

Advances in Transfusion Safety

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Our current understanding of the molecular mechanisms underlying host-parasite interaction in the establishment of persistent infections transmitted through blood transfusion permits us to develop strategies for their prevention. While transfusion of blood and blood products has already achieved an unprecedented level of safety because of the rigorous screening for preventing transmission of blood-borne infections, the "window period" viraemia can be further reduced by screening donated blood with nucleic acid testing (NAT) technology now being introduced in Europe and the U.S.A. Both immunological and virological risks of transfusion can be reduced by photodecontamination and universal leukofiltration performed at the blood processing facilities. Unquestionably, progressive improvements in transfusion safety leads to an escalation in the cost of our blood supply; therefore, cost effectiveness, quality control and regulatory issues have become topics of considerable importance in responding to our society's expectation of risk-free haemotherapy.

Contents

Session I: Risk Assessment of Transfusion Transmitted Infections

Moderators: *Florian Horaud (Pasteur Institute), James Mosley (University of Southern California)*

International Acceptance of Blood and Blood Products: *J.C. Petricciani*

Immunobiology of Persistent Blood-Borne Viral Infections: *G.N. Vyas*

Risk of Hepatitis and Retroviral Infections Among Blood Donors and Introduction of Nucleic Acid Testing (NAT): *R.Y. Dodd, S.L. Stramer, J. Aberle-Grasse, E. Notari*

Non-Enveloped Viruses Transmitted by Blood and Blood Products: *B.H. Robertson, D.D. Erdman*

A Safer Plasma Supply from Remunerated Donors - "The Immuno/Community Bio-Resources Experiment": *A.T. Waytes, H. Igel, G. Zerlauth, N. Wappler, M. Lee, O. Schwarz*

The Risk of Blood-Borne Creutzfeldt-Jakob Disease: *P. Brown*

Residual Risk of Transfusion Transmitted Viral Infections Among Seronegative Donors: Application of the Incidence/Window Period Model: *S. Kleinman*

Session II: Genetic Screening by Nucleic Acid Amplification

Moderators: *Paul Holland (UC Davis and SMF Blood Center), Ian Gust (CSL Limited)*

Comparative Methods of Viral Gene Amplification: *M.P. Busch*

Experience with PCR Screening: *R. Sun, H. Jayakar, S. Yeh, M. Mendoza, M.H. Wisbeski, W. Iszczyszyn, E.A. Dragon*

Polymerase Chain Reaction in Detecting Hepatitis C Virus Among Blood Donors: *J.W. Mosley, M.J. Nowicki, L.-F. Wang, T. Laskus, J.L. Rakela*

Session III: Experiences with Genetic Screening for Established and New Agents

Moderators: *Clifford Lowell (University of California), John Petricciani (IABs)*

Experiences with Genetic Screening for Established and New Agents: *J. Barbara*

Implementation of HCV-NAT Testing in the Netherlands: *H.W. Reesink, H.T.M. Cuyppers, P.N. Lelie*

Large Scale PCR Screening of Pooled Plasma Samples for HIV-1 and HCV: *R. Smith, C. Heldebrant*

Session IV: Inactivation/Removal of Blood with Psoralens

Moderators: *Ehud Ben-Hur (V.I. Technologies Inc.), Herbert Perkins (Blood Centers of the Pacific)*

Inactivation of Viruses, Bacteria, Protozoa and Leukocytes in Platelet and Red Cell Concentrates: *L. Corash*

The Use of Dimethylmethylene Blue for Virus Photoinactivation of Red Cell Suspensions: *S.J. Wagner, A. Skripchenko, D. Robinette, D.A. Mallory, J. Hirayama, L. Cincotta, J. Foley*

Inactivation of Viruses by Aziridines: *T. Burrage, E. Kramer, F. Brown*

Properties of Cyanovirin-N (CV-N): Inactivation of HIV-1 by Sessile Cyanovirin-N (sCV-N): *M.J. Gandhi, M.R. Boyd, L. Yi, G.G. Yang, G.N. Vyas*
Photochemical Decontamination of Red Blood Cell Concentrates with the Silicon Phthalocyanine PC 4 and Red Light: *E. Ben-Hur, W.S. Chan, Z. Yim, M.M. Zuk, V. Dayal, N. Roth, E. Heldman, A. Lazo, C.R. Valeri, B. Horowitz*
Membrane Filtration for Virus Removal: *H. Brandwein, H. Aranha-Creado*

Session V: New Clinical Strategies for Universal Safety of Transfusion

Moderators: *Takeo Juji (Japanese Red Cross), Pearl Toy (University of California)*
Safety and Utility of Blood Substitutes: *R.M. Winslow*
Reducing the Risk of Bacterial Contamination of Cellular Blood Components: *M.A. Blajchman*
Transfusion Safety in Developing Countries and the Indian Scenario: *V.L. Ray, R.K. Chaudhary, N. Choudhury*
Worldwide Perspective in Transfusion Safety: *Europe H.W. Reesink, P.E.W. Strengers*
Cost-Effectiveness of New Blood Safety Technologies: *J.P. AuBuchon*
Achievement of Universal Blood Safety: Introduction to the International Consortium for Blood Safety (ICBS): *A.M. Prince and Members of ICBS*

Session VI: Post-Symposium Reflections and Summaries

The FDA Approach to Standardization and Quality Assurance of Nucleic Acid Tests Used to Screen Blood and Plasma Donations: *J.S. Epstein, I.K. Hewlett*
Cost and Public Perception: *J.-P. Allain*