

HIV Infection in Pregnant Women in Thailand 1994

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Epidemiology

In Thailand, it has been reported that women of reproductive age (15-44 years) with AIDS have increased in number from 1 case (6.67%) in the years (1984-1988) to 483 cases (8.67%) in the years (1989-1994).⁽¹⁾ It was estimated that the HIV seropositivity in women of reproductive age and pregnant women would increase in prevalence also.

Siriwasin W. et al reported that the HIV seroprevalence among pregnant women at Rajavithi Hospital, Bangkok, has increased 4 fold over 2 years from 0.4% to 1.4% among pregnant women in the Antenatal clinic.⁽²⁾ HIV Sentinel Serosurveillance June 1993, Thailand reported that the Seropositivity rate of pregnant women in the Antenatal clinic in a provincial hospital and district hospital was 0.7-6% (mean 1.4%) and 0.4-5% respectively.⁽³⁾ The majority of studies of the prevalence of HIV seropositivity in pregnant women have been

based on anonymous cord blood or newborn heel stick surveys.⁽⁴⁻⁷⁾

In Thailand, HIV Sentinel Serosurveillance in the pregnant women group using unlinked anonymous blood screening reported an increasing rate from 0 in Dec. 1990 to 1.4% in June 1994.⁽³⁾ Using routine voluntary HIV screening in pregnant women (regardless of risk status) was 4.5-5.9%^(8,9) in 1988.

In Thailand, HIV seropositivity in pregnant women in Rajavithi and Siriraj Hospitals in 1992 was 1.4⁽²⁾ and 1.7%⁽¹⁰⁾ respectively. In Lerdsin Hospital, HIV seroprevalence in pregnant women was 5.9/1,000 of total deliveries in 1989-1993.⁽¹¹⁾ In Chiangrai Prachanukrao Hospital in 1991, HIV seroprevalence in pregnant women and in parturient was 5.90% and 3.35% respectively.⁽¹²⁾ Lindsay reported that there was significantly more unregistered parturients with HIV infection compared with registered parturients (1.4% vs 0.4%).⁽¹³⁾ In Rajavithi Hospital delivering women

not attending the Antenatal clinic have a three fold higher seroprevalence than pregnant women attending the Antenatal clinic.⁽²⁾

Prenatal HIV counselling and Testing

Prenatal HIV counselling and testing is an important process that provides patients acceptability for follow up in the Antenatal clinic and delivery. Kovavisarach, reported 25%⁽¹¹⁾ of pregnant women attending the Antenatal clinic at Lerdsin Hospital Bangkok from 1989 to 1993, were lost to follow up after the first diagnosis of HIV infection possibly because of limitation of timing and staff for proper pretest and post test HIV counselling. The improper attitudes of some staff members to the HIV seropositive pregnant women is the other reason for the large group lost to follow up.

From 1992 to 1994 at Rajavithi and Siriraj Hospitals the follow up rate of HIV seropositive pregnant women until delivery was 87 and 88%. One of the reasons for the good follow up rate may be good pretest and posttest counselling⁽¹⁴⁾

Diagnosis

The symptoms and signs of HIV infection vary with a wide range from asymptomatic to full blown AIDS. At the time of initial infection, the individual may be asymptomatic

or may develop an acute mononucleosis like syndrome that may be accompanied by aseptic meningitis. Antibodies can be detected in most individuals 6-12 weeks after exposure but in rare circumstances the latent period can be longer^(15,16) After seroconversion has occurred, a symptomatic period of variable length usually follows. Very few infected person (less than 5%) develop AIDS within 3 years.⁽¹⁷⁾

In Thailand, AIDS patients are classified into 3 classes and one for symptomatic HIV patients.⁽¹⁸⁾ All the patients must be confirmed with laboratory evidence of HIV infection

Management of HIV infected pregnant women

General principles of management of HIV infected patients⁽¹⁹⁾ are

Psychological support. Psychological support is the first important management because of the social impact. This management is consisted of counselling and social welfare

Treatment of opportunistic diseases. Occasionally some opportunistic diseases are infectious diseases that can be treated by antibiotics. Other malignant diseases may be treated by chemotherapy or radiotherapy. The most common opportunistic disease is pneumocystis carinii pneumonia that can be treated by Co-trimoxazol⁽²⁰⁾

Antiviral therapy.

