

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



## **МАТЕРІАЛИ**

**105-ї підсумкової науково-практичної конференції  
з міжнародною участю  
професорсько-викладацького персоналу  
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ  
присвяченої 80-річчю БДМУ  
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Матеріали підсумкової 105-ї науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) – Чернівці: Медуніверситет, 2024. – 477 с. іл.

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У збірнику представлені матеріали 105-ї підсумкової науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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account pregnant women of the risk group for the development of preeclampsia detailed collection and analysis of obstetric anamnesis, identification of risk groups pregnant women and timely preventive treatment for the purpose of prevention occurrence of this pathology.

**Bakun O.V.**

## **ROLE OF LACTOBACTERIA AT ENDOMETRIOSIS**

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**Introduction.** For the first time, the term “probiotics” was proposed in 1954 by F. Vergio, who conducted comparison of various compounds characterized by antimicrobial and positive effects on intestinal microflora. In particular, they contribute to the breakdown of milk sugar in the case lactose malabsorption, prevention of diarrhea, increase in the content of enzymes in the large intestine, which stimulate the immune system. These are also substances of microbial or of non-microbial origin, which with the natural method of administration contribute to homeostasis due to the normalization of microflora in the body; means of maintaining intestinal balance microflora at an optimal level and its correction. Lactobacilli participate in the synthesis of antibodies and interact with white blood cells that serve to maintain immunity in general.

**The aim of the study.** To investigate role of lactobacteria at endometriosis according literature data.

**Material and methods.** In a study by a group led by Hiroyuki, treatment with oral *Lactobacillus gasseri* OLL2809 was used at experimental endometriosis in mice. The authors obtained the result of suppression of the development of experimental endometriosis, explaining this by the ability of lactobacilli to stimulate IL-12-induced NK activation. In 2011, the same group of authors published the results of a double randomized, placebo-controlled study of the effect of *Lactobacillus gasseri* OLL2809 on the severity of menstrual pain and manifestations of dysmenorrhea in women with endometriosis associated with infertility.

As in the previous study, this study used an oral probiotic, and the results were evaluated on a point scale and showed a probable reduction in pain and dysmenorrhea after taking the *Lactobacillus* preparation. In addition, this group of scientists conducted monitoring of the course endometriosis by monitoring the level of CA-125 in the blood, which also showed probable decrease. The results obtained by the aforementioned group of authors also explains from the standpoint of NK activation and their destruction of endometrioid foci ectopy cytotoxic activity of NK isolated from women with endometriosis, associated with infertility, in relation to endometrioid culture cells, which in itself was a major breakthrough for the prospect the use of bacteria in the complex treatment of endometriosis.

This effect of NK stimulation by bacterial agents followed by a decrease manifestations of endometriosis was shown even earlier on the example of mycobacteria. In 2004, R.D. Clayton and Sang showed the ability of mycobacteria to increase cytotoxic activity of NK isolated from women with endometriosis, associated with infertility, in relation to endometrioid culture cells, which in itself was a major breakthrough for the prospect the use of bacteria in the complex treatment of endometriosis.

**Results.** The obtained results can be explained by relying on the known studies of many scientists, in particular H. Itoh et al. (2011) who state that drugs lactobacilli have a significant ability to cause NK activation, with amplification synthesis of IL-12, while reducing excessive synthesis of pro-inflammatory TNF- $\alpha$ , IL-2, IL-1 $\beta$ , IL-6 (definitely transplant induced, why there is other scientific evidence) and, which is of particular importance - VEGF, because this growth factor is recognized as one of the main culprits of endometrioid growth. In general, the results coincided with the following in the group by H. Itoh (2011), despite methodological differences, assessment approaches and methods and other works describing the anti-inflammatory potential of lactobacilli.

The research data can be considered as a positive result of preclinical use of probiotics containing lactobacilli for the treatment of endometriosis.

**Conclusions.** Therefore, it can be argued that lactobacillus preparations have significant ability to cause NK activation, with increased synthesis of IL-12. These research data can be considered as a positive result of preclinical the use of probiotics containing lactobacilli for the treatment of endometriosis.

**Berbets A.M.**

## **PREGNANCY COMPLICATIONS AND MELATONIN CHANGES IN CASE OF SLEEP DISORDERS PRESENCE**

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**Introduction.** The pineal gland produces the important hormone melatonin, which maintains the human body's circadian rhythm. Melatonin is also produced by the placenta in pregnant women. The effect of melatonin deficiency in case of pregnancy disorders, such as intrauterine growth restriction (IUGR) of fetus and preeclampsia (PE), has been insufficiently studied.

**The aim of the study:** to research the available data concerning sleep disorders at pregnancy and their clinical significance.

**Material and methods.** We analyzed the recent publications dedicated to the problem.

**Results.** In analyzed papers, the relevant information is presented as follows: the morning concentration of melatonin in the blood of pregnant women with IUGR significantly reduces, compared to healthy pregnant women, which authors consider to be caused mostly by placental dysfunction. Changes in the functioning of the pineal gland in patients with IUGR are clinically expressed as sleep disorders and confirmed by a significant decrease of melatonin concentrations in saliva taken at night, in comparison with women with non-complicated pregnancies. Sleep disorders in women with IUGR manifest early during pregnancy, mostly during 22<sup>nd</sup>–30<sup>th</sup> week. Changes in melatonin concentrations in such patients are accompanied by the lowering of the concentrations of placental growth factor (PIGF) in blood and with increase of the blood levels of cytokines, namely proinflammatory TNF- $\alpha$ , IL-1- $\beta$  and IL-6, compared to healthy pregnant women. In placental tissue melatonin receptors 1A and 1B are significantly less expressed in the case that pregnancy is complicated with IUGR, which is confirmed by changes in the optical density of these receptors.

In publications dedicated to preeclampsia, it is stated that the morning concentrations of melatonin and PIGF were also significantly lower in the blood of women with PE compared to healthy pregnant women. The authors suggest that alterations in the placental production of melatonin and PIGF may contribute to the development of preeclampsia. In contrast, higher levels of the pro-inflammatory cytokine interleukin-6 (IL-6) and the anti-inflammatory cytokine interleukin-10 (IL-10) were observed in preeclampsia patients' blood, compared to the healthy pregnant women. Significant sleep disorders were also described in patients with PE.

**Conclusions.** Melatonin is a hormone that plays a very important role in the mechanisms of development of such pregnancy complications as IUGR and PE. Further studies are needed to describe its role in the pathways of mentioned disorders of human pregnancy. Sleep disorders, if present in a pregnant patient, should not be ignored by clinicians.

**Dubyk L.V.**

## **RISK GROUPS OF RECURRENT PREGNANCY LOSS**

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**Introduction.** Pregnancy loss is a spontaneous loss of a pregnancy. According to the World Health Organization (WHO), the frequency of an early pregnancy loss is 20 to 25%. A diagnosis of Recurrent Pregnancy Loss (RPL) could be considered after the loss of two or more pregnancies. This includes pregnancies after spontaneous conception and after assisted reproduction. It is estimated that RPL affects 1 to 2% of couples. Around half of all the fertilized eggs die and are lost (aborted) spontaneously, usually before the woman knows she is pregnant. Among women who