

Hepatitis027- Undetermined RIBA-3 is associated with the absence of hepatitis C viral RNA in blood donors

Pereira FM¹, Zarife MAS¹, Reis MG²

Central Public Health Laboratory of the State of Bahia¹ – Brazil, Oruz Foundation², Bahia – Brazil

Introduction: The hepatitis C virus (HCV) infection is usually asymptomatic and has a high rate of chronicity, which may progress to cirrhosis and hepatocellular carcinoma. The hepatitis C diagnosis is realized by antibodies research using ELISA test (Enzyme Linked Immunosorbent Assay) and confirmed by additional serological tests, such as RIBA (Recombinant Immunoblot Assay) and western blot, and confirmatory test, like HCV-RNA research. The objective of this study was to evaluate the RIBA efficacy in the diagnosis of HCV infection in blood donors with anti-HCV reagent. **Material and Methods:** Were analyzed 102 samples with anti-HCV reagent in HEMOBA using the anti-HCV test Abbott Architect chemiluminescence for detection of anti-HCV antibodies, the RIBA III (Chiron) as a supplemental test for anti-HCV reactive and indeterminate samples and the Polymerase Chain Reaction test (RT-PCR) conventional or real-time (Roche Amplicor) for HCV-RNA detection. Samples with HCV-RNA detectable were genotyped by reverse hybridization (LIPA SIEMENS). **Results:** Of the 102 samples analyzed in LACEN 38.2% (39/102) were positive, 57.8% (59/102) were negative and 3.9% (4 / 102) were indeterminate for anti-HCV. The RIBA results were 58.1% (25/43) positive, 9.3% (4 / 43) negative and 32.6% (14/43) indeterminate. All samples with indeterminate RIBA results had undetectable viral load. The predominant bands in the indeterminate RIBA samples were c33 and c22. Of the RIBA indeterminate samples, repeated after six months with a new collection, 20% (2 / 10) became negative and 71.4% (10/14) remained indeterminate. Of these, (8 / 10) remained undetermined with the same banding pattern. HCV-RNA was performed in all study samples (102) and was detectable in only 22.5% (23/102). All samples with detectable HCV-RNA were RIBA positive and had more than five in the ratio index S / CO. Only two samples had RIBA positive results with HCV-RNA not detected. The 23 samples with detectable HCV-RNA were genotyped, and 78.3% (18/23) were genotype 1, 17.4% (4 / 23) genotype 3 and 4.3% (1 / 23) genotype 2 . The anti-HCV positivity was associated with intranasal drug use ($p < 0.001$), injectable drugs ($p < 0.001$) and STDs ($p < 0.05$). **Conclusions:** Given the results, it is noted that the RIBA has a high number of indeterminate results, requiring the HCV-RNA detection for HCV infection confirmation. Individuals with anti-HCV index below five, and indeterminate RIBA results are likely undetectable HCV-RNA and therefore are not infected with HCV, but must be serologically accompanied, according to medical criteria. **E-mail:** felizmp@yahoo.com.br