

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ**



**МАТЕРІАЛИ**

**106-ї підсумкової науково-практичної конференції  
з міжнародною участю  
професорсько-викладацького колективу  
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**Bakun O.V.**

## **EXPRESSION NLRP3-INFLAMMASOME AS MARKER OF ENDOMETRIOSIS-ASSOCIATED INFERTILITY**

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**Introduction.** Endometriosis is one of the most urgent problems in modern gynecology. Since this disease is observed in almost every third woman and there is a tendency to increase the frequency of cases, endometriosis remains a "subject" of special interest not only for scientists, but also for practicing doctors. According to statistics, endometriosis affects more than 10% of women of reproductive age, which is about 176 million women worldwide.

**The aim of our study.** The aim was to examine the expression Nlrp3-inflammasome in the blood of women with endometriosis-associated infertility using assisted reproductive technologies with included probiotic and estimate a new approach with included probiotic for preparation to assisted reproductive technologies.

**Materials and methods.** For the purpose of the research we examined 30 infertile women. Control group consisted of 10 women with tubal infertility due to an inflammatory process in the anamnesis, in whom, as a result of a complex clinical and laboratory examination, no other diseases were detected and in terms of their health they could be equated with practically healthy women (age from 21 to 42 years, the average age was 29.75 years) and who did not take probiotic. The main group consists from 20 women with external genital endometriosis were included in assisted reproductive technologies. Patients from main group took probiotic produced by Unic Biotech Ltd, India. 1 tablet twice a day with  $10 \times 10^9$  Lactobacillus during 1 month in complex preparation (treatment) before assisted reproductive technologies. The indices of Nlrp3 – Inflammasome determined before and after preparation. The study was performed in Bukovinian State Medical University and Centre of Reproductive Medicine. The primary infertility incidence was significantly higher in patients from main group. To analyze the expression of the NLPP3-inflammasome gene and determine the relative normalized expression of NLPP3 mRNA, we used the polymerase chain reaction with reverse transcription in real time (RT-PCR). The object for molecular genetic studies by the RT-PCR method was the fraction of mononuclear cells isolated from the whole blood of patients with endometriosis.

The value of p (authenticity difference) was determined by Student's table-Fischer. Differences between contrasting averages were considered significant at  $p < 0.05$ .

**Results.** Analyzed the results of our research stated that in main group expression of Nlrp-3 inflammasome was 24,43, which is significantly higher than after preparation (0,70 accordingly). In control group expression of Nlrp3-inflammasome was 0,54. Expression of Nlrp-3 inflammasome increased in patients before preparation more than 34 times compare with patients after preparation accordingly.

**Conclusions.** Consequently, after using probiotic, the increased level of Nlrp3-inflammasome sharply decreases, indicating the effectiveness and the possibility of use in the programme for assisted reproductive technologies preparation.

**Berbets A.M.**

## **MELATONIN LEVELS DECREASE IN THE BLOOD OF PREGNANT WOMEN IN CASE OF IUGR**

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**Introduction.** Intrauterine growth restriction (IUGR) is a common reason for perinatal morbidity and mortality. Also, it is often complicated with fetal distress. Melatonin is widely known as an anti-oxidant agent, which might decrease the damage of tissues caused by hypoxia.

**Aim of the study.** We aimed to investigate whether the level of melatonin in umbilical blood after birth is different in case of IUGR, comparing to normal fetuses.