МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ`Я УКРАЇНИ
НАЦІОНАЛЬНА АКАДЕМІЯ МЕДИЧНИХ НАУК УКРАЇНИ
ЗАПОРІЗЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ
ДУ «ІНСТИТУТ ФАРМАКОЛОГІЇ ТА ТОКСИКОЛОГІЇ НАМН УКРАЇНИ»
ВГО «АСОЦІАЦІЯ ФАРМАКОЛОГІВ УКРАЇНИ»

ЗБІРКА ТЕЗ

II НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ З МІЖНАРОДНОЮ УЧАСТЮ

«ФУНДАМЕНТАЛЬНІ ТА КЛІНІЧНІ АСПЕКТИ ФАРМАКОЛОГІЇ»

(пам'яті професора В.В. Дунаєва)

22 листопада 2022 р., м. Запоріжжя

Запоріжжя, 2022

ОРГКОМІТЕТ

ГОЛОВА ОРГКОМІТЕТУ:

ректор ЗДМУ, Заслужений діяч Науки та техникі України, проф. Колесник Ю. М.

ЗАСТУПНИКИ ГОЛОВИ:

проф. Туманський В.О., проф. Бєленічев І.Ф.

ЧЛЕНИ ОРГКОМІТЕТУ:

проф. Білай І.М., проф. Павлов С.В., доц. Бухтіярова Н.В., доц. Морозова О.В.

СЕКРЕТАРІАТ:

доц. Єгоров А.А., ас. к.біол.н, Риженко В.П., ас. Робота Д.В.,
голова навчально-наукового сектору студентської ради Єложенко І.Л.

ЕФЕКТИВНІСТЬ ПОХІДНОГО ДИФОСФАНАТОГЕРМАНАТУ З НІАЦИНОМ INFLUENCE OF PHARMACOLOGY DRUGS ON THE FORMS OF BLOOD ELEMENTS

Maskaeva V.S., Filkevych O.O., Sokolovska I.A.
Department of general hygiene and ecology
Zaporizhzha State Medical University

Introduction. In the modern clinic, a huge number of drugs with different chemical structures are used, which actively affect various links of metabolism. Due to this, it is possible to have a significant effect on the formed elements of the blood, in particular, erythrocytes. A change in the morphology of these formed elements can manifest as their presence of different sizes (anisocytosis), different shapes (poikilocytosis), different colors (anisochromia) and is an important sign of and is an important sign of a pre-pathological or pathological condition. **The object of the study** was the effect of drugs on laboratory lepers. Medicinal substances of systemic action enter the blood from the injection site. Their interaction with blood plasma proteins and formed elements takes place in the blood. As a result, free and bound fractions of the medicinal substance are formed, which leads to a change in the speed of its metabolism and elimination, and in some cases to a change in the nature of distribution in organs and tissues.re-pathological or pathological state. **The purpose** of this presentation is to study the effect of drugs on erythrocytes. **Methods.** The morphology of erythrocytes is studied using light microscopy of a smear of peripheral blood, stained according to Romanovsky or Pappenheim. **Results.** It has been established that medicinal substances affect laboratory indicators in various ways – by changing the course of the disease, by "side" effect on the functions of individual organs and systems, by the toxic effect associated with overdose and cumulation, by the interference of certain drugs in the process of conducting research. Among the pathologies encountered during the study, a number of the following issues were considered: hypochromia, hyperchromia, anisochromia, anisocytosis, poikilocytosis, spherocytosis, target-shaped erythrocytes (codocytes),acanthocytes, schistocytes, basophilic punctation of erythrocytes, Heinz-Ehrlich bodies, megaloblastoid hematopoiesis, there is an increase in MCV, a decrease in osmotic resistance, acceleration and deceleration of ESR, erythrocyte sedimentation rate, their resistance, and the average volume of erythrocytes. The chemical factors of these changes were poisoning by lead, zinc, Ag-salt, gasoline, cadmium, arsenic, naphthalene, oil refining products, nitrites, carbon disulfide, methyl chloride, chlorethylene, fluorine and its inorganic compounds, dimethylformazan, organic cyanides; intoxication with pesticides - organomercury (diethylmercury, mercury phosphate, ethylmercury chloride, granozan, mercuran); organophosphorus (antio, metaphos, trichlormetaphos, methylmercaptophos, drug M-81, karbophos, octamethyl); organochlorines (hexachloran, heptachlor, dilin, chlorthene, chlorindane, polychloropinene, etc.); carbamine (carbamates, thio-, dithiocarbamates), nitro- and chloroderivatives of phenol. And also the use of nitrites, nitrates, antipyrine, phenacetin, vikasol, sulfonamides, antimalarials, derivatives of nitrofuran, ftivazide, PASK, acetylsalicylic acid, glimide, local anesthetics, phenacetin, bismuth nitrate, potassium chloride, aniline derivatives, antiphon, barbiturates, phenothiazine.

Conclusions. As a result of the analysis of materials regarding the effect of drugs on erythrocytes, a number of essential violations of their morphology, in particular - size, shape and color, were revealed. And also a list of the main drugs that cause such disorders.

EFFECT OF GOLD NANOCOMPOSITES AND QUERCETIN TREATMENT ON MALE REPRODUCTIVE FUNCTION

[1]Muzychenko A.S., [1]Vinogradova-Anyk A.A., [2]Kaleynikova O.N., [2]Blashkiv T.V.
[1]Bogomoletz National Medical University, Department of Physiology, Kyiv, Ukraine
[2]Bogomoletz Institute of Physiology, Department of Immunophysiology,
NAS of Ukraine, Kyiv, Ukraine

Due to the peculiarities of structure and control of intramolecular structure, branched polymer systems are interesting objects of basic research, as well as promising functional materials of the new generation. *The aim* is to evaluate the effect of five treatment of gold nanosystems (D-*g*-PAA(PE)/AuNPs) and Ouercetin on male reproductive function in mice in experimental chronic kidney disease (EChKD). The study was performed in two series of experiments on male and female mice with EChKD, a model of which was created by immunizing animals with kidney homogenate.

Estimated: sperm viability; the number of sperm (sperm concentration (thousand/ml)) and the number of abnormal forms of sperm (%); the ratio of cells of different generations of spermatogenic epithelium; pathways of cell death of testicular cells (spermatocytes (primary)) and sperm cells of testicular appendages (epididymis); embryonic mortality in mice; the number of live pups per female.

Introduction of substances: AuNPs loaded (synthesized, retained) in D-*g*-PA (PE) are spherical in shape, size 4-11 nm. D-*g*-PAA(PE) (2.00 mg/kg), D-*g*-PAA(PE)/AuNPs (1.96 mg/kg), saline was administered intravenously (in a tail vein of 0.3 ml) once a day, five times according to the immunization schedule after the fourth immunization (the last, 3 weeks after the start of the experiment). Quercetin (Quercetin, Sigma, USA) (50 mg/kg) was administered intraperitoneally once daily, five times according to the immunization schedule after the fourth immunization (last, 3 weeks after the start of the experiment) and after the introduction of gold in the group where they were injected together.

Our data suggest that Quercetin has a positive effect on spermatogenesis in EChKD, in the early stages of chronic kidney disease, when there is already kidney damage, accompanied by impaired filtration and manifested by proteinuria (the appearance of protein in the urine); gold nanosystems (gold nanoparticles in the polymer matrix D-*g*-PAA(PE)) are of particular interest for possible therapeutic applications to improve reproductive function. The effect of such gold nanosystems may be manifested in the reduction of oxidative stress and improved repair (restoration of the integrity of fragmented DNA) of spermatocytes, which requires further study.