## SUMY STATE UNIVERSITY MEDICAL INSTITUTE







# «BIOMEDICAL PERSPECTIVES»

## **ABSTRACT BOOK**

International Scientific and Practical Conference of Students, Postgraduates and Young Scientists

(Sumy, October 16-18, 2019)

Sumy Sumy State University 2019

#### MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE SUMY STATE UNIVERSITY MEDICAL INSTITUTE



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#### **GENERAL INFORMATION**

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#### THE LOCAL IMMUNE REACTIONS IN THE KIDNEYS, URETERS AND BLADDER OF THE FETUSES AND NEWBORNS FROM MOTHERS WITH COMPLICATED PREGNANCY

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**Introduction.** The immune system performs control and direct impact on the differentiation and maturation of the urinary system organs cells of fetuses and newborns that developed in physiological conditions. To date, the features of local immune reactions in the urinary system organs of the fetuses and newborns from mothers with complicated pregnancy are not known.

**Aim.** Determination of the features of local immune reactions in the kidneys, ureters, bladder of fetuses and newborns from mothers whose pregnancy was complicated by preeclampsia and iron deficiency anemia.

**Materials and methods.** The material of the study was the tissue of the kidneys, ureters and bladder of fetuses and newborns. The material was divided into three groups: I – fetuses and newborns from mothers with physiological pregnancy (n=28); II – fetuses and newborns from mothers, whose pregnancy was complicated by preeclampsia (n=78); III – fetuses and newborns from mothers, whose pregnancy was complicated by iron deficiency anemia (n=85). Histological, immunohistochemical, morphometrical and statistical methods were used in the study.

**Results.** Complications of pregnancy led to the changes of local immune reactions in the kidneys, ureters and bladder in fetuses and newborns, which were manifested by the changes of absolute number of CD 3, CD 4, CD 8, CD 20, CD 68 cells. Mild iron deficiency anaemia did not affect T-cell and B-cell immunity and at the same time stimulated the macrophage system, but the moderate and severe degrees of the above maternal pathology inhibited T-cell and B-cell immunity with activation of the macrophage system. All degrees of severity of maternal preeclampsia resulted in an extreme activation of the macrophage system, T-cell and B-cell immunity.

**Conclusion.** Identified abnormal deviations of local immune reactions in the kidneys, ureters and bladder of fetuses and newborns from mothers with complicated pregnancy by preeclampsia and iron deficiency anemia can be one of the damaging factors that lead to the changes of morphological and functional state of the above organs.

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НАУКОВЕ ВИДАННЯ

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