

## Neverapine drug regimen investigation on HIV mother to child transmission in Warangal (A.P.), India

Krishna Reddy Matta<sup>1\*</sup>, Radha Krishna Muttineni<sup>2</sup> and Rama Krishna Devarakonda<sup>2</sup>

<sup>1</sup> Reproductive physiology unit, Department of Zoology, Kakatiya University, Warangal - 506 009 (A.P.) India

<sup>2</sup> University College of Pharmaceutical Sciences, Kakatiya University, Warangal - 506 009 (A.P.) India

(Accepted : Mar, 2006)

All over India out of about 28 million deliveries occur annually, 84,000 deliveries occur in HIV positive woman. Out of these 30-45% babies is getting infected by HIV. In states like Andhra Pradesh HIV prevalence is more than 1%. In Andhra Pradesh so far HIV has infected 4 lakh people. The most prevalent district in A.P. is Warangal. According to 2002 Ante natal clinic cases highest positive infection rate is 6.75%, STD clinic 40.40%. The great majority (90%) of HIV positive children acquired the virus from their mother. Reduction of mother to child transmission is therefore very important in India. Pregnant women from rural and urban areas visit Govt Maternity hospitals in Warangal and Hanamkonda for regular check up from 3rd month till delivery. When they visit, with their informed consent they would be screened for HIV antibody in the hospital settings. Out of total 287 HIV +ve women, 166 were pregnant women. 145 pregnant mothers were orally given nevirapine 200mg at the on set of labour and the new born babies were given 2mg/kg Neverpine syrup within 72 hours after delivery. 21 of the pregnant woman 16, 20, 28, week gestational age undergone medical termination of pregnancy. 60 of the nevirapine treated mothers and their babies came to the follow up. Follow-up mothers and their babies screened for HIV antibody in their blood, 18 babies are HIV antibody negative, 42 babies are HIV antibody positive out of this 15 Babies died due to unknown reason. Present studies show that in nevirapine drug treated HIV mother to child cases the Transmission reduction rate is 11% or above in Warangal, AP. Long term study on reducing vertical transmission of HIV infection is necessary. International and National organizations and NGOs should provide free baby food for sero negative infants born to HIV + mothers. Present study strongly suggests that the role of humoral and cellular responses provided through a breast milk is required to be investigated.

**Key words :** HIV prevalence, Transmission, HIV-tridot, Nevirapine, Labour, Cellular responses.

### INTRODUCTION

**G**LOBALLY an estimated 65 million people had been infected with HIV, 25 million had died and 40 million are living with HIV/AIDS. Every day 14000 people are infecting with HIV/AIDS world wide. Presently 3.82 to 4.58 millions are infected in India. In Maharashtra, Tamilnadu, Karnataka, Andhra Pradesh, Nagaland and Manipoor infection rate is over 1% in antenatal clinics. In Andhra Pradesh 4 lakh people are infected with HIV. The most prevalent district in A.P. is Warangal. According to 2002 ANC cases highest positive infection rate is 6.75% and STD clinic is 40.40%. This is very high when compared with national data. The great majority of HIV positive children acquired the virus from their mother. 90% of infected children live in sub Saharan Africa and south East Asia. HIV transmission rate from mother to child is ranging from 25% to 40% in less developed countries and from 15% to 25% in more developed countries. Risk of transmission is affected by factors related to the virus, the mother, the delivery process, the baby and how the infant is fed. All these factors explain the differing rates of HIV transmission between more developed and less developed countries. During pregnancy and delivery the mother's health, disruption of the placental barrier, preterm delivery and hemorrhage are significant predictors of the child's infection. An estimated one out of every seven infants breastfed by an HIV positive mother becomes infected through milk.

### MATERIALS AND METHODS

Pregnant women from rural and urban areas visit Maternity hospital for regular checkup from 3rd month till delivery. They were screened for HIV antibody in the hospital settings at these visits with an informed consent. HIV/AIDS testing lab and counseling room at this hospital were well established. Pre test

counseling and post-test counseling were performed. During April 2002 to March 2003 HIV positive pregnant mothers were encouraged to enroll for prospective study. Mother to Child HIV Transmission centers in maternity hospitals of Warangal is also well established. MTCT (mother to child HIV transmission) centers were provided with a gynecologist, a pediatrician, a physician, and a counselor. One of the authors with the help of the counselor interacted with HIV +ve patients with established questionnaires.

The infected mothers visited hospital at the 16 weeks, 20 weeks, 28 weeks, 36 weeks of pregnancy for their routine check up and finally for delivery. During one of their visits they were screened for HIV antibody. Pre test counseling was performed for all but post test counseling performed only for HIV infected women, during 16 weeks, 20 weeks, and 28 weeks of pregnancy; HIV infected mothers counseled for MTP (medical termination pregnancy). 4 – 5 ml peripheral blood is collected intravenously from 28, 36 weeks gestation period pregnant mothers who had taken Nevirapine drug treatment and screened for HIV-1/2. The sero positivity was confirmed by three individual tests. 1) HIV TRIDOT 2) NEVA TEST. 3) COMBAIDS or EIA (Enzyme immuno assay).

### HIV TRIDOT

HIV tridot is a rapid test developed and designed using gp41, C-terminal of gp120 and gp36 representing the immuno dominant region of HIV-1 and HIV-2 envelop gene structures respectively. The HIV tridot test is a visual, rapid, sensitive and accurate immuno assay for the differential detection of HIV-1 and HIV-2 antibodies in human serum (or) plasma using HIV-1 and HIV-2 antigens immobilized on an immuno filtration membrane. The test is a screening test for anti HIV-1 and HIV-2 and *in vitro lab* use.

\* Author for Correspondence