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**THE SIGNIFICANCE OF PLACENTAL STRUCTURE AND COMPENSATORY–
ADAPTIVE MECHANISMS IN FETAL MACROSOMIA**

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Relevance.

Fetal macrosomia is a complex biological process of intrauterine development and is closely associated with the functional balance between the placenta and the fetus. Structural and microscopic changes in the placenta play an important role in meeting the growth rate and metabolic demands of the fetus [4,5]. At the same time, the general hormonal and metabolic status of the pregnant woman has been shown in scientific studies to have a direct influence on these processes [1]. Therefore, investigation of the specific features of placental structure under conditions of macrosomia has considerable scientific and practical significance.

Placental dysfunction often occurs in a compensated form and remains clinically latent. However, such hidden changes may lead to neonatal adaptation disorders and long-term perinatal outcomes. Clinical observations emphasize the necessity of an individualized approach and a comprehensive assessment of functional status in reproductive system pathologies [2].

Aim.

To evaluate the morphological structure of the placenta and compensatory–adaptive mechanisms in fetal macrosomia and to determine their influence on fetal development.

Materials and Methods.

The thesis is based on an analysis of scientific studies devoted to placental structure, fetoplacental circulation, and fetal macrosomia. Placental mass, villous stroma, capillary network, and indicators of blood circulation intensity were assessed [4,5]. During the analysis, the necessity of taking into account the general metabolic and functional status of the female organism was also considered [1].

Results and Discussion.

In macrosomia, high functional activity of the placenta is characterized by enlargement of villi, an increased number of capillaries, and expansion of the vascular bed [4,5]. These changes are realized not due to a sharp increase in placental mass, but mainly through accelerated blood flow and activation of the compensatory capacity of the fetoplacental system.

At the same time, other pathologies of the female reproductive system, including conditions associated with vaginal wall displacement and prolapse, are closely related to the state of connective tissue and functional adaptive mechanisms. This indicates the need to consider these factors when choosing surgical and obstetric management tactics [6].

The influence of external factors, including physical loads during adolescence, on menstrual function significantly affects the subsequent formation of the reproductive system and creates an important background for future pregnancy and placental adaptive processes [3]. The importance of individualized clinical approaches in the treatment of reproductive system pathologies has also been noted in the scientific literature [2].

Conclusion.

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In fetal macrosomia, placental structure and compensatory–adaptive mechanisms represent the main factors ensuring intensive fetal growth. Morphological and functional changes of the placenta are closely related to the hormonal, metabolic, and functional status of the female organism [1,4,5]. A comprehensive assessment of external and internal factors affecting the reproductive system contributes to the reduction of perinatal risks associated with macrosomia and provides a scientific basis for selecting individualized obstetric management strategies [1–6].

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