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Editorial

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Point-of-care test to detect hepatitis B virus DNA: Is it useful?

Hepatitis B virus (HBV) infection is prevalent in pregnancy and can affect both mother's and child's health as well as pregnancy outcomes. The risk of mother-to-child transmission of HBV has been quoted as 70%–90% among women positive for hepatitis B surface antigen (HBsAg) and hepatitis B e antigen (HBeAg), and 5%–30% among HBsAg-positive and HBeAg-negative women [1]. Thus, vertical transmission from mother to child has been estimated to account for a significant proportion of chronic hepatitis infection and preterm birth [2]. Screening pregnant mothers and universal infant vaccinations can reduce transmission rates [3]. The infection rate among infants born to HBsAg-positive mothers who do not receive any form of neonatal prophylaxis is as high as 90% [4]. However, administering HBIG and hepatitis B vaccine to infants at delivery can reduce transmission by at least 95% [4]. Infants whose mothers have HBV DNA should also be advised to receive hepatitis B immunoglobulin in addition to the first dose of hepatitis B vaccine at birth [5]. Mothers with high HBV DNA near the time of delivery may also receive antiviral therapy to reduce viral load [6]. Significant risk factors for transmission, despite prophylaxis, appear to be associated with a positive HBeAg in the mother and a high maternal HBV viral load. Antiviral therapy is recommended for patients with a persistently elevated ALT (>2 times the upper limit of normal) and an elevated HBV DNA (>20,000 international units/mL in HBeAg-positive patients or ≥2000 international units/mL in HBeAg-negative patients) [7].

Therefore, ideally, all pregnant women should be checked for HBsAg during the first trimester and those who are HBsAg negative will be advised to give only hepatitis B vaccination of infant at birth. Those who have HBsAg test positive during the first trimester should be checked for baseline liver panel, HBV DNA, HBeAg, and anti-HBe. The HBV DNA and liver panel can be obtained at the end of second trimester (26 to 28 weeks). Mothers who have significant HBV DNA and HBeAg titer may get antiviral therapy. All infants (including infants of mothers with lower HBV DNA and HBeAg titer) should get hepatitis B vaccine series and hepatitis B immunoglobulin within 12 hours of birth [8, 9].

The paper by Pankaew et al. in this volume reported a point-of-care test to detect hepatitis B viral DNA threshold relevant for treatment indications [10]. This can be an important tool for screening pregnant mothers to identify those with significant hepatitis B viral DNA and thus can link the infected individuals to facilities that can provide further desirable optimal care for mothers and infants and thus help curb chronic hepatitis B infections in the population.

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