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IDENTIFICATION OF OCCULT HEPATITIS B AND HEPATITIS C VIRUS INFECTIONS

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Occult hepatitis B virus (HBV) and hepatitis C virus (HCV) infections are recently identified entities whose existence became evident when nucleic acid amplification assays of enhanced sensitivity were employed for detection of viral genomes and their replicative intermediates. These long-term, seemingly asymptomatic infections are consequences of persistent low-level viral replication progressing in hepatocytes and in cells of the immune system. Detection of these new forms of HCV and HBV infections requires a thorough testing approach in which analysis of serial serum and peripheral blood lymphoid cell samples and, when feasible, liver tissue is performed under strict contamination controlled conditions using nucleic acid amplifications targeting different regions of viral genomes. This presentation will focus on the molecular methods of identification of trace amounts of HBV and HCV genomes and their replication intermediates, procedures of enhancing virus detection in immune cells, and on outlining general characteristics of occult HCV and HBV persistence. Data from the experimental woodchuck model of hepatitis B, which contributed to recognition of the natural course, virological properties and immunological characteristics of occult HBV infection, will be also acknowledged.

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