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HCV RNA PCR and Anti-HCV immunoblot test results between 2008 and 2013 in national hepatitis /HIV reference laboratory Turkey/Ankara

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Antibody tests for detecting Hepatit C virus was first approved by FDA in 1990. Since then, new versions of antibody based tests have been used for the screening of asymptomatic people and for clinical diagnosis.

Although anti-HCV tests yield rapid and relatively accurate results, CDC recommends that after an antibody based screening test, people with a positive screening test result should be confirmed with a more specific serologic test or nucleic acid test (NAT).

This recommendation is valid for Hepatitis B virus and HIV and most of positive screening tests can not be reported as positive before being corroborated with a more specific test. However, this is not valid for HCV . Many laboratories report positive screening test results as positive unless asked by the clinician to be confirmed. Health professionals sometimes lack information on when and how positive HCV test results should be confirmed.

As the specifity and sensitivity of these screening tests is high, false positive anti-HCV results are rarely seen. In addition, majority of patients have complaints suggesting liver disease. Nevertheless, false positive results are encountered in countries where the prevalance of HCV infection is lower than 10%. This may cause problems especially in post exposure early screening of asymptomatic people on whom there is no clinical information. The accuracy of screening test positive result can not be asserted without having information on the origin of the sample and the clinical condition of the person tested.

There are various reasons why laboratories do not confirm results of anti-HCV tests.i.e. lack of an established standard for such testing, absence of information on screening and confirmation tests which should be carried out, and high costs of confirmatory tests.In the present study, patient samples referred to National HIV/Hepatit Reference Laboratory between 2008-2013 were compared by using HCV RNA PCR and immunblot tests simultaneously. For this purpose, 4233 HCV RNA PCR results 1215 immunblot results were examined and 242 samples from each groups were included in the study for comparison. Mikrogen Recomline HCV IgG tests and Qiagen HCV realtime PCR kits have been used for this study.

Results: 36 immunblot result was found to be positive without a positive HCV RNA result. 61 indeterminant immunblot results were obtained. In 23 samples, positive results were found together with HCV RNA positivity. In overall 24 samples HCV RNA PCR results were found to be positive.

Discussion: In the follow up patients with chronic HCV infection, HCV RNA PCR test is a suitable method, but is far from being a perfect diagnostic method by itself since it yields negative results when viral load is removed. As to immunblot test, although it is sensitive to more than one antigen, it is not sufficient on its own to be used diagnostically as it yields negative results in window period and the rate of indeterminate results is high. For HCV infections, it is important to choose the most suitable laboratory method together with the clincial presentation of the patient in acute and chronic period.

Conclusion: In order to diagnose HCV infection and to evaluate the diagnosis of chronic HCV infection, antibody tests should be evaluated along with molecular methods and clinical findings such as liver function tests and should be carried out in accordance with a certain algorithm.

Biography

C. Oztug Onal graduated from Gazi University Medical Faculty and completed his Ph.D. at the age of 33 years from Department of Immunology at the same university. He worked at the Refik Saydam National Health Agency for 8 years. From 2012 to present he is working at 4th Tuberculosis Dispensary/Ankara.

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