

**NAT HBV: TRANSFUSION SAFETY AND INFECTIVE RESIDUAL RISK
(P-035)**

M. D'Onofrio¹, L. Paesano², E. Perna³, S. Formisano¹

¹ AOU 'Federico II', Naples, Italy

² Second University of Naples, Naples, Italy

The public's perception of transfusion related infective risk is an important factor influencing transfusion policy, that for this reason is trained in implementing whole transfusion safety. The introduction of new generation screening tests, combined with a strict selection of blood donors, does not eliminate the risk of post-transfusion infections. With detection of HIV and HCV RNA by NAT, the residual risk of transfusion-transmitted infections is decreased. Nowadays hemovigilance and epidemiological data show that Hepatitis B virus still causes the major number of post-transfusion infection; in fact, our country, the estimate residual risk for this virus is 4 times higher than for HIV and 10 times higher than for HCV. The routine use of NAT methods in the screening of blood units can shorten the window period. Some studies have demonstrated that the slow HBV replication, in the first phase of infection, limits the efficacy of NAT methods based on use of plasma pools. Therefore, in this conditions, the NAT offers only a little benefit to transfusion safety in respect of current serological screening strategies. On the contrary, the NAT using a single sample would be more relevant. The prevalence of HBV infection is high in Southern Italy, therefore HBV-NAT has been implemented since October 2004 in this territory. The introduction of NAT assay designed to search simultaneously for nucleic acids of HCV, HIV, HBV allows a significant reduction in costs compared to three single NAT tests. From January to December 2005, we have analyzed, by triple NAT, 9.503 blood units: 41 resulted positive and in 33 of these the HBV DNA was identified. Nevertheless, serological tests were also positive for anti- HBcAb and HBsAg and negative for HBeAg in all 33 samples. In consideration of our data and of incidence and prevalence for Hepatitis B infection in our country, we can affirm that the use of NAT for HBV DNA detection in screening of blood donors is essential to decrease Hepatitis B virus transmission and transfusion residual risk.