гомогената миокарда SHR-крыс, получавших Гипертрил, наблюдалось увеличение содержания восстановленных интермедиатов (цистеин, глутатион, метионин) тиол-дисульфидной системы, которая, по всей видимости, играет особую роль в развитии механизмов цитотоксичности NO и повреждении органов-мишеней. Метопролол не оказывал заметного влияния на показатели системы NO. Таким образом, у Гипертрила выявлено NO-модулирующее действие, отсутствующее у метопролола, значительно усиливающее его защитное действие на миокард при артериальной гипертензии.

STUDY OF EXPRESSION SALMONELLAEFFECTOR PROTEINS ANDTRANSCRIPTION ACTIVITY OF GENES BY RT-PCR

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At present, of particular interest is the study of the molecular mechanisms of interaction of salmonella with host cells. The aim.To study the changes in expression of effector proteins of Salmonella SipA, SopB, SopE2 and the transcription activity of the FFAR2, Foxp3, RORγt genes in rats GALT against the background of vancomycin and B. fragilis. Materials and methods.All rats were divided into 4 groups:I-Vancomycin+S.enteritidis; II-Vancomycin+S.typhimurium; III-Vancomycin+S.enteritidis+B.fragilis; IV-Vancomycin+S.typhimurium+B.fragilis.Determined the level of expression of the studied genes rat Foxp3, Rorc(Royt), FFAR2 and effector proteins of Salmonella SipA, SopBand SopE2 by RT-PCR. Results.The level of expression of effector proteins of Salmonella increased after administration of vancomycin Group I and II: SopB- 101 and 20 times; SopE2 - 2 and 80 times; SipA - 613 times (II group), and also noted a decrease in 5 times in the I group. Relative normalized number in groups III and IV mRNA gene FFAR2, Foxp3, RORγtGALT in rats increased: FFAR2 - 2.7 and 5.4 times; Foxp3 - 2.5 and 85 times,RORγtlevel decreased by 70% and only in IV group. Conclusions.Pretreatment of animals with vancomycin causes increased transcriptional activity of effector proteins SipA, SopB and SopE2, except SipA after introductions S.enteritidis. The introduction of B.fragilis increases the mRNA level of the FFAR2 and Foxp3 genes in GALT, and also reduces RORγt after administration of S.typhimurium.

ANTIARRHYTHMIC ACTIVITY OF SOME 8-SUBSTITUTED OF 7-β-HYDROXYPROPYL XANTHINES

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Development of new effective and devoid of side effects antiarrhythmic drugs (AADs) remains actual problem of modern pharmacology. Available AADs do not always demonstrate curative effect. Besides, their adverse effects, including arrhythmogenic properties and inhibition of inotropic myocardial function, demonstrate by the fall in arterial pressure and tissue hypoperfusion, decrease their therapeutical value. Xanthines of natural and synthetic origin are of biological and pharmacological interest. In dependence on the kind and place of substitution in one of the xanthine rings, a large variety of pharmacological activities were reported. The purpose of this research was to investigate the antiarrhythmic properties and effect on circulatory system (protection against adrenaline-, aconitine- and calcium chloride-induced arrhythmias) of the brand-new synthesized 8-substituted 7-β-hydroxy-□-(2□-methylphenyloxy) propylxanthines. The most prominent antiarrhythmic activity was demonstrated by 7-β-hydroxy-□-(2□-methylphenyloxy) propyl-8-aminoxanthine (V) that in a conditionally therapeutic dose of 59.8 mg/kg had decreased the incidence of adrenaline- and calcium-induced model of arrhythmia compound (55.7%), shortened extrasystoles (37%), efficiently prevented bigeminy (70%, $p < 0.01$) and diminished (42.8%, $p < 0.05$) mortality of animals. In strophanthin-induced model of arrhythmia compound V delayed extrasystoles (37%), efficiently prevented bigeminy and ventricular fibrillation (77.8%, $p < 0.01$) and diminished (33.3%, $p < 0.05$) mortality of animals. All investigated compounds decreased heart rate by 10 to 18%, prolonged P-Q section, QRS complex and Q-T interval. The most potent and significant negative chronotropic effect and markedly prolonged duration of

