Proceedings of International Conference on Scientific Research in Natural and Social Sciences
Hosted online from Toronto, Canada.
Date: 5th October, 2024
ISSN: 2835-5326 **Website:** econferenceseries.com

MORPHOLOGICAL CHANGES IN THE BLOOD VESSELS OF THE PLACENTA IN PREGNANT WOMEN WITH ECLAMPSIA

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Abstract

In the study, a control group consisting of 10 women without eclampsia, 13 women with moderate eclampsia, and 13 women with severe eclampsia participated. The course of pregnancy and features of the delivery process were examined, and the pathological examination of the placentas was conducted. It was found that severe eclampsia is associated with a high incidence of chronic placental insufficiency, subcompensated and decompensated processes, early childbirth, and increased rates of perinatal diseases and mortality. The identified relationships between the pathological parameters of the placenta and obstetric complications indicate the presence of similar mechanisms for the development of these obstetric complications. The study aimed to investigate the pathological characteristics of the placenta in cases of eclampsia.

The pregnancy and delivery processes were studied, and histological examinations of the placentas were conducted. Based on the severity of the disease, three groups were identified: Group 1 (control) - 10 women with normal pregnancy; Group 2 - 13 pregnant women with moderate eclampsia; Group 3 - 13 pregnant women with severe eclampsia. The average ages of the women in Group 1, Group 2, and Group 3 were 27.00±1.67 years, 27.63±1.05 years, and 30.36±1.64 years, respectively.

The pathological part of the study was carried out at the Department of Pathology of the Republic Center for Pathological Anatomy. Ten placentas were examined from Group 1, 14 placentas from Group 2 (including 2 placentas from biamniotic bichorial twins), and 16 placentas from Group 3 (including 2 placentas from bichorial biamniotic twins and 3 placentas from trichorial tri-amniotic twins). Histological examinations were performed on paraffin sections (stained with hematoxylin and eosin) using a grid and point counting method in 10 randomly selected fields at a magnification of ×400.

Results and Discussion

In severe eclampsia, the frequency of chronic placental insufficiency (CPI) was significantly higher in Group 3 (50.0%) compared to Group 1 (18.2%). Among the pregnant women with severe eclampsia, 5 cases (35.7%) of subcompensated and 2 cases (14.3%) of decompensated chronic kidney insufficiency were identified. In Group 3, one case of antenatal fetal death was recorded. Babies born to women with severe eclampsia had a higher probability of premature birth and serious neonatal complications such as respiratory distress syndrome (RDS), respiratory insufficiency, and pulmonary atelectasis compared to other groups, necessitating resuscitation measures with mechanical ventilation.

Conclusions

1. In severe eclampsia, the degree of dystrophic changes in the chorionic plate stroma and syncytiotrophoblast layer increases, along with the small focal nature of compensatory-adaptive reactions, hyperplasia of immature stroma capillaries, and an increase in syncytial knots without ischemic infarcts.
2. The correlation between the pathological parameters of the placenta and obstetric complications (severe eclampsia, sub- and decompensated placental insufficiency, and neonatal malnutrition and asphyxia) indicates similar mechanisms for the development of this pregnancy pathology.