KLINIK LABORATOR DIAGNOSTIKADA INNOVATSION TEXNOLOGIYALARDAN FOYDALANISH, MUAMMOLAR VA YECHIMLAR

xalqaro ilmiy-amaliy anjuman

18 aprel 2023 yil

O‘zbekiston Respublikasi Sog‘liqni saqlash vazirligi

www.ssv.uz

Toshkent tibbiyot akademiyasi www.tma.uz

9. Kurbonova Z.Ch.; Sayfutdinova Z.A.; Xashimova G.T.; Muhammadiev X.G. Comparative analysis of the effectiveness of using some parameters of endogenous intoxication on the course of experimental toxic hepatitis. Using innovative technologies in improving the efficiency of education: problems and solution. Batumi, Georgia, 2022. P. 114-116.

10. Nuriddinova N.F., Kurbonova Z.Ch., Sayfutdinova Z.A. Surunkali gepatit va virus etiologiyali jigar sirrozida koagulyatsion gemostazning buzilishi (adabiyotlar sharhi) // Nazariy va klinik tibbiyot. – 2022. - №5. – B. 122-125.

11. Tukhtaev, K. R., Tulemetov, S. K., Zokirova, N. B., Tukhtaev, N. K., Tillabaev, M. R., Amirullaev, O. K., ... &Otajonova, A. N. (2013). Prolonged exposure of low doses of fipronil causes oxidative stress in pregnant rats and their offspring. *InternetJournalofToxicology*, *10*(1).

12. Хасанов, Б. Б., Зокирова, Н. Б., &Тухтаев, К. Р. (2021). Влияние токсического гепатита матери на структурно-функциональные взаимоотношения иммунокомпетентных клеток молочной железы лактирующих крыс и тонкой кишки крысят в период молочного вскармливания. *Педиатрия*, *4*, 225-229.

LIPID PEROXIDATION AS THE MAIN PATHOGENETIC LINK IN THE DEVELOPMENT OF LIVER FAILURE

Xashimova G.T., Muhammadiev X.G, Shomansurova G.E, Valijonova M, Xidoyatova M.
Tashkent medical academy

Lipids are classically divided into two groups: apolar and polar. Triglycerides (apolar) are stored in various cells, but especially in adipose tissue, they are usually the main form of energy storage in mammals. Polar lipids are structural components of cell membranes, where they are involved in the formation of a cell permeability barrier and subcellular organelles in the form of a lipid bilayer. The main lipid type that defines this bilayer in almost all membranes is phospholipid-based glycerol [1, p. 390]. The importance of the membrane on the physical (phase) state of lipids is evidenced by the fact that lipids can control the physiological state of the membrane organelle by changing its biophysical aspects, such as polarity and permeability. Lipids also play a key role in biology as signaling molecules.

The main enzymes that generate mediators of lipid signaling are lipoxygenase, which mediates hydroperoxyeicosatetraenoic acids (HPETE), lipoxins, leukotrienes, or hepoxylin biosynthesis after oxidation of arachidonic acid (AA), cyclooxygenase, which produces prostaglandins and cytochrome P-450 (CYP), which forms epoxyeicosatriene acids, leukotoxins, thromboxane or prostacyclin. Lipid signaling can occur through the activation of various receptors, including G-protein coupled and nuclear receptors. Members of several different lipid categories have been identified as potent intracellular signaling molecules. Examples of signal lipids include two derived from phosphatidylinositol, phosphates, diacylglycerol (DAG) and inositol phosphate . DAG is a physiological activator of protein kinase C and transcription factor of nuclear factor-kB (NF-B), which promote cell survival and proliferation. Diacylglycerol also interacts

indirectly with other signaling molecules such as small G proteins. IP addresses are a highly charged family of lipid-derived metabolites involved in signal transduction leading to activation of Akt, mTOR and calcium homeostasis; sphingosine-1-phosphate, sphingosine-1-phosphate, an ingolipid derived from ceramide, which are potent messenger molecules involved in the regulation of calcium mobilization, migration, adhesion, and proliferation; prostaglandins, which are derivatives of fatty acids.

Bibliography:

1. Сайфутдинова З.А., Каримов Х.Я., Саидов А.Б. Механизмы нарушений при токсическом повреждении печени и пути их коррекции с помощью нового аминокислотного раствора на основе сукцината натрия и маннитола // Журнал теоретической и клинической медицины-2021. - №3. –Б. 7-11.

2. Сайфутдинова З.А. Современные представления о гипоксии-индуцибельном факторе-1 (hif-1) – важном звене в патогенезе ишемических повреждений тканей // Вестник Ташкентской медицинской академии-2021. - №3. – Б. 33-36.

3. Сайфутдинова З.А., Каримов Х.Я., Саидов А.Б.Патофизиологическое обоснование применения новой аминокислотной смеси при повреждении печени // Тиббиётдаянги кун-2021. - №4. –Б. 93-96.

