

# Evaluation of Early Infant Diagnosis of HIV 1 in Government hospital, Dhule

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Sir,

HIV transmission from an infected mother to her child can occur in utero. Maternal factors like a high viral load, low CD4 counts and impaired cell mediated immunity are considered as important factors in transmission of HIV infection [1]. Early diagnosis of HIV infection in infants is not possible, as conventional antibody tests are used only after 18 months of birth and as maternal antibodies may interfere with the results [2].

Dried Blood Spot (DBS) test was performed by collecting blood on a filter paper as per National AIDS Control Organisation (NACO) guidelines. DNA was extracted and subjected to Polymerase Chain Reaction (PCR). PCR is the most sensitive test for diagnosing HIV-1 infection among infants who are born to HIV seropositive mothers. Once blood is collected and dried on filter paper, it is no longer infectious and it can be stored for 15 days without refrigeration. Hence, this test is most suitable in rural settings.

In infants who are infected with HIV at the time of their deliveries, HIV often leads to death, as disease progresses rapidly due to their vulnerable ages [3]. Alternatively, if HIV infection can be diagnosed early in a child and if anti retroviral treatment is given, there are chances for a healthy survival [4]. This study has highlighted on the early diagnosis of HIV infection in infants who are born to HIV 1 positive mothers.

The present analysis is done to find out HIV 1 transmission rate from infected mothers to their babies. Follow up of infants was tried and correlation between This study consisted of children of ages which were < 18 months, who were born to HIV 1 infected mothers, who were delivered in our hospital and had received nevirapine. Children who were more than 18 months of age and who were delivered at home, were excluded from study. Dry Blood Spot test, Whole blood test and antibody test were done during April 2010 to November 2012 as per NACO guidelines.

In 2010, 40 children were tested for their HIV Statuses. Nineteen were males and 21 were females. Twenty four children were below 6 months of age and Dry Blood Spot Test (DBS) was conducted to detect their HIV statuses. One male infant was detected as HIV 1 infected. In remaining 16 children, antibody test was done as they were older than 6 months. Fifteen were negative and 1 female child was HIV 1 antibody positive.

In 2011, 41 children were tested for their HIV Statuses. Twenty-four were males and 17 were females. Thirty infants underwent DBS test and one was detected as HIV 1 reactive. Eleven children underwent antibody test and 2 males were found to be positive by this method. In 2012, 71 children were tested for their HIV statuses. Forty-one were males and 30 were females. In 48 infants, DBS was carried out and 2 male babies were found to be infected by HIV 1. None were antibody positive out of remaining 23 infants who were above 6 months of age.

So, our study included 102 children who were tested by DBS and 4 were found to be positive by this method. (3.92 %) Repeat tests which were done on them by using Whole blood subsequently showed positive results and there was a 100% correlation [5]. Fifty children were screened by antibody test and 3 were detected as positive (6%). Out of 7 infected children, 6 were males and 1 was a female child, which showed vulnerability of male foetuses over female foetuses.

Among 102 DBS tested children, follow up for one year was possible for 32 children. Surprisingly, 3 infants who were DBS negative were positive for HIV 1 antibody. Only 30 children were breast fed. All others had cow's milk as top feeding. Out of 7 infected children, only one was breastfed and 6 were top fed. The study emphasizes need of follow up of infants who are born to HIV positive mothers.

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FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Feb 18, 2013**  
Date of Peer Review: **May 01, 2013**  
Date of Acceptance: **Jun 03, 2013**  
Date of Publishing: **Sept 10, 2013**