

Session: P039 Viral hepatitis

Category: 1b. Viral hepatitis (incl antiviral drugs, treatment & susceptibility/resistance, diagnostics & epidemiology)

23 April 2017, 13:30 - 14:30

P0844

Identification of HCV core regions responsible for false positive reactions

Yuliya Zagryadskaya^{*1}, Svetlana Klimashevskaya¹, Elena Matveeva¹, Anatoly Burkov¹, Anna Obriadina¹

¹*Rpc Diagnostic Systems*

Background: Hepatitis C virus (HCV) is a hepatotropic positive-strand RNA virus from the Flaviviridae family. Core protein of hepatitis C virus is one of the major immunoreactive proteins of the virus. Core antigen, as a recombinant antigen or peptide/s, is used in diagnostic tests for detection of antibodies to HCV. False positive results complicate the diagnosis of hepatitis C. The aim of our work was the detection of core regions responsible for false positive reactions.

Material/methods: A set of 58 overlapping 15mer peptides spanning HCV core antigen (1-129 aa) genotype 1b was synthesized and tested for potential antigenic epitope mapping. 60 well known blood serum samples (33 anti-HCV positive and 27 anti-HCV false positive) were investigated by peptides based ELISA.

Results: At least two strong antigenic epitopes were located in positions 11-41 and 47-71 aa. The most reactive sequence (comprising 17 to 31 aa) reacted with the main part of anti HCV core positive specimens (26 out of 33). Peptide corresponding to 3-17aa was the most reactive with false positive samples (16 out of 27). The majority of false positive reactions (18 out of 27) focused in region 1-23aa with weak reactivity in epitope located in 58-83aa region (6 out of 27).

Conclusions: Two strong antigenic epitopes were identified within the HCV core protein at amino acids positions 11-41 and 47-71. The majority of false positive reactions were associated with HCV core regions 1-23aa and 53-83aa.