Editorial

Quantitation of HBV DNA; another modification of the test: Will it withstand the test of time?

Kanjaksha Ghosh, Ajit Gorakshakar
National Institute of Immunohaematology (ICMR), KEM Hospital Campus, Parel, Mumbai, India

Measuring viral load has now become a cornerstone of therapy for many chronic viral infections like Hepatitis B, Hepatitis C, HIV, etc. There are several challenges in measuring these viral loads, which are as follows:

i. Nonavailability of a universal standard/control.
ii. Differences due to nucleotide sequences selected from different areas of the virus and this is particularly relevant where specific dye chemistry is being applied.
iii. Biology of the infection where different levels of viral shedding into the circulation may cause differences in the circulating viral load.
iv. Presence of inhibitors of PCR amplifications in the sample. Moreover, similar techniques are also used for Nucleic Acid Amplification Testing to detect the presence of transfusion transmissible viruses with negative serology.

Hence, there is a need for universally acceptable tests to detect viral load predictably and there should be minimum variability of the detected viral load from one laboratory to another.

The paper by Naresh on in-house development of RQPCR technique for detection of Hepatitis B viral load should be evaluated from this perspective.[1] The process described by Naresh seems to be robust and correlation with plasmid control is also very good. The authors have chosen three areas, i.e. surface antigen, core and X region of HBV genome sequences, for amplifications. Presence of all three nucleotide sequences in the sample will make infection very likely.

Infection of hepatitis B virus transmitted through blood and blood products is an important preventable complication.[2] In India, NAT testing has not been made compulsory in all blood banks as yet, but the data that have been emerging from some of the blood banks[3,4] clearly show Hepatitis B virus to be responsible for majority of seronegative but nucleic acid positive samples when Hepatitis B, Hepatitis C and HIV infections were tested from voluntary blood donors. Hepatitis C is also an important cause of transfusion transmitted liver infections in multi transformed hemophiliacs[5] and thalasseamic patients,[6] accounting for about 18–34% positivity in these patients.

One of the reasons why NAT testing could not be universalized is because of its cost. Authors of the present paper under discussion have commented on this issue and ₹ 250 per test seems to be acceptable.

However, this test needs to be used by other centers to evaluate its applicability in general.

Access this article online	
Quick Response Code:	Website: www.ijhg.com
	DOI: 10.4103/0971-6866.82184

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Address for correspondence: Dr. Kanjaksha Ghosh, National Institute of Immunohaematology (ICMR), 13th Floor, New Multistoryed Building, K.E.M. Hospital Campus, Parel, Mumbai, India. E-mail: kanjakshaghosh@yahoo.com

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