4. Сайфутдинова З.А., Каримов Х.Я. Сравнительная оценка эффективности нового аминокислотного кровезаменителя при экспериментальном токсическом гепатите // Вестник Ташкентской медицинской академии-2021. - № Выпуск посвящается 100-летию ташкентской медицинской академии. –Б. 217-220.

5. Сайфутдинова З.А., Каримов Х.Я., Саидов А.Б. Анализ эффективности применения новой аминокислотной смеси при гелиотриновом поражении печени по данным морфологических методов исследований // Медицинские новости- 2021. -№7· –Б. 57-59.

6. Ostanaqulov Sh.F., Kurbonova Z.CH Zokirova N.B. Fastokin pestisidini jigarga ta’sirini o’rganish // Biofizika va biokimyo muammolari. – 2021. – B. 19-20.

7. Yuldasheva N., Zokirova N.B., Kurbonova Z.Ch. Fastokin pestisidini oshqozonga ta’sirini o‘rganish // Biofizika va biokimyo muammolari. – 2021. – B. 26-27.

8. Kurbonova Z.Ch., Sayfutdinova Z.A., Muhammadiev X.G., Xashimova G.T. Experimental substantiation of the use of hypoxia-inducible factor (HIF-1α) for the development of toxic hepatitis // Инновационное развитие науки и образования. – 2022. – С. 20-23.

9. Kurbonova Z.Ch.; Sayfutdinova Z.A.; Xashimova G.T.; Muhammadiev X.G. Comparative analysis of the effectiveness of using some parameters of endogenous intoxication on the course of experimental toxic hepatitis. Using innovative technologies in improving the efficiency of education: problems and solution. Batumi, Georgia, 2022. P. 114-116.

10. Nuriddinova N.F., Kurbonova Z.Ch., Sayfutdinova Z.A. Surunkali gepatit va virus etiologiyali jigar sirrozida koagulyatsion gemostazning buzilishi (adabiyotlar sharhi) // Nazariy va klinik tibbiyot. – 2022. - №5. – B. 122-125.

11. Tukhtaev, K. R., Tulemetov, S. K., Zokirova, N. B., Tukhtaev, N. K., Tillabaev, M. R., Amirullaev, O. K., ... &Otajonova, A. N. (2013). Prolonged exposure of low doses of fipronil causes oxidative stress in pregnant rats and their offspring. *InternetJournalofToxicology*, *10*(1).

12. Хасанов, Б. Б., Зокирова, Н. Б., &Тухтаев, К. Р. (2021). Влияние токсического гепатита матери на структурно-функциональные взаимоотношения иммунокомпетентных клеток молочной железы лактирующих крыс и тонкой кишки крысят в период молочного вскармливания. *Педиатрия*, *4*, 225-229.

MODERN BLOOD SUBSTITUTES WITH DETOXIFICATION PROPERTIES

Xashimova G.T., Muhammadiev X.G, Shomansurova G.E, Nuriddinova N.S.
Tashkent medical academy

Purposeful research and development in this area gained momentum in the mid-1980s after fears caused by the possibility of blood contamination with HIV. The association of other infectious diseases such as hepatitis B, hepatitis C, West Nile virus encephalitis, coronavirus, human T-cell leukemia virus and bacterial infections in blood transfusions is increasingly recognized. Allogeneic blood transfusions have also resulted in certain non-infectious complications such as hemolytic transfusion reaction, transfusion-associated acute lung injury, graft-versus-host rejection, anaphylaxis, and post-transfusion purpura. The amount of donated stored blood could not meet the ever-increasing demand, and therefore a shortage is predicted in the coming years. Also, the costs of collecting, storing and processing blood and products are gradually increasing. The cumulative effect of these factors has given a major boost to the development of artificial blood over the past few decades.

The main purpose of these substances is to provide temporary support to the circulatory system until the bone marrow has restored a sufficient number of red blood cells. They focus on one of the important functions of the blood - transporting oxygen to cells and tissues. The main clinical indications for the use of artificial blood include:

Trauma: for volume replacement and stabilization.

Elective surgery: preoperative blood conservation in the form of acute normovolemichemodilution and perioperative volume replacement after massive blood loss.Cardiovascular surgery: for pump priming, deep hypothermia and intraoperative replacement.Perfusion of ischemic tissues: in sickle cell anemia, stroke, peripheral vascular disease.Oxygenation of solid tumors: to increase susceptibility to radiation and chemotherapy.Preservation of organs: during transport for transplantation or in case of cardioplegia.Drug carrier: in the form of drug-conjugated hemoglobin and perfluorocarbons.

Miscellaneous: anaerobic infections, gas embolism, carbon monoxide poisoning.

In addition to the ability to transport oxygen, the desirable qualities of artificial blood are: No prerequisites for blood typing, cross-matching, and compatibility tests.Long shelf life (preferably at room temperature).Survival in the circulation for a significant period (intravascular "stay" time before excretion from