

Prevention of transfusion transmissible bacterial infection in working unit Transfusiology in the Medical Center in Stip

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Background

Through transfusion of blood and blood components a great number of gram negative and gram positive bacterium can be conveyed (E.coli, Pseudomonas, Citrobacter, Treponema pallidum, Brucella abortus, Salmonella, Yersinia enterocolitica, Mucobacterium leprae, Rickettsii and others) and they can cause transfusion associated bacteremia and acute sepsis.

Aim: Measures to be shown for prevention and reduction of bacterial contamination of donated blood and bacteriological procedures which are applied in WU Transfusiology for prevention of bacterial infection through blood and blood components.

Results

Bacteriological control is made to 2,4% samples of erythrocyte concentrates in additive solution; to all the 714 pulls x 2000 ml fresh universal plasma, from those pulls 7140 doses krioprecipitat are made; to 1,0% samples of universal plasma in bags of 300ml; to 1,44% samples of fresh iso group plasma of 200ml; to 0,7% samples of the prepared krioprecipitat and to 0,99% of the systems and bags for taking blood. To all the samples the findings of the bacteriological control are negative inspite of the fact that we rare posttransfusion febrile reactions with slight clinical symptomatology.

Methods

In the past five years (2000-2004) the total of 9713 blood donations were realized. All the blood units are desplasmed and from them 9713 units Er – concentrates in additive solution are prepared. 7140 doses krioprecipitat are prepared, 3550 units universal plasma without factor VIII (each 300ml) and 1915 units iso group plasma, each 200ml. All the blood donors fill a special questionnaire with accent of possible connection with bacterial infection. Rigorous disinfection of the donor's skin at phleboctomy, using special disinfectans. Using top – quality bags and their routine bacteriological control on free choice. Preparing of blood components in sterile boxes and using of closed systems. 20% of Er – concentrates are leucodepleted. The choice of bacteriological control of empty bags for blood, bags with Er – concentrates in additive solution, universal and isogroup plasma, as well as the systems for taking of blood are taken on free choice. The control of the erythrocyte concentrates is performed on the first day after the preservation and decanting and again between the 15th – 21th day and 30th – 35th dat after the preservation. The pulled plasma is controlled on the day of pouring (spreading), and the control of the iso group plasma on the day of deplasming. Three months later the iso group and the universal plasma kept on the temperature of -30C is bacteriologically controlled again. Bacteriological control is performed with standard procedure in the Institute for health protection in Stip.

Conclusion

Our results out the nonexistence of bacterial infection at transfusion of erythrocyte concentrates in additive solution, fresh frozen izogroup and universal plasma, as well as in the ptepared krioprecipitat in WU Transfusiology. Each transfusiological service should use all the possible known protective measures to prevent the transmission of bacterial infection through blood and blood components.