory. In 4 (12.1%) premature infants in the main group with RDS of II-III degree, muscle tone and limb tremor reduction was observed during 4-5 days of neonatal period, which normalized to 7-9 days of neonatal period. In the main group, one newborn child had seizures against the background of respiratory disorders, which were clonicotonic in nature, and sleep and waking disorders were observed. Atony, areflexia and adynamy were observed in 2 cases. In the main group of premature infants with low body weight (from 2000 to 2400 g) periods of increased excitability were observed against the background of adynamy and depression. In the main group of births were complicated: premature detachment of normally located placenta with caesarian section 8(24,2%) in the comparison group 5 (15,1%)( $p \leq 0,05$ ) unsatisfactory delivery progress 4 (12,1%) in the comparison group 3 (7,9%) ( $p \leq 0,05$ ) pelvic fetal presentation 1 (2,6%) and 1 (3,0%) respectively. Our data are consistent with those of A.V. Kulikov, D.P. Kazakova, and co-authors of 2001, that any deviation from the normal course of labor, even planned rapid delivery, may cause the process of insufficient

synthesis of the surfactant with subsequent development of RDS. In the main group the period of maximum risk of respiratory disorders lasted till the end of 3-4 days, in the comparison group it lasted 24-48 hours.

## CONCLUSIONS

Thus, fetal antenatal hypoxia in preeclampsia in the mother leads not only to the emergence of respiratory failure syndrome in newborns, but also to changes in the CNS, which are functional. In addition, as studies have shown, in some newborns neurological disorders are detected later on the 3rd-4th day of the neonatal period, when symptoms of respiratory failure are completely or partially eliminated. Hypertensive disorders during pregnancy is not only an obstetric problem, but also a neonatal one, because the intrauterine fetus is at high risk of perinatal complications.

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