Proceedings of International Educators Conference
Hosted online from Rome, Italy.
Date: 25th October - 2024
ISSN: 2835-396X Website: econferenceseries.com

MORPHOLOGICAL CHANGES IN THE BLOOD VESSELS OF PLACENTAL TISSUE IN PREGNANT WOMEN WITH ECLAMPSIA

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ANNOTATION: Eclampsia is a leading disease during pregnancy, occurring alongside the development of multiple organ failure. Studying its etiology and pathogenesis remains a pressing issue for many researchers. The complications of eclampsia in various diseases include obstetric hemorrhage, placental abruption, placental insufficiency, fetal growth restriction syndrome, HELLP syndrome, and severe cerebrovascular pathologies in women. The course of eclampsia and its complications reduces the quality of life for patients, which is related to the high prevalence of cardiovascular diseases. The development of this pathological process in the body of a pregnant woman leads to high maternal and perinatal morbidity and mortality rates. Modern statistical data confirm this: the proportion of eclampsia

among pregnancy complications ranges from 10.1% to 20%, accounting for 21.3% of maternal mortality causes. In developing countries, eclampsia remains a leading cause of maternal deaths (40-80%).

The urgent task for practicing physicians is to prevent severe and complicated forms of eclampsia in pregnant women. Diagnosing eclampsia in the early stages of pregnancy is crucial, as a comprehensive set of therapeutic measures can halt its development or prevent the emergence of severe forms and complications. Eclampsia is considered a "disease of adaptation to pregnancy," manifesting in all stages characteristic of the general adaptation syndrome. Indicators of problems developing in a pregnant woman's body are reflected in changes in immune, neurohumoral, and other systems responsible for regulating vascular tone and microcirculation.

Objective: To conduct a comprehensive morphological analysis of obliterative angiopathy of chorionic villi in eclampsia.

Materials and Methods: The material for the dissertation includes placentas from 35 pregnant women with eclampsia who were treated at the Republican Perinatal Center of Uzbekistan from 2019 to 2023. Each case was thoroughly studied, including outpatient records, medical histories, and biopsy reports.

Research Results: According to our data, the primary cause of eclampsia development is obliterative angiopathy, with its severity directly correlated with the severity of the pathological process. As eclampsia progresses, the level and volume of dystrophic changes in the vascular-stromal component increase, manifesting through changes in macro- and micrometric parameters (decreased placental mass, reduced maternal surface area, increased fibrinoid within the villi, reduced villous volume, and decreased area of chorionic villi and their structures). Simultaneously, the level of obliterative angiopathy in the blood vessels increases, primarily due to damage to the supporting villi. The study identified normal morphometric indicators for the walls and lumen of supporting and intermediate villous arterioles at various stages of preeclampsia. Additionally, coefficients for obliteration and elongation were determined in conjunction with extragenital pathology. These morphological and morphometric indicators allow for the interpretation of the condition of the mother and newborn. We believe that obliterative angiopathy is a significant

diagnostic morphological factor in fetal-placental insufficiency in women affected by eclampsia. Histological studies should give special attention to identifying obliterative angiopathy in the comprehensive assessment of morphological changes in placentas, enabling pathoanatomists to evaluate the severity of eclampsia and predict the condition of the newborn. Our research findings help identify new aspects in the development of eclampsia, contributing to the development of targeted therapies.

Conclusions:

1. Morphometric indicators for supporting, intermediate, and terminal villi and their vessels in preeclampsia have been presented, showing negative dynamics correlated with changes in the main parameters of the vessel wall: thickening of the arteriolar wall and narrowing of the lumen (1.5-2.0 times compared to normal). The presence of obliterative angiopathy in supporting villi has been proven to be an integral component of fetal-placental insufficiency at various levels of eclampsia: hypertrophy of the muscle layer and obliteration of arteriolar lumens increased in accordance with the duration and severity of eclampsia.
2. Ongoing complex clinical-morphological studies indicate that concentric vascular remodeling occurs during the progression of preeclampsia, resulting in obliteration of the lumen, thickening of the vessel wall, and reduced geometric structure of capillaries in terminal villi. This leads to increased vascular resistance in circulation, decreased diffusion-exchange function of the placenta, and ultimately results in the development of placental insufficiency.