

The experience of managing a retroviral antenatal patient in a primary care clinic in Perak, Malaysia

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Introduction

Mother-to-child transmission (MTCT) is the most common mode of HIV infection in children. In the absence of any intervention, 30% to 45% of children born to HIV positive mothers are infected with HIV.¹ This case illustrates the successful prevention of MTCT whereby antiretroviral treatment was initiated early in pregnancy, delivery was via lower segment caesarian section (LSCS) and breastfeeding was avoided.

Case report

A 25-year-old heroin user, gravida 3 para 2, single, unmarried, with a history of multiple sexual partners with unprotected sex was presented to the accident and emergency unit of the district hospital complaining of abdominal discomfort. Upon examination, she was found to have premature contractions and was admitted to the obstetric ward. In the ward, her rapid HIV test was positive and this was reconfirmed with positive particle agglutination (PA) and Western Blot tests. She was also tested positive for Hepatitis C.

She was examined by the primary care physician in the primary health clinic at 24 weeks of gestation. Baseline blood tests including full blood count, fasting blood sugar, fasting lipid profile, renal profile, liver function test, CD4 and CD8 T cell counts were performed before initiating antiretroviral treatment. Her CD4 T cell count was 414 cells/ μ L (32%) at 24 weeks of gestation. She was given pill training and advised on strict adherence to treatment. She was also started on methadone replacement therapy for the heroin addiction at 24 weeks of gestation. She was promptly initiated with short-term antiretroviral therapy (START) with T. Zidovudine-Lamivudine combination of one tablet twice daily and T. Lopinavir-Ritonavir combination of three capsules twice daily by the visiting infectious disease physician. Viral load level was planned at 34 weeks of gestation. As

she had moderate iron deficiency anaemia with a haemoglobin level of 9.3 g/dL, she was advised to take double haemetinics daily.

She was also advised on healthy and balanced diet. All her antenatal ultrasound scans were normal with no foetal anomalies and corresponded to dates.

Patient was compliant to treatment until 30 weeks of gestation when she defaulted on START and methadone treatment as she experienced occasional vomiting. She had also defaulted follow-up for a week. Therefore, she was referred back to the infectious disease clinic where treatment was reinitiated. She was compliant to treatment until 33 weeks of gestation. At 33 weeks of gestation, she was admitted for reduced foetal movement and was delivered via emergency LSCS. Intravenous Zidovudine was administered 2 hours prior to LSCS and intramuscular dexamethasone for foetal lung maturation in view of premature delivery.

Bilateral tubal ligation was performed with her consent as she was not keen on other long acting contraceptive methods such as implanon. She delivered a healthy baby boy weighing 2.2 kg. Baby was admitted for 2 weeks and syrup Zidovudine 9.8 mg was administered twice daily for 6 weeks. Meanwhile, lactation was suppressed with T. Cabergoline 2 tablets daily for 2 days and the baby was given formula milk. He was screened for HIV and tested negative for all three polymerase chain reaction (PCR) tests and also tested negative for Hepatitis B, C, TORCHES and CMV IgM.

After delivery, she defaulted on her antiretroviral treatment as well as follow-up to the infectious disease clinic. She refused to continue highly active antiretroviral therapy (HAART) and methadone treatment despite counselling by the staff nurse, medical officers and primary care physician of the clinic. Psycho-social issues were addressed by the health staff and the staffs from 'Jabatan

Kebajikan'. Despite all efforts from the health staffs, she went back to drug addiction. She was apprehended and imprisoned for drug trafficking. The paediatrician followed up on the baby's health for 6 months prior to her imprisonment. When she was imprisoned, she insisted that the baby should stay with her. The healthcare team that looks into the welfare of the prisoners followed up on both the patient and the baby's health.