P-Q section was demonstrated by compound V. The mechanism of antiarrhythmic action is probably due to several mechanisms, which involve the suppression of heterogeneous foci of excitation, inhibition of Na+/Ca2+ exchange and the blockade of fast sodium channels of cardiomyocytes. The influence of investigated compounds on ECG components suggests that activity of compound V is similar to class 1A anti-arrhythmic compounds according to Voughan-Williams classification of antiarrhythmic drugs, because of prolongation of P-Q and Q-T intervals and extension of QRS complex. The findings suggest about expediency of further investigation in a row of 8-substituted of 7-β-hydroxypropyl xanthines for the purpose of the search for effective and low-toxic antiarrhythmic agents.

THE STROMAL-PARENCHYMAL RELATIONSHIPS IN THYROID GLAND UNDER THE PRENATAL ANTIGENIC INFLUENCE

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Aim: to establish morphological features of organization of the thyroid gland of rats in postnatal ontogenesis in norm and after intrauterine action of staphylococcal antitoxin. Materials and methods: as a material for the research was thyroid glands of Wistar rats aged 1 to 45 days of postnatal development (126 animals). Studied three groups of animals at 1, 3, 7, 11, 14, 21, 45 days old: I group - intact animals (normal): 42 rats; II group - control, animals which were intrafetal injected by 0.9% solution of NaCl; III - experimental, animals which were intrafetal injected by staphylococcal toxoid adsorbed purified liquid (10-14 units in 1 ml binding diluted 10 times) on 18 days of pregnancy. Research methods: histological and histochemical. Statistical analysis of the data – standard package “Statistica 6.1”. Results: The study found that thyroid parenchyma and stroma presented all the structural elements, which are typical for this body of both the control and experimental animals. There were all groups of follicles (large, medium, small) filled with dense, homogeneous, colloid oxyphilic in the thyroid of the control animals. In individual follicles we observed edge and central colloid vacuolation. But there is a prevalence of large follicles throughout the thyroid after intrauterine action of staphylococcal antitoxin. Visualized desquamated cells in the cavity of follicles in colloid. The capillaries were expanded and filled with blood. The population of mast cells near capillaries revealed marked polymorphism. Identified morphometric adjustment (increase in the number of large follicles throughout the volume of the body, increase the relative amount of colloid and stromal components and reducing the height and diameter nuclei of thyrocytes) suggest adaptive-compensatory condition of an organ. Conclusions: 1. Intrafetal prenatal injections of staphylococcal toxoid led to the formation in animals in early postnatal ontogenesis more pronounced structure as elements of the parenchyma and stroma, leading to the presence of morphological picture hypofunction state of the body on 1-14 days postnatal ontogeny. 2. Quantitative indicators of thyroid mast cell populations change during suckling age as at animal control and experimental groups, but these are not identical. The density and size, and morphometric parameters of mast cells grow most rapidly during the first month of postnatal development and to stabilize animals with antigen closer to that of the control group, since puberty.

ULTRASTRUCTURAL FEATURES OF THE EPITHELIAL COMPONENT OF THE HUMAN PROSTATE IN THE PRENATAL PERIOD OF ONTOGENESIS

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Objective. Study of ultrastructural features of the epithelium of the human prostate gland in the prenatal period of ontogenesis. Material and Methods. For the study selected 35 prostate glands of human aged 8 - 39 weeks of embryogenesis. Pieces of the prostate gland for electron microscopic studies were fixed according to a conventional method. Results. In 18-week-old fetuses in the epithelium of the prostatic part of the urethra and in some cells of the epithelium of the secretory departments, secretion granules turn out to be. In cells there are colorless vacuoles