Zidovudine (AZT) has not

been frequently used in pregnancy. Among nonpregnant HIV infected women with CD4+ cell counts below 500/mm³. Zidovudine has been shown to substantially slow the rate of progression to AIDS.⁽²¹⁾ Currently AZT is recommended for HIV infected women with CD4T cell count below 500 mm.³ Pregnant women with counts between 200-500/mm.³ should be offered AZT therapy, after the first trimester if possible.⁽²²⁾ Some institutes suggest that if counts fall below 200/mm.³ prophylaxis against *P. carinii* pneumonia should be instituted and antiviral therapy should be advised, beginning after the first trimester.⁽²³⁾ The maternal and fetal effects of AZT in pregnancy have not been well characterized.⁽²⁴⁻²⁶⁾ In one study, there were two instances of maternal toxicity : gastrointestinal and hematologic. There were no teratogenic abnormalities but only intrauterine growth retardation.⁽²⁶⁾ The study of ACTG (AIDS Clinical trial group) 076 resulted in decrease of perinatal transmission in AZT therapy group from 25% to 8% in the control group⁽²⁷⁾

Immunity reconstruction therapy

This method of therapy is still in the research process. Interleukin 2, interferon gamma, Imuthiol, isoprinosine,⁽²⁸⁾ Bone marrow transplantation, lymphocyte transfusion, transfer factor, granulocyte macrophage colony stimulating factor⁽²⁹⁻³²⁾

These four principles of man-

agement are used in each period of pregnancy antepartum, intrapartum and postpartum period

Antepartum period : Psychological support and counselling are important and CD4+ cell count follow up each trimester and AZT therapy and prophylaxis against *P. carinii* pneumonia if CD4 cell count fall below 200/mm.³⁽²³⁾ Also usual prenatal care should be done

Intrapartum period : Normal standard of obstetric intrapartum care should be done and prevention of nosocomial spread of HIV infection and prevention of direct skin contact to potentially infected secretions.⁽³³⁾ The mode of delivery can not alter the perinatal transmission rates. Cesarean section didn't reduce the rate of perinatal transmission⁽³⁴⁾

Postpartum period : Although the risk of HIV transmission during breast feeding is unknown, recent evidence has confirmed its occurrence.^(35,36) The current recommendations include prescription of breast feeding by HIV-infected mothers if safe alternatives are available.^(37,38) A recent analysis estimated that where the mother was infected prenatally, the additional risk of transmission through breast feeding, over and above transmission in utero or during delivery was 14% (95% CI, 7-22)⁽³⁹⁾

The most popular contraceptive method in HIV-infected women is surgical sterilization.⁽²²⁾ Vasectomy is also another choice for male contraception. The second choice of

contraception is implantable hormonal contraception and the third choice is injectable and oral hormonal contraception. But with all of these methods, barrier contraception should be used for prevention of transmission of virus between the couples. In Lerdzin Hospital, tubal sterilization and oral hormonal contraception are used in HIV-infected women at the same rate (15.69%). It is interesting that 56.86% were lost to follow up after pregnancy termination at Lerdzin Hospital and the reason would be the same as the previous lost to follow up rate 25% after acknowledging their first diagnosis of HIV infection⁽¹¹⁾

HIV perinatal transmission

The rate of perinatal transmission varies from 15%⁽⁴⁰⁻⁴⁵⁾ in Europe, to 15-30%^(44,45) in the US, 25%^(44,45) in Haiti, 30-35%^(44,45) in Africa and 25-42% in Thailand⁽⁴⁶⁾

The wide range of transmission reported is thought to be secondary to methodological differences or distribution of risk factors in the population being studied⁽⁴⁰⁾

The exact timing of perinatal transmission is unknown but may occur antepartum, intrapartum or postpartum.⁽⁴⁷⁾ Many studies reported perinatal HIV transmission occurred in the last trimester of pregnancy or during delivery^(40,44,48,49)

The possible seven risk factors for perinatal transmission were :

1. Fetal genetic factor of

susceptibility to HIV infection.⁽⁵⁰⁾

2. The maternal clinical and immunological status during pregnancy and the duration of infection are likely to influence viral load and infectivity.⁽⁵¹⁾

3. Sexually transmitted diseases could enhance the HIV viral load in the genital tract and increase the risk of intrapartum infection to the baby.