Discussion

The percentage of new cases of HIV infection among females in Malaysia has increased sharply from 1.4% in 2000 to 15% in 2006.¹ A local study conducted in two states in Malaysia from 1997 to 1999 showed that the prevalence of HIV among antenatal mothers was 0.8 per 1000 deliveries in Perak.² Early determination of HIV status enables appropriate counselling, timely antiretroviral (ARV) therapy and management of HIV-positive pregnant women to reduce the risk of vertical transmission as illustrated in this patient.^{3,4}

Transmission risk increases sharply in late pregnancy, during labour and delivery. Overall, about 15% to 20% of children are infected by their mothers during the antenatal period, 50% during delivery and 33% through breastfeeding.⁵ The Malaysian Ministry of Health (MOH) initiated a National Prevention of Mother-to-Child Transmission of HIV (PMTCT) programme in 1998. This programme is based partly on UN General Assembly Special Sessions (UNGASS) 'prong' 2 (i.e., detection of HIV infection during the antenatal period) and more strongly on UNGASS 'prong' 3 (i.e., the provision of ARV therapy to mother and baby, safer modes of delivery and safer infant feeding practices for HIV-positive mothers (through artificial feeding)).¹ The programme has aided in the diagnosis of HIV infection in pregnancy as well as in the management of these patients.

In Malaysia, any woman who is diagnosed with HIV infection during pregnancy⁶ is entitled to free antiretroviral therapy. ARV therapy is given for two reasons during pregnancy: (1) to prevent perinatal viral transmission and (2) to prevent maternal disease progression (therapy continued indefinitely after delivery).^{7,8} Most guidelines recommend that HAART or START should be initiated as soon as possible after 14 weeks of gestation (and in any case, before 28 weeks of gestation) to avoid the organogenesis period and to allow adequate time interval to achieve viral suppression by delivery,⁸ which was done timely for this patient in the primary

health clinic. In this patient, START was chosen in view of the CD4 T cell count, which was above 250 cells/ μ L. This patient had only one CD4 test done at 24 weeks of gestation and her next CD4 monitoring was 4 months later but patient delivered prematurely at 33 weeks of gestation. Hence, the planned viral load done was not done.

Besides timely treatment, adherence to ARV therapy is of vital importance for the success of treatment, and pregnant women will need extra support and planning in this area, especially if there are practical or psycho-social issues that may adversely impact adherence.^{1,8} Adherence to therapy was a challenge for this patient as she had poor tolerance to the side effects of START as well as poor motivation. She had no good family support as she lived in a very small squatter house with her mother and cousin sister who were also drug addicts. Many of the other squatter residents were addicts as well. She, however, had a very good and committed support throughout all the follow-ups at the primary care clinic as well as combined clinic in district hospital.

Cure and Care Clinic was launched in Malaysia in 2010. The objective was to provide services to drug abusers, their families, employers and individuals with drug problems.⁹ Even though there is a Cure and Care Clinic under the management of National Anti-Drug Agency (AADK) in the district, this patient was not referred as there was a team of health staffs who provided personalised care for her in the clinic itself. The personalised care included management and counselling by the primary care physician, methadone management at the same clinic and home visits by the health staffs, all of which were available in the same health clinic. Patient was continuously motivated and encouraged to take her START daily and symptomatic relief was provided for some side effects she experienced. The clinic staff nurse visited her at her home every time she defaulted follow-up and brought her to the clinic for her antenatal and post-natal visits. The primary care physician and the medical officer of the clinic visited her twice when she failed to visit clinic and was found to be under the influence of drugs.

As for the mode of delivery, several systematic reviews showed that elective caesarean section reduces MTCT. The likelihood of transmission was reduced by approximately 87% with both elective caesarean section and full-course ZDV compared to other modes of delivery.^{1,8} It was found that the risk of vertical transmission was significantly higher (14%-16%) with breastfeeding despite receiving ARV.^{1,7} As

such, babies of HIV-positive mothers should be exclusively formula fed and these mothers should be offered medication to suppress lactation.¹⁰ A circular from the Ministry of Health Malaysia provides free infant formula for 2 years for perinatally exposed babies from low-income families (RM <1200) in the first instance, and case to case basis for such infants whose family income is more than RM1200.¹¹ This baby was provided free infant formula milk

in view of poor socio-economic background. To summarise, MTCT was successfully prevented with the early diagnosis of HIV status, timely ARV treatment by 24 weeks of gestation, delivery by caesarian section and by avoiding breastfeeding.

This case highlights the importance of primary care physician and multidisciplinary team effort leading to the successful prevention of MTCT.

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