

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



МАТЕРІАЛИ

**104-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
06, 08, 13 лютого 2023 року**

Конференція внесена до Реєстру заходів безперервного професійного розвитку,
які проводитимуться у 2023 році №5500074

Чернівці – 2023

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USING A SEGMENTED APPROACH IN STUDY DESIGN FOR STUDY OF GONADOTOXIC ACTIVITY OF LAMBDA-CYHALOTHRIN GENERICS

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The aim of the study. The aim of the study was to investigate the gonadotoxic activity of two test substances (λ -cyhalothrin generics) produced by «Makhteshim chemical works ltd» (test substance 1) и «Red sun group corporation» (test substance 2)

Material and methods. The study of gonadotoxic activity was conducted on Wistar Han rats of both sexes using the segmented approach in the design of the experiment with the detection of the functional state of the gonads and evaluation of the reproductive ability. We examined the state of the estrous cycle, duration, and frequency of each stage in females and sperm motility, the total number, and the number of abnormal forms of sex cells in males. All stages of the study were conducted in GLP accredited laboratory using certified animal models from an SPF breeding facility. Study results were presented with statistical evaluation of the data and hazard assessment conclusions.

Results. As a result of the study, it was found that both substances have reproductive toxicity in the maximum dose (3 mg/kg). The difference in effects for each substance was revealed. The effect of test substance 1 manifested in significant changes in reproductive parameters only in males, and the impact of test substance 2, in its turn, manifested in significant changes in reproductive parameters of both males and females. No adverse effects on reproductive function were found in the minimal exposed dose (0.3 mg/kg) for both test substances.

Conclusions. In the comparative evaluation of the study results, it was shown that investigated test substances have different signs of reproductive toxicity despite the fact that they are generics of the same active substance with similar composition and have the same no-effect level in the dose of 0.3 mg/kg.

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MICROBIOME OF VULVOVAGINAL CONTENTS IN WOMEN WITH PRIMARY INFERTILITY

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Introduction. In most women, primary infertility is based on the tubo-peritoneal form of infertility, which was preceded by an infectious-inflammatory process of the reproductive organs (uterus, appendages). The taxonomic composition, population level and microscopic indicators of the microbiome of the vulvovaginal contents are in the dynamic balance of the microecological system "macroorganism-microbiome". Any disturbances in the macroorganism, including infertility, can lead to its disturbances, and vice versa, disturbances in species, population structure and ecosystem indicators can contribute to the formation of infertility.

The aim of the work was to study the microbiome of the vulvovaginal contents in women of childbearing age with primary infertility.

Materials and methods. Bacteriological and microscopic examination of the vulvovaginal contents of women with infertility was carried out in a comparative aspect with practically healthy women of the appropriate age.

Results. In vulvovaginal content of women with primary infertility there was observed deficiency of obligate for this biotope anaerobic bacteria of genera *Lactobacillus*, *Bifidobacterium*, *Propionibacterium* and contamination of vulvovaginal content with pathogenic and opportunistic bacteria *S. aureus*, *N. gonorrhoeae*, *Peptostreptococcus* and yeast-like fungi of the *Candida*. Pathogenic and opportunistic microorganisms persisting in the vulvovaginal contents are in the form of associations of different numbers (2-4 species) in the majority of patients (96.63%). Associations consist of two species (in 42.70% of patients), three (in 41.57%), and in 12.36% of women associations reach four taxons of opportunistic microorganisms.