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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

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the kidneys.Absence of pathogens and side effects.Ability to efficiently deliver oxygen to tissues in addition to transport.

Modern strategies for the production of artificial blood include synthetic production, chemical isolation, and recombinant biochemical technologies .Common blood substitutes fall into one of two classes: hemoglobin-based oxygen carriers (HBOCs) or perfluorocarbons (PFCs).

HBOC is derived from hemoglobin, which is isolated or synthetically produced. Oxygen binds covalently to these compounds, as it does to naturally occurring hemoglobin. They have been designed to perform the following tasks: their inherent reduced oxygen affinity to increase tissue unloading prolonged intravascular retention reduced colloid osmotic activity no renal toxicity. The source of hemoglobin is either human, obtained from obsolete stored blood, or bovine blood, or obtained using genetic engineering. Blood group substances, proteins and viruses are removed by heating and filtration during the purification of hemoglobin from red blood cells. Isolated hemoglobin undergoes molecular modification and restoration in an artificial blood formula. Hemoglobin in its natural form consists of 2 α and 2 β chains that are linked to an iron heme group that binds oxygen. Processes for the production of HBOC include extraction of hemoglobin and then stabilization with cross-linking as tetramers or polymerization (using glutaraldehyde or o-raffinose), or conjugation with polyethylene glycol or encapsulation in phospholipid vesicles before mixing with an electrolyte solution. Stabilization of HBOC using cross-linking or polymerization with larger molecules such as polyethylene glycol, dextran or polyoxyethylene also contributes to a significant increase in intravascular "stay" time (24-48 hours). New molecules are being developed that contain antioxidants, such as superoxide dismutase or catalase, cross-linked to the hemoglobin structure. The inclusion of antioxidants helps reduce the severity of ischemic reperfusion injury in conditions such as stroke, myocardial infarction, or organ transplantation.

Surface modified hemoglobin (PEG Hb, PHP, Haemospan): are produced by attaching large molecules such as polyethylene glycol to the surface groups of lysine. This modification increases the viscosity and oncotic pressure of the solution. These solutions can cause mild vasoconstriction. The small size of hemoglobin molecules allows them to pass through small vessels and oxygenate areas inaccessible to red blood cells. Thus, they are useful in the treatment of stroke patients to increase the susceptibility of tumor cells to radiation or chemotherapy, and vasopressor effects can be used to treat hypotension after septic shock. Theyalsohave a lowerrateofantibodyproduction.

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

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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 IDEAS ABOUT DRUG-INDUCED TOXIC HEPATITIS

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

Hepatotoxicity is damage caused by exposure to a drug or non-pharmacological agent. Risk factors include: individual intolerance, age, gender, alcohol consumption, smoking, concomitant use of other drugs, liver disease, genetic and environmental. Although most lipophilic drugs can cause hepatotoxicity, antibiotics, non-steroidal anti-inflammatory drugs (NSAIDs), and

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