



Volume 2, Number 7

Prion disease transmission by transfusion in sheep

Nora Hunter's team, from the Institute for Animal Health (Edinburgh, United Kingdom), recently published results demonstrating transmission of sheep scrapie by blood transfusion. These experimental results, derived from animal studies, will prompt blood product suppliers to remain vigilant on these issues.

Hunter, N., et al., **Transmission of Prion Diseases by Blood Transfusion**, J Gen Virol 83 (published online July 16, 2002) (DOI: 10.1099/vir.0.18580-0).

HIV particles bind to red blood cells

A clinical research team from Basel University Hospital (Switzerland), led by Christophe Hess, report that in a significant fraction of HIV-seropositive individuals, HIV viral particles bind strongly to red blood cells. As a result, viral levels in plasma can drop under the limit of detection, even when a highly sensitive nucleic acid amplification assay is performed. These results underscore the importance of maintaining anti-HIV antibody detection in screening for HIV, in combination with nucleic acid-based detection.

Hess, C., et al., **Association of a Pool of HIV-1 with Erythrocytes *in vivo*: A Cohort Study**, Lancet 359 (9325) : 2230-2234 (2002).

Efficacy of a blood salvage system during surgical procedures

A team of clinicians, led by Ravi Gill (Southampton University Hospitals, NHS Trust, Southampton, United Kingdom), report on a randomized, controlled, clinical trial on the efficacy of a blood salvage system during elective coronary artery bypass graft surgery. Results indicate that the utilization of a blood salvage device reduces allogeneic blood transfusion requirements.

McGill, N. M., et al., **Mechanical Methods of Reducing Blood Transfusion in Cardiac Surgery : Randomised Controlled Trial**, Br Med J 324 (7349) : 1299-1305 (2002).

Therapeutic efficacy of cryopreserved autologous platelets

Saroj Vadhan-Raj (University of Texas M. D. Anderson Cancer Center, Houston, TX, USA) and coworkers confirm that thrombopoietin administration improves platelet yield by a factor of 2-3X, while cryopreservation does not significantly alter platelet function *in vivo*.

Vadhan-Raj, S., et al., **Safety and Efficacy of Transfusions of Autologous Cryopreserved Platelets Derived from Recombinant Human Thrombopoietin to Support Chemotherapy-Associated Severe Thrombocytopenia : A Randomised Cross-Over Study**, Lancet 359 (9324) : 2145-2152 (2002).

Gene therapy for hereditary deficiencies : Some promising results

Two case reports, describing two children suffering from hereditary immunodeficiency as a result of mutations in the ADA gene and treated by gene therapy, were recently published. Though preliminary, results are promising.

Aiuti, A., et al. (San Raffaele Telethon Institute for Gene Therapy (HSR-TIGET) and Università Vita-Salute San Raffaele, Milan, Italy), **Immune Reconstitution in ADA-SCID After PBL Gene Therapy and Discontinuation of Enzyme Replacement**, Nat Med 8 (5) : 423-425 (2002) (DOI : 10.1038/nm0502-423).

Aiuti, A., et al., **Correction of ADA-SCID by Stem Cell Gene Therapy Combined with Nonmyeloablative Conditioning**, Science 296 (5577) : 2410-2413 (2002) (DOI : 10.1126/science.1070104).

Reconstitution potential of bone marrow-derived mesenchymal stem cells

Catherine Verfaillie (University of Minnesota Medical School, Minneapolis, MN, USA) and coworkers just published a landmark paper on the reconstitution potential of bone marrow-derived mesenchymal stem cells.

Lenvik, T., et al., **Pluripotency of Mesenchymal Stem Cells Derived from Adult Marrow**, Nature 418 (6893) : 41-49 (2002) (DOI : 10.1038/nature00870) (published online June 20, 2002).