To the Editor

Wiseman and colleagues reported the 9 month virological follow-up of babies born to pregnant women attending urban antenatal clinics who tested positive for hepatitis B surface antigen.[1] Evaluation of outcomes is vital to determine implementation and effectiveness of current policy.

The authors state that HBIG and hepatitis B vaccination was delivered within 12 hours of birth to all infants of HBsAg positive mothers. Transmission was documented in only four infants 9 months after birth, all whom were born to mothers who were HBeAg-positive *and* had very high hepatitis B Virus (HBV) DNA levels (> 10^8 copies/mL), Yet one of the four infected infants had inadvertently not received the "routinely offered" Hepatitis B Immunoglobulin. Whether any other babies (even if not infected) also failed to receive timely active and passive immunisation is not explicitly reported.

The other three infected infants completed HBIG injection and HBV vaccination according to the "recommended schedule". Given that the Immunisation Handbook states "The first dose of monovalent hepatitis B vaccine should be given at the same time as HBIG…as soon as possible – preferably within 24 hours of birth, and definitely within 7 days"[2], the exact time is unclear - potentially a delay of between many hours to many days could occur. Yet for all infectious diseases where post-exposure prophylaxis is given, administration as soon as possible after exposure is universally recommended for prevention of transmission.[3] Particular effort is warranted to expedite administration of HBIG and hepatitis B vaccination *immediately* after delivery, and certainly *within hours* of birth to known HBeAg+ mothers.

There are many difficulties achieving high rates of follow up in this group, and only 65% of babies had virological follow-up available. Unfortunately, the paper did not make the important distinction between those lost to follow-up and those not yet 9 months post-delivery. This is despite the series including many women from South-East Asian countries who have markers of high HBV replication and where follow-up is suboptimal.[4]

Evaluation of hepatitis B vaccination policy requires that studies report fully on outcomes, including loss to follow up. Also, since delay in administration of hepatitis B immunoprophylaxis and vaccination after delivery may be a critical source of

variation in outcome, future studies should specifically report this information separately for all births to HBsAg+ and HBeAg+ pregnancies, and for any cases where transmission does occur.

References

1. Wiseman E, Fraser MA, Holden S, Glass A, Kidson BL, Heron LG, Maley MW, Ayres A, Locarnini SA, Levy MT. Perinatal transmission of hepatitis B virus: an Australian experience. Med J Aust 2009;190:489-92.

2. National Health and Medical Research Council. The Australian Immunisation Handbook 9th Edition 2008, Canberra, 2008.

3. Rupp T, Christensen K. Infections protection. A review of post-exposure prophylaxis. JEMS. 2008;33:68-77.

4. Oman KM, Carnie J, Ruff T. Hepatitis B immunisation coverage of infants born to chronic carrier mothers in Victoria. Aust NZ J Public Health. 1997;21:731-4.