



Method of additive modernization of preservation solutions that improved the quality, efficiency and safety transfusion of RBCs

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Abstract:

This study was devoted to the learning of the use of nanotechnology to correct the functional activity of red blood cells (RBCs) at the storage stages at a positive temperature. It was established that saline NaCl, which had previously been processed by magnetite nanoparticles (ICNB) had a marked membrane-stabilizing effect, inhibits hemolysis and increasing the sedimentation stability of preserved RBCs. The complex analysis of the obtained data allowed to determine the primary mechanisms effect of the saline NaCl, which had previously been processed by ICNB on the preserved RBCs. The proposed method of additive modernization of preserved RBCs was adapted to the production process. The optimization results were obtained in creating a simple and practical method of additive modernization of preservation solutions that does not violate the compliance requirements, improves the quality, efficiency and safety transfusion of RBCs.

Biography:

Andrey Nikolaevych Belousov is DM, Professor. Author a new medicine products – nanotechnology preparations based on magnetite nanoparticles (Fe_3O_4) of the size 6-12 nm: the preoral form - Micromage-B (officially registration in Ukraine); Magnet-controlled sorbent brand of MCS-B (officially registration in Ukraine and was allowed for medical practice); NanoBiocorrector for intravenous application – ICNB (intracorporal nanosorbent). Author a new program (PHUAS) for estimation degree the severity of the patient. The published more 200 scientific works. At now Andrey Belousov - the Head of Laboratory Applied Nanotechnologies in Ukraine, Professor of Department Anesthesiology, Intensive Care, Transfusiology and Hematology Kharkov Medical Academy of Postgraduate Education.