METHOD FOR DETECTION HEPATITIS B VIRUS DNA AT LOW VIRAL LOAD USING REAL-TIME PCR

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МЕТОД ВЫЯВЛЕНИЯ ДНК ВИРУСА ГЕПАТИТА В ПРИ НИЗКОЙ ВИРУСНОЙ НАГРУЗКЕ С ИСПОЛЬЗОВАНИЕМ ПЦР В РЕЖИМЕ «РЕАЛЬНОГО ВРЕМЕНИ»

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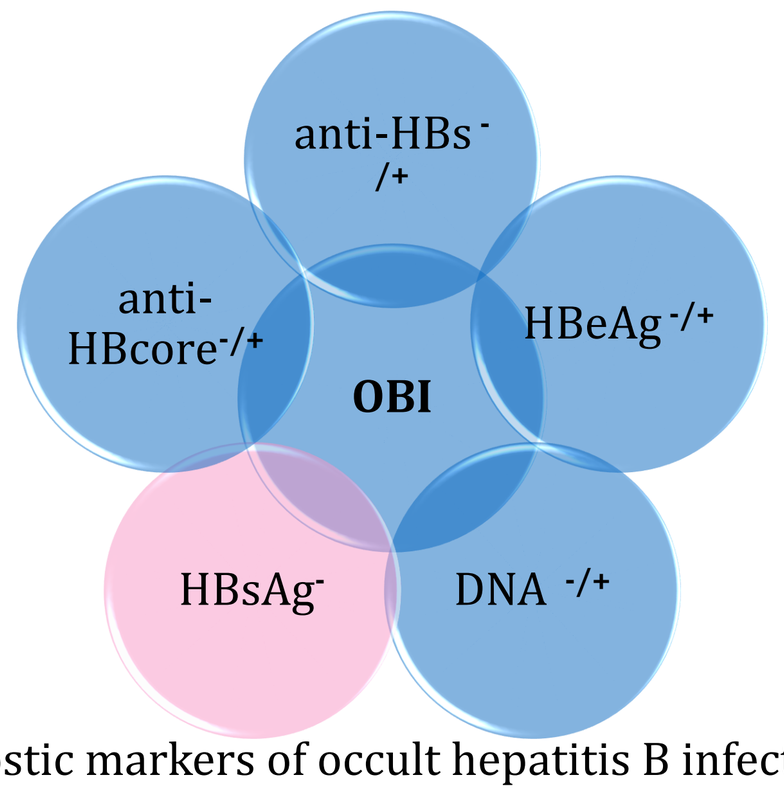
HBsAg-negative chronic hepatitis B virus, by definition, cannot be detected using immunological methods such as ELISA. At the same time, the determination of HBV DNA in blood plasma using standard methods is often not possible due to the extremely low replicative activity of the virus and, as a result, low viral load.



Diagnostic markers of occult hepatitis B infection (OBI)

The registration of the fluorescent signal is carried out through two channels, according to the recommendations of the Taormina Workshop – to identify at least two regions of the virus genome to confirm the detection of latent HBV.

Fluorophore	ROX	FAM
HBV genome region	X	S

CONCLUSIONS

The developed method is highly specific and can be used for screening various risk groups (HIV-infected, HCV-positive patients, screening donors to improve the safety of blood transfusion, labor migrants), as well as patients referred for hospitalization routinely to exclude the spread of HBV.

Hepatitis B virus is a highly contagious hepatotropic DNA virus that is transmitted parenterally, perinatally, and sexually and causes both acute and chronic forms of infection.

PURPOSE OF THE STUDY

To assess the specificity of the method for detecting HBV DNA at low viral load by real-time PCR.

Specificity assessment

Blind analysis

previously serologically and molecularly genetically characterized positive and negative for HBV blood plasma samples

(n = 729)

samples including genomic DNA / cDNA of viruses of hepatitis A, hepatitis C, hepatitis D, hepatitis E, hepatitis G, human immunodeficiency, Epstein-Barr, cytomegalovirus, herpes simplex types 1 and 2, herpes types 6 and 8, parvovirus B19, tick-borne encephalitis

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No nonspecific reactions were identified