C4. **ATYPICAL RESULTS IN SEROLOGICAL TESTS IN A CASE OF DE NOVO HBV INFECTION AFTER LIVER TRANSPLANTATION.**

A. Necula*, M. Hoinarescu**
*Lab. Central de Referinţă pentru Virusurile Transmise prin Sânge, Inst. Naţional de Hematologie Transfuzională, Bucureşti, România(LCR-VTS), **Centrul de Transfuzie al Municipiului Bucuresti(CTSMB)

Background: The serological paterns that allow the diagnosis of HBV infection and the assesment of its clinical course are well established but, occasionally, atypical serological profiles are generated as the dynamics of the expression of viral proteins and the corresponding antibodies may vary during the infection natural course. Among the factors that can interrelate and may generate such uncommon serological profiles, infection with viral variants and/or host related factors(immune tolerance, cellular imune response and immunosupression) are frequenly reported. We present here the serological findings in a case of HBV infection after liver transplantation, in a HBV „naive" patient.

Methods: Four serum and plasma samples collected from the pacient prior to transplantation (1995-2012) were available and previously found negative for HBV and HCV. 11(I) and 16(II) months after transplantation serum and plasma samples were collected to determine the CMV status as suspicion of CMV infection/reactivation or rejection resulted from increasing ALT /AST levels, and subsequently immunosupressive therapy enhanced. Follow up samples were then collected at 18(III),19(IV) and 21(V) months after tranplantation. The pre-transplantation samples and the 1st(I) sample were initially tested for HBsAg EIA(EnzymeImmmunoAssay), anti-HBc, anti-HBs, anti-HCV, CMV-IgM and IgG antibodies and EBV VCA-IgM and IgG antibodies. On sample(I) CMV and EBV DNA were determined. The follow up samples were additionally tested for HBeAg, anti-HBe and HBV DNA.

Results: All the pre-transplantation samples tested negative for HBV and HCV markers and positive for CMV-IgG, EBV VCA-IgG and EBV EBNA-IgG. Sample (I) was negative in the curent EIA for HBsAg and anti-HBc and had the same serological profiles for CMV and EBV as the previous samples. CMV DNA was negative, but a weak EBV viremia was detected(132gEq/ml) as a possible result of EBV reactivation under immunosupression. Sample (II) was negative in the current EIA for HBsAg but positive for anti-HBc. Additional testing showed a high level of HBeAg, HBV DNA(log c=7.42IU/ml), HBsAg(1.0 IU/ml) in quantitative CLIA and a weak positive result in alternative HBsAg EIA. Retrospective testing of sample(I) showed lower HBeAg, HBsAg CLIA(0.31IU/ml), borderlier reactivity in alternative HBsAg EIA and high HBV DNA(log c=6.36IU/ml), characteristic of acute infection HBV. Initiation of antiviral therapy led significantly decreased the viral load over the next four months,down to logc=1.36IU/ml and to negative HBsAg and HBeAg.

Conclusions: We have confirmed a case of HBV acute infection with atypical reactivities in EIAs currently used for HBsAg screening. Low reactivities or lack of detection by such tests, with demonstrated sensitivities of less than 0.05IU/ml, despite the high levels of viremia are usualy indicative of viral variants, generated by mutations within the „a"determinat of HBsAg, which represents the very target of HBsAg screening tests. „Occult B infections" characterised by viremia together with anti-HBs and lack of detectable HBsAg, distinct from „negative window" cases are more frequently reported since the introduction of NAT screening of blood donations. Since for the reported case no other rick factors could be determined besides the graft and the blood products tranmission by transplat/tranfsusion cannot be ruled out and the donors should be investigated.