

ANTI-HBC DETECTION IN BLOOD DONORS WITH DISCREPANT RESULTS IN PROCLEIX® ULTRIO® ASSAY SCREENING (P-278)

PG Grabarczyk, G. Liszewski, M. Mikulska, J. Kuśmierczyk, E. Brojer (Warsaw, Poland)

Poster Session: 6.5 Blood Safety - Transfusion Transmitted Disease (TTD) - Nucleic Acid Amplification Technology (NAT)

Tuesday, 26 June 2007

In Poland, HBV DNA testing of all blood donations is obligatory since January 2005. Screening is performed in two formats: in plasma pools of 24 with Cobas Amliscreen and in single plasma donations with PROCLEIX ULTRIO Assay. Reactive donations are retested by discriminatory assays for HCV RNA, HBV DNA and HIV RNA. Donations reactive with HBV discriminatory assay are considered HBV DNA positive. Samples positive in triplex assay but negative in discriminatory assay are considered discrepant and referred to Reference Laboratory at the Institute of Hematology and Transfusion Medicine (IHTM) for supplementary and confirmatory testing (serology anti-HBc and alternative HBV DNA test). If any sample is positive, the donor is deferred from the register. The necessity of additional testing increases the screening costs and delays the decision concerning donor qualification. In our previous study we observed that most samples reactive in ULTRIO screening with HBV DNA confirmed in discriminatory or alternative assays ranged 10-17.99 S/co in primary testing and were anti-HBc positive as well. The aim of our study was to analyze the detectability of anti-HBc and HBV DNA with alternative methods in samples with discrepant results of ULTRIO and HBV discriminatory test and to correlate the results with the S/Co ratio in ULTRIO Assay. Material and methods 149 plasma samples with discrepant results of screening in ULTRIO TMA HIV1/HCV/HBV assay (Chiron, Emeryville, USA) were sent to IHTM between January and June 2006. They were tested for anti-HBc by Monolisa anti-HBc plus test (Bio Rad, France) and for HBV DNA by Cobas Amliscreen HBV (Roche Diagnostics, Germany) or RealArt HBV RG PCR Kit (Artus GmbH, Germany). The control group, tested for anti-HBc, consisted of 920 samples from randomly selected blood donors (all negative in TMA screening assay). Results S/co of initially positive ULTRIO samples ranged from 1 to 17.42. HBV DNA presence was confirmed with alternative assays in 1 out of 149 Samples (0.7%), anti-HBc was found in 19/149 (12.7%) samples. The ULTRIO S/Co in 108/149 (73%) samples was 1-3.99. Five of them (4.6%) were anti-HBc positive and none HBV DNA positive. In 11/149 (11.7%) the S/Co range was 4-9.99; DNA HBV and anti-HBc were detected in none. In 30/149 (20.1%) the range was 10-17.99; HBV DNA was detected in 1 and anti-HBc in 14 (46.6%). In the control group, anti-HBc was detected in 7.6% donors. Summary HBV DNA and anti-HBc are detected in some donors with discrepant results in ULTRIO screening assay and their prevalence correlates with S/co value in this assay.

The study was performed in cooperation with the Polish Blood Transfusion Service Viral Study Group