

Thesis Title	Diagnosis of HIV Infection in Infants Born to HIV Seropositive Mothers
Name	Sirirat Likanonsakul
Degree	Master of Science (Microbiology)
Thesis Supervisory Committee	Chantapong Wasi, M.D. Sanay Chearskul, M.D. Ruengpung Sutthent, M.D., Ph.D. Suda Louisirootchanakul, M.Sc.
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### Abstract

Diagnosis of HIV infection in infants born to seropositive mothers by the conventional anti-HIV testings is not reliable due to persistence of maternal IgG up to aged 6-15 months. The supplementary methods for early diagnosis of HIV infection in infants have been developed. In this study, the techniques of nested PCR, p24 antigen detection after immune complex dissociation (ICD), anti-HIV IgA (capture enzyme immunoassay) and T lymphocyte subsets have been evaluated for diagnosis of HIV infection in infants born to seropositive mothers.

During April 1992 to April 1994, the 408 subsequent blood samples were collected from 135 infants born to seropositive mothers who attended the special pediatric clinic at Siriraj hospital. At the time of initial visit, the 135 infants were consisted of 21 seroreverters, 25 pediatric AIDS cases (CDC : class P-2) and 89 indeterminate cases (CDC : class P-0). All of indeterminate infants were followed up and tested for anti-HIV antibodies until age of 18 months. Of the 89 infants, 19 cases showed anti-HIV positive until age of 18 months, 9 cases developed symptom

of AIDS (CDC : class P-2) in the first and second year of life.

The nested PCR, using *gag* region primer [SK380/SK390, SK38/SK39] were used and showed the most sensitive (100%) and specific (100%) results for early diagnosis. In this study; 19 of 89 infants were diagnosed as HIV-infected cases at the age of 1 month before clinical symptoms appeared.

The sensitivity and specificity of p24 antigen with immune complex dissociation assay in this study were 68.54% and 100%; respectively, and was more useful for diagnosis of symptomatic cases than asymptomatic ones. The efficacy of p24 antigen was as sensitive as nested PCR in symptomatic infants age less than 6 months.

Anti-HIV IgA by capture enzyme immunoassay is less sensitive than p24 antigen and nested PCR. The sensitivity and specificity were 24.78% and 96.73%, respectively. However, the sensitivity of anti-HIV IgA was increased in infants age more than 6 months.

T lymphocyte subsets were determined in 5 difference subject groups according to infection status and clinical condition at first and last time examination the result were analysed by age group and subject group. The T lymphocyte subsets in uninfected infants born to HIV seropositive mothers were analysed as control in this study. CD4<sup>+</sup> lymphocyte number and percent as well as CD4:CD8 ratio were declined by age and significant difference between uninfected and infected infants (asymptomatic and symptomatic infection) by age of 6 months. Whereas CD8 percent were increased by age in infected infants at age of 12 month. The vertical transmission rate in this study was 21.34%.