МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ

М А Т Е Р І А Л И

106-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького колективу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
03, 05, 10 лютого 2025 року

Конференція внесена до Реєстру заходів безперервного професійного розвитку, які проводитимуться у 2025 році №1005249

Чернівці – 2025

УДК 61(063)
М 34

Матеріали підсумкової 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) – Чернівці: Медуніверситет, 2025. – 450 с. іл.

У збірнику представлені матеріали 106-ї науково-практичної конференції з міжнародною участю професорсько-викладацького колективу Буковинського державного медичного університету (м. Чернівці, 03, 05, 10 лютого 2025 р.) зі стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

ISBN 978-617-519-135-4

Results and discussion. 41 (91%) of 45 isolated strains of *S. aureus* were capable of biofilm formation. Such data characterize them as an epidemiologically dangerous focus on preservation and formation of antibiotic-resistant forms. However, all (100%) strains were sensitive to cefoxitin and resistant to benzpenicillin, therefore the strains are resistant to natural penicillins, amino-, carboxy- and ureidopenicillins, sensitive to inhibitor-protected penicillins, oxacillin, dicloxacillin, cloxacillin, flucloxacillin, nafcillin so – they are not MRSA. Therefore, there is no risk of preservation of polyresistant forms of these strains in biofilm forms. Also, all (100 %) studied strains were resistant to ofloxacin. 32±9.52% were resistant to gentamicin, 32±9.52% to ciprofloxacin, 44±10.13% to levofloxacin, 40±10% to clindamycin, and 40±10% to amikacin. The obtained data correlate with those found in the literature and testify to a significant proportion of antibiotic-resistant *S. aureus* among nasal carriers. There was no difference in resistance to antibiotics of the biofilm-forming and planktonic forms of the selected strains.

Conclusion. The absence of MRSA in this sample is an epidemiologically positive characteristic, however, given the significant distribution among the studied strains resistant to certain groups of antibiotics and the biofilm-forming ability of the vast majority of them, constant monitoring and control of such a group of nasal carriers as medical students is necessary.

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THE STATE OF THE COLON MICROBIOME IN WOMEN WITH GESTATIONAL DIABETES

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Introduction. Gestational diabetes is a condition that arises due to impaired metabolic processes against the background of insulin resistance and an increase in blood glucose levels during pregnancy. This pathology leads to a significant number of pregnancy and childbirth complications, high child perinatal morbidity and mortality, and its prevalence varies throughout the world. The aim of the work was to determine the taxonomic composition, population level and microecological indicators of the macroorganism-microbiome ecosystem of the symbiotic colon microbiota in women with gestational diabetes.

The aim of the study. To determine the role of bacteria in the formation of the colon microbiome in women with gestational diabetes.

Material and methods. The microbiological examination of the colon contents was carried out in 26 pregnant women aged 18 to 35 years. The clinical material for microbiological examination was the fresh colon contents (faeces) taken from medium portions, which were collected in sterile (after autoclaving) vials.

Results. According to the results of the work, it was found that during gestational diabetes, the taxonomic composition and microecological parameters of the macroorganism-microbiome ecosystem of the colon microbiota in women are impaired due to the biotope contamination with pathogenic microorganisms (*E.coli Hly+*) and opportunistic pathogens (*E.coli Lac-, P.mirabilis, P.vulgaris, E.cloacae, C.diversus, S.marcescens*), enterobacteria, *C.albicans, P.niger* and bacteria of the genus *Clostridium*. Alterations in the taxonomic composition and microecological indicators of the colon microbiome in women with gestational diabetes lead to multidirectional changes depending on the taxon: a decrease in the population level of bacteria, which are the most important in terms of representation in the human colon microbiome, with a multifunctional role in maintaining microecological homeostasis (bacteria of the genus *Bifidobacterium* – by 17.59 %, *Lactobacillus* – by 38.37 %) and an increase or a stable trend towards an increase in the population level of opportunistic enterobacteria *P.mirabilis* by 26.67 %; among other enterobacteria, the population reaches high levels (from 6.390 ± 0.009 lg CFU/g to 7.46 ± 0.17 lg CFU/g), the level of *Staphylococcus* in increased by 35.94 %, *C.albicans* – by 26.74 %, *P.melaninogenicus* – by 55.93 %.

Conclusions. In gestational diabetes, the taxonomic composition and microecological parameters of the ecosystem "macroorganism-microbiome" of the microbiota of the contents of the colon cavity of women are disturbed due to contamination of the biotope with pathogenic (*E.coli Hly+*) and conditionally pathogenic.

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ANTIBIOTICS IN FOOD: SOURCES OF ENTRY AND POTENTIAL RISKS FOR CONSUMERS

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Introduction. Guaranteeing the quality and safety of food products is one of the prerequisites for maintaining public health. Today, the danger of passive use of antibiotics (AB), which enter the human body with food, is increasingly being discussed in the world.

The aim of the study. To analyze the data of the domestic and foreign literature regarding the sources of AB entering food products and the possible negative consequences of the impact of residual amounts of AB on the population health (M.G. Bacanli, 2024; J. Seo, 2024; T.O. Garkavenko, 2015; S.A. Voronov, 2014; S. Cogliani, 2011; T.M. Dyman, 2011).

Material and methods. Bibliosemantic method, method of content analysis, information-analytical method, statistical methods.

Results. The food chain of AB entering the consumer's body covers all stages of agricultural and industrial production of food raw materials and food products, as well as their storage. AB can get into animal products as a result of therapeutic and veterinary measures (AB of the penicillin group) and when they are used as bio stimulants of animal growth (rodent, bacitracin, etc.). In particular, 240 antimicrobials have been registered for use in poultry farming in Ukraine's domestic and imported production. The use of AB as growth stimulants has been an integral part of pig farming since the early 1950s. Scientists estimate that about 90% of AB injected into animals ends up in significant quantities in manure, which is used as fertilizer. From the soil, 0.1% of AB enters plants, and with them into the human body.

ABs are added to food products as preservatives in order to prevent their spoilage. Most often, chlortetracycline, terramycin, penicillin, chloramphenicol, streptomycin, gramicidin are used for this purpose. The introduction of AB to animals before slaughter can extend the shelf life of fresh meat to 2-3 days. The use of ice containing AB prevents spoilage of fish products during their transportation and storage. During the production and storage of cheeses, the introduction of AB inhibits the development of bacteria clostridial forms involved in cheese spoilage. Adding AB to milk can extend its shelf life and transportation. However, AB residues can disrupt the course of technological processes in the manufacture of fermented milk products, which leads to a decrease in its commercial quality.

Control of AB residues in food products is of great hygienic importance. The uncontrolled use of AB at all stages of food production is an urgent medical and environmental problem, as it can lead to the formation of a potential reservoir of antibiotic-resistant strains of bacteria and their spread in the environment. The risk of developing dysbiosis, allergic and toxic reactions, and the occurrence of superinfections also increases in patients. This problem is most acute in pediatrics and the clinic of immunodeficiency states.

Conclusions. Thus, the presence of a significant number of antibiotic contamination sources of food products indicates the need to take into account their potential risks to the health of consumers, improve the system of surveillance over the content of residual amounts of antibiotics in finished products, harmonize the range and directions of use of antibacterial agents in veterinary medicine and medicine.