HIV - guidelines

Current evidence suggests that the majority of maternal-infant HIV transmission occurs late in the pregnancy or during labour. There is also further evidence that by administering Zidovudine to women in pregnancy and labour and to the neonate following delivery there is the potential to reduce substantially (60%) the maternal-infant HIV transmission rate.

Evidence has also shown that if a mother is treated in pregnancy with appropriate medications, and, if her baby is delivered by elective Caesarean Section, she avoids breastfeeding and the baby receives HIV prophylaxis, then the risk of transmission of the virus from mother to newborn is reduced even further\(^1\). In the antental period however, each woman will be assessed and medication will be prescribed according to her individual requirement.

Women who are undergoing elective Caesarean Section, and are already taking oral Zidovudine, will need to commence Intravenous Zidovudine four (4) hours prior to surgery.

When an HIV positive woman is admitted to either the Labour Ward in spontaneous labour or the Perioperative Unit or 5E1 prior to elective Caesarian Section, the Immunology Registrar is to be notified of the woman’s admission.

Zidovudine for Woman undergoing Elective Caesarean Section

Zidovudine is to commence four (4) hours prior to surgery. Loading dose will be:

Intravenous Zidovudine 2mg/kg of body weight over 1 hour as a loading dose, followed by 1 mg per kilogram per hour as a continuous infusion for the remaining three (3) hours until delivery. The zidovudine is diluted in 5% Dextrose Injection to provide a solution containing no more than 4mg of the drug per mL\(^2\).

Zidovudine is a non-formulary drug so midwifery staff are not to load flasks/burettes with the drug. This is to be done by a Medical Officer. Midwives may monitor the administration once it has commenced.

Zidovudine infusion continues until the umbilical cord is clamped. It is then ceased.

Dilution

Load 500mg in 500mLs of 5% Dextrose, i.e. the equivalent of 1mg /mL

Identify the patient's weight. If unsure, check the weight using the scales

Use a volumetric pump to administer the medication and commence at 2mg/Kg i.e. twice the patient's weight for 1 hour. e.g. if patient weighs 73Kg, commence at 146mLs/hr
Then, for the remaining three (3) hours, the rate is 1mg/Kg, i.e. e.g. if the patient weighs 73Kg, run the volumetric pump at 73mLs/hr.

Women who are to receive Zidovudine pre-elective C/S will have been on oral Zidovudine antenatally. The antenatal dose currently recommended is 500mg daily usually taken orally five times per day or 250mg twice daily. This is commenced in the second trimester and taken for the remainder of the pregnancy. Some patients will be on more than one antiviral agent and these should be continued orally.

**Zidovudine in Labour**

Once the woman is admitted in labour, oral Zidovudine is ceased and intravenous Zidovudine is commenced and a caesarean section will probably be performed. The regimen is as follows:

- **Intravenous Zidovudine 2mg/kg of body weight over 1 hour as a loading dose,** followed by **1 mg per kilogram per hour as a continuous infusion until delivery.** The zidovudine is diluted in 5% Dextrose Injection to provide a solution containing no more than 4mg of the drug per mL.

- Zidovudine is a non-formulary drug so midwifery staff are not to load flasks/burettes with the drug. This is to be done by a Medical Officer. Midwives may monitor the administration once it has commenced.

- Zidovudine infusion continues until the umbilical cord is clamped. It is then ceased.

**Dilution**

Load 500mg in 500mLs of 5% Dextrose, i.e. the equivalent of 1mg /mL

Identify the patient's weight. If unsure, check the weight using the mobile scales from the antenatal ward.

**Use a volumetric pump** to administer the medication and commence at 2mg/Kg i.e. twice the patient's weight for 1 hour. e.g. if patient weighs 73Kg, commence at 146mLs/hr

Then, for the rest of the labour, the rate is 1mg/Kg, i.e. e.g. if the patient weighs 73Kg, run the volumetric pump at 73mLs/hr.
BLOOD SPECIMENS TO BE TAKEN

Cord blood is required for Royal Prince Alfred Hospital and the samples should remain at room temperature.

Details for collection are as follows:

Cord Blood

1. Samples for the RPA Immunology Laboratory

   Cord Blood Only Required

   * 5-10mLs in EDTA, (Immunology Box) for HIV genotype
   * 5-10mLs in clotted tube (Immunology Box) for Serum HIV Antibodies

   These blood samples may go to Immunology through the normal courier system. There is no need to rush them to the laboratory as soon as they are taken.

   If there are any questions regarding cord blood collection for RPAH, please contact Dr Roger Garsia, immunologist.

   NB Please be very careful not to contaminate the cord blood with maternal fluids on the exterior of the cord, and wipe the cord clean before taking samples.

PLACENTA

The placenta is not required for pathology. Disposal is as for any other placenta.
BABY CARE

Dependent on the baby's condition and gestation, he/she may go the ward with mother if it is well. Otherwise he/she may need to be admitted to the Nursery.

The baby is to be bathed as soon as possible after birth i.e. within the first half hour and prior to any invasive procedures on the neonate. Ensure the skin is thoroughly cleaned if medications or screening procedures are required e.g. administration of IMI vitamin K, BSLs and Newborn Screening procedures.

Artificial feeding is recommended for the baby

Neonatal Zidovudine

Zidovudine syrup 2mg/kg of body weight is administered orally every 6 hours for 6 weeks commencing 8-12 hours after birth. Should it not be possible to administer the drug orally, then it may be administered intravenously an the recommended dose in 1.5mg/kg 6 hourly.

NB  In some circumstances, a baby may require additional medications. Please check the medication chart for orders. An example is Nevirapine syrup. The required dose is 2mg /kg body weight, and if Nevirapine is ordered, it needs to be administered within 4-6 hours after birth and is usually ordered as a once only dose.

Neonatal Blood Samples

Blood will need to be taken from the baby within the first week of life for HIV infection by RNA PCR. An amount of two (2) mls is required – EDTA (purple top tube) with a request for HIV RNA PCR. This is to be labelled and sent to the Sydney Children's Hospital to SEALS pathology. Please put Dr Pamela Palasanthiran’s name on the label as well as the AMO. Two (2) mls is the minimum amount required for the test.

Please contact the HIV CNC when the blood has been taken and dispatched through Prince of Wales Hospital switchboard on 93821111 pager number 43027.

References:
2. Retrovir IV for Infusion 10mg/mL. Information sheet for Medical & Pharmaceutical Professions, GlaxoWellcome, July 1999