

Nevertheless, the choice of a drug belonging to the rifamycin family remains a cause of concern and rifampicin may not be the preferred drug in this setting. Rifampicin is an enzymatic inducer with multiple drug interactions, and is also an antibacterial agent that carries the risk of the emergence of resistance in the case of ongoing tuberculosis or staphylococcal infection. Therefore, it would probably be better to use a non-absorbable rifamycin drug such as rifaximin, but this drug is not available everywhere.

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False-positive HIV antibody results with ultrasensitive serological assays in uninfected infants born to mothers with HIV

The success of interventions to prevent the mother-to-child transmission of HIV-1 means that the majority of HIV investigations are performed on the child to confirm that the child is not infected.

Maternal HIV infection confers a significant risk of perinatal transmission, but one that is less than 2% for mothers on HAART [1]. Determining the HIV infection status of the child early is of paramount importance because HIV infection in infancy is associated with significant morbidity and mortality [2].

The British HIV Association and American Academy of Pediatrics/Canadian Paediatric Society guidelines instruct that the absence of vertically transmitted infection should be confirmed by molecular and serological testing. Three consecutive negative HIV proviral DNA polymerase chain reaction (PCR) tests at birth, 6 weeks (4–6 weeks) and 12 weeks (2–4 months) of age along with undetectable HIV antibody at 18 months are currently accepted as indicating the absence of vertically transmitted infection. Both guidelines state that three negative PCR tests reasonably exclude infection; however, antibody testing is recommended at 18 months to confirm and document the loss of maternal antibodies [3,4].

Infants are discharged from follow-up when all tests are negative, usually by the second half of the second year of life. Development of these criteria relied on the performance of specific third-generation serological tests.

Although newer HIV antibody tests with improved sensitivity and specificity might be of value for the earlier detection of HIV seroconversion in adults (i.e. when

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individuals are highly infectious), the use of such tests may pose unexpected problems when used in excluding vertically transmitted infection.

Along with many other laboratories in the UK, we introduced a fourth-generation enzyme immunoassay (EIA) as a screening test for HIV infection in our centre. The Genscreen Plus HIV Antigen–Antibody (Bio-Rad Laboratories, Marnes-La-Coquette, France) is an EIA for the detection of HIV infection based on the detection (sandwich technique) of antibodies to HIV-1 and HIV-2, as well as the HIV-1 p24 antigen in human serum or plasma. These assays become valuable in diagnosing early HIV infection, reducing the window period by 4–5 days compared with third-generation assays [5]. Genscreen Plus is an assay with enhanced sensitivity for HIV antibody detection that does not differentiate between the antigen and antibody signal.

In the first 6 months of its introduction we detected three acute HIV seroconversions in adults who tested antibody negative by the third-generation (antibody only) assays (data not shown).

We assessed the impact of the introduction of this fourth-generation assay with enhanced sensitivity on the determination of the HIV status of infants born to HIV-positive mothers (Table 1). Using this assay in 18 infants with three consecutive negative HIV-DNA PCR we found that eight were antibody negative (age range 18–24 months), and 10 were positive (age range 19–20 months). Of the 10 infants positive by the fourth-generation assay, nine were negative by our previous third-generation HIV assay (performed simultaneously). Repeat fourth-generation EIA testing was negative for

Table 1. Performance of third and fourth-generation HIV assays in determining the HIV status of infants born to HIV-positive mothers.

Child	Age (months)	Genscreen Plus HIV assay (OD/CO ratio)	3rd Generation HIV test result (Abbott Imx)	Age (months) at which 4th generation test negative
1	18	Positive (5.60)	Negative	24
2	21	Positive (1.26)	Negative	25
3	21	Positive (3.94)	Negative	28
4	20	Positive (1.39)	Negative	26
5	18	Positive ^a (15.18)	Negative	25
6	18	Positive (12.45)	Negative	23
7	20	Positive (3.872)	Negative	27
8	20	Positive (16.02)	Negative	25
9	18	Positive (7.51)	n/a	24
10	19	Positive (12.18)	Negative	n/a

OD/CO ratio, Optical density to cut-off ratio.

^aAlso positive at 22 months of age.

Values of ≥ 1.00 are considered reactive.

nine infants within a few months, confirming waning levels of maternal antibody and not emerging infection. In one infant it was not possible to obtain a repeat sample but it shows no clinical evidence of HIV infection.

Our experience suggests that using newer assays with enhanced sensitivity can be problematical in testing infants of HIV-infected mothers because they predictably appear to detect maternal antibody in the child for significantly longer periods than previous assays. Physicians and parents need to be aware of this issue to avoid anxiety and confusion. Our observations highlight the need to revise the guidelines for testing HIV-exposed infants. As optimizing diagnostic evaluation in the first year of life is vital, more emphasis on the direct detection of HIV is appropriate, and the possibility of introducing yet another PCR test after 6 months of age should be taken into consideration.

We believe that 18-month antibody testing could still be useful for parental reassurance, and is an opportunity for the physician to reassess these infants that are exposed to HIV and antiretroviral treatment. It should, however, be undertaken with a standard assay rather than an assay of enhanced sensitivity for antibody detection.

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Lack of immune recovery in HIV/*Leishmania* co-infection treated with human recombinant IL-2

Visceral leishmaniasis is a severe complication of HIV infection [1]. HAART combined with antileishmanial treatment has been shown to decrease significantly the incidence and improve the prognosis of visceral leishmaniasis in HIV-infected patients [2]. Nevertheless, HIV/*Leishmania* co-infected patients responding poorly to HAART remain at risk of a relapse of leishmaniasis [3].

HIV and *Leishmania* target the same cells, the monocytes/macrophages, and may add their effects in the co-infected host. HIV promotes *Leishmania* replication *in vitro* and impairs the ability of macrophages to control the growth of *Leishmania* [4,5]. In addition, both HIV and *Leishmania* induce a shift from a T helper 1 to a T helper 2 type cytokine profile, with reduced IL-2 and IFN- γ production [6–8].