4. Primary infection during pregnancy should be associated with high HIV viral load and low level of HIV antibody that may increase the risk to the fetus.⁽⁵²⁾

5. Premature delivery has been associated with an increased risk of perinatal infection because of inadequate levels of maternal antibodies which occurs late in pregnancy.^(40,53)

6. Mode of delivery did not alter the perinatal transmission rate.⁽³⁴⁾

7. Recent evidence about breast feeding has confirmed that breast feeding increases the risk of perinatal transmission.^(35,36)

Prognosis

Women fared less well than men. One woman in six died during the illness that led to diagnosis, compared with one man in nine. Calculated median survival was 263 days for women and 357 days for men⁽⁵⁴⁾

Effect of pregnancy on HIV disease progression

Several investigators found

no evidence that pregnancy has an impact on the progression of HIV disease.⁽⁵⁵⁻⁵⁷⁾ As most pregnant women with HIV present early in the course of clinical infection, years of follow up are required to determine the time of AIDS or death in these women compared with appropriate controls⁽²²⁾

Effect of HIV disease on pregnancy outcome

The HIV perinatal transmission has been discussed previously

There are different rates of adverse pregnancy outcomes between developing and developed countries. Studies in Africa show an increased rate with low birth weight, premature labor and neonatal death of babies born to HIV positive mothers compared with infants born to HIV negative controls.⁽⁵⁸⁾ In contrast, studies from Western countries showed no increased risk of premature labor, IUGR, asphyxia, neonatal and maternal morbidity^(56,59)

Perspective view of HIV perinatal transmission in Thailand

In Thailand, since June 1989 we have done sentinel serosurveillance for the prediction in trend of HIV spread every 6 months in 6 groups.⁽³⁾ :

1. Intravenous drug users (IDU) in 39 provinces.

2. Female direct commercial sex workers in every province and female indirect commercial sex workers in 60 provinces.

3. Male commercial sex workers in 5 provinces.
4. STD male patients at STD clinics in every province.
5. Pregnant women at Antenatal clinics in every province.
6. Every unit of donor blood in every province.

The trend of HIV spread from sentinel serosurveillance June 1993 is shown in 4 graphs. The trend of HIV infected rate in IDU was stable with the rate of 30%. The reason may be better health education about safer use of needles. The trend of HIV infected rate in donor blood increased slowly to the rate 0.74%. The reason may be the use of self high risk screening for inhibition of blood donation. The trend of HIV infection rate of female direct commercial sex workers and male commercial sex workers was increasing slowly. The trend of STD male patients, female direct commercial sex workers and pregnant women at Antenatal clinics was increasing quickly at the seroprevalent rate of 5.7%, 28.5% and 1.4%.

From these trends, we may predict in the short term, the sero prevalence in STD male patients, female direct commercial sex workers and pregnant women at Antenatal clinics have been increasing so HIV infected pregnant women and HIV vertical transmitted babies will present a large group of HIV/AIDS patients in the future because of the high rate of heterosexual transmission and the high prevalence of HIV/AIDS in

reproductive women compared to the other age group in our country

The government national policy about HIV disease control is divided into 4 major plans :

1. Public relations concerning HIV infection by every mass communication to all age groups.
2. Treatment and rehabilitation.
3. Research and evaluation.
4. Protection of human rights about HIV testing and social welfare.⁽⁶⁰⁾

Conclusion

HIV infection in pregnant women is now increasing in Thailand because of the rising number of HIV infected women of reproductive age. Routine voluntary screening of pregnant women after proper pre test counselling and informed consent is suggested because some infected pregnant women have no identifying risk factors. Diagnosis of HIV infection based on laboratory HIV infection and indicative diseases. The management of HIV infected pregnant women follows 4 principles. Psychological support, treatment of opportunistic diseases, antiviral therapy and immunomodulators treatment used during the antepartum, intrapartum and postpartum periods. The pregnancy may have little effect on HIV disease progression. Complications were seen more frequently in HIV infected mothers and children than in controls in developing countries, but in

developed countries there were no difference. HIV perinatal transmission rate in Thailand ranges from 25 to 42%. We verdict that HIV infected pregnant women and HIV vertical transmitted babies will be a large group of HIV/AIDS patients in Thailand.

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