Screening strategies to prevent mother-to-child transmission of hepatitis B in sub-Saharan Africa

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Main Text

We agree with Wendy Spearman and colleagues[1] that prevention of mother-to-child transmission (MTCT) of hepatitis B virus (HBV) should be a priority in sub-Saharan Africa. WHO currently recommends administering hepatitis B vaccine to all neonates within 24 hours of birth. Additionally, to further reduce the risk of MTCT in sub-Saharan Africa, it might be necessary to screen pregnant women for hepatitis B surface antigen (HBsAg) and provide prophylactic nucleoside analogue therapy (e.g., tenofovir) for those with high viral replication, confirmed by increased HBV DNA levels or hepatitis B e antigen (HBeAg). Nevertheless, access to diagnostic assays for HBV DNA or HBeAg is seriously limited in sub-Saharan Africa. Consequently, when these markers are unavailable the authors recommend treating all HBsAg-positive pregnant women for up to 12 weeks after delivery.[1] However, this recommendation is highly questionable.

First, for the vast majority (80-90%) of HBsAg-positive women in sub-Saharan Africa, antiviral therapy during pregnancy would be of no benefit to their babies. With the timely administration of birth dose vaccine, the risk of MTCT is about 20-30% from HBeAg-positive mothers but close to 0% from HbsAg-positive HbeAg-negative mothers.[2] Unlike in Asia, where half of HBsAg-positive women carry HBeAg, only 10-20% of HBsAg-positive African mothers are HBeAg-positive.[2] Since 30-40 million women give birth annually in SSA, and 8% of these women carry HBsAg,[3] the recommendation by Spearman and colleagues would result in more than 2 million pregnant women being unnecessarily treated each year with nucleoside analogues.

Second, unnecessary exposure to antiviral prophylaxis could cause harm to both women and their infants. In sub-Saharan Africa, one woman gives birth to an average of at least five children, implying that throughout their reproductive life, women who are HBsAg would be

repeatedly exposed to the risk of post-treatment hepatic flares, when careful monitoring of these women might be difficult. Moreover, although in-utero exposure to tenofovir is generally safe for the fetus without increased risk of birth defect, its long-term safety on children's growth remains debated.[4]

Finally, antenatal screening for HBeAg using inexpensive rapid diagnostic tests might overcome these problems by adequately stratifying women into different risk groups in decentralised African settings. However, a recent study in Senegal documented inadequate sensitivities (<50%) of the commercially available rapid diagnostic tests compared with laboratory-based serological immunoassay.[5] This finding highlights the importance of developing simple, accurate, and affordable diagnostic tools to identify women at risk of MTCT, and assessing the feasibility and cost-effectiveness of different antenatal screening strategies to prevent MTCT in sub-Saharan Africa, which have been poorly invetigated in this region.

Declaration of Interests

We declare that we have no conflict of interest.

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