



ON THE FREQUENCY OF DETECTION OF SEROLOGICAL MARKERS OF INFECTION WITH HEPATITIS B AND C VIRUSES AMONG BLOOD DONORS LIVING IN UZBEKISTAN

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Annotation

Donor blood transfusion worldwide, an average of 0.01-2% of donors are carriers of hepatitis viruses. Therefore, at present, donor blood is examined for the presence of hepatitis viruses before transfusion to the recipient. The risk of infection is increased in individuals requiring repeated blood transfusions or blood products [3,4].

Keywords: blood transmissible infection, donor, recipient, blood transfusion.

Introduction

The purpose of this work is to evaluate the contribution of the Blood Service of the Research and Production Enterprise "Blood Products" to the detection of patients with parenteral viral hepatitis B and C.

Ensuring the safe transfusion of blood and its derivatives for the recipient remains a very urgent problem of modern transfusion medicine. Despite the existing achievements in this area, unfortunately, it is still not possible to completely secure blood transfusions for the recipient. The tasks of the Blood Services of all countries of the world without exception include ensuring the safety of donated blood and its components for patients receiving transfusions in clinics. An unconditional priority is to ensure infectious safety in relation to bloodborne infections, among which viral hepatitis is the most common. Diagnosis of hepatitis B and C at the present level is mandatory both in Uzbekistan and abroad. At the same time, it should be emphasized that it is in the Blood Service that the most modern diagnostic methods with maximum sensitivity are used. In the past few years, the traditional immunological diagnostics of hepatitis B and C has been supplemented by molecular biological methods - nucleic acid amplification technologies (NAT), which make it possible to detect an infectious agent at an early stage before the formation of immunological markers [5].

Material and Methods

The material of the study was the contingent of donors of the Blood Service of the Research and Production Enterprise "Blood Products" for 6 months of 2022.





Studies of blood samples for serological markers of pathogens of transfusion-transmissible infections, including viral hepatitis C and B, are carried out by enzyme immunoassay (ELISA) on Evolis analyzers (Bio-Rad, USA) and by immunochemiluminescence analysis (ICLA) on Architect analyzers 2000 ("Abbott", USA).

Results and Discussion

The total number of donors for 6 months of 2022 was 12044. Of these, 1058 are women, 10986 are men. Donor age ranged from 20 to 65 years. The number of hepatitis B and C markers detected in the donor contingent of the Blood Service of NPP Blood Products for 6 months of 2022: hepatitis B-70, of which 62 men, 8 women. Hepatitis C-22, of which 13 men, 7 women.

Detection of markers of hepatitis B and C among donors of the Blood Service of NPP Blood Products for 6 months of 2022 (including hepatitis B virus carriers), %: hepatitis B-0.58%, hepatitis C-0.18%.

Donor blood is tested for the presence of hepatitis B surface antigen using Monolisa HBsAgUltra (Bio-Rad, France) or HBsAg Qualitative Architect (Abbott, USA) test systems. To confirm the results of detection of HBsAg by a neutralization reaction, an HBsAg-confirmatory test "Bio-Rad" or "Abbott" is used. Total antibodies to the HBc antigen are determined using Monolisa a-HBcAg test systems (Bio-Rad, France).

Testing of donor blood for hepatitis C antigen/antibodies is carried out using Monolisa HCV Ag-Ab Ultra test systems (Bio-Rad, France) and a-HCV Architect (Abbott, USA); InoLIA immunoblot (Belgium) or Desiscan (France) are used as confirmatory tests.

Conclusion

Thus, the Blood Service is a unique source of information about the state of health of citizens (infection in the first place) who are on the territory of Uzbekistan and consider themselves healthy.

Thanks to the program for universal immunization of the population, we can talk about significant progress, reflected in the statistics: over 11 years (2010-2021), the incidence of acute hepatitis B has been reduced by 23.5 times. But as a result of the analysis of data from the reports of the Blood Service of NPP Blood Products, we can state that the problem of hepatitis B and C remains relevant and requires progressive measures: immunological, diagnostic and therapeutic. All of them can be implemented only in the joint work of medical organizations of various fields of focus.



This requires not only high-quality work of specialists, but also well-established communication between medical institutions.

The same can be said about the number of detected hepatitis B and C virus carriers. Donors with clinical or laboratory abnormalities in their condition are not allowed to donate. In this regard, it can also be assumed that those donors in whom markers for this type of hepatitis were found are virus carriers.

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