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Breastfeeding in HIV-Infected Infants

The benefits of breastfeeding for infant health are well known. Important practical advantages include the convenience, low cost and avoidance of contamination of milk. Because of transmission of HIV through breastfeeding, most favour exclusive formula feeding where feasible.

A number of strategies are being studied to make breastfeeding safer. These include HAART for mothers and continuing single drug prophylaxis in the baby.

Infants presenting after birth for diagnosis, where breastfeeding is already established present a problem. For those who are infected, is there any point in discontinuing breastfeeding?

New information suggests that breastfeeding may be problematic for HIV-infected infants whose mothers are on HAART or who have received antiretrovirals (ARVs) to prevent vertical transmission of HIV, especially single dose nevirapine. Nevirapine has a half-life of approximately 3 weeks in the mother[1].

Shapiro and colleagues have recently measured ARV levels in 22 breastfed infants whose mothers had received ARVs. Breast milk was collected either at 2 or 5 months post partum.

The median infant serum concentration of nevirapine was 971ng/mL, at least 40 times the 50% inhibitory concentration. The median infant serum concentration of lamivudine was 28ng/mL, and the median infant serum concentration of zidovudine was 123ng/mL, but infants were also receiving zidovudine prophylaxis[2].

These findings raise many issues. HIV-infected infants whose mothers are on HAART may be exposed to non-suppressive concentrations of ARVs and develop resistance. There may also be a cumulative effect predisposing to toxicity if both mother and infant are on the same drugs. Lastly, resistant virus could be transmitted to the infant via breast milk if the mother is failing therapy.

References

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Bacterial Pneumonia in HIV+ Adults

Bacterial pneumonia occurs 10 to 100 times more frequently in HIV-infected adults. The risk increases with declining CD4 counts[1]. Recurrent bacterial pneumonia is an AIDS-defining illness. Because of the strong association with HIV, the South African Thoracic Society guidelines recommend that HIV testing be offered to all patients with bacterial pneumonia[2].

In general, the organisms responsible for bacterial pneumonia are not different in HIV-infected patients or patients with other significant co-morbidity (e.g. COPD, diabetics, heart failure) and community-acquired pneumonia. *Streptococcus pneumoniae, Haemophilus influenzae* and *Klebsiella* spp are common causes. Therefore empiric therapy for bacterial pneumonia in HIV infection should be the same as for co-morbidity and community-acquired pneumonia – typically a 3rd generation cephalosporin (e.g. ceftriaxone 1-2 g IVI daily or cefotaxime 1-2 g IVI 12 hourly) [2]. The mortality of bacterial pneumonia in HIV infection is not different from HIV seronegative individuals[3].

It is important to note that tuberculosis can present as an acute pneumonia. *Mycobacterium tuberculosis* was cultured from 13% of HIV-infected individuals with acute (duration of illness <14 days) pneumonia in a Kenyan study[3]. Therefore tuberculosis should be the first consideration in patients not responding to appropriate antibiotics. Clinicians should be aware that the newer fluoroquinolones (e.g. moxifloxacin, gatifloxacin, gemafloxacin), which are widely prescribed for respiratory tract infections, are also active against *M. tuberculosis*. Fluoroquinolone use for presumed bacterial pneumonia has been shown to delay the diagnosis of tuberculosis[4], and increase the risk of quinolone-resistant *M. tuberculosis*[5]. Therefore, unless there are compelling indications for their use such as severe β-lactam allergy, quinolones are best avoided for treating pneumonia in patients known to be HIV-infected.

References

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Triomune-40® Tablets are Available

Triomune-40® is a combination ARV tablet containing stavudine 40mg, lamivudine 150mg and nevirapine 200mg per tablet. Triomune-40® should only be used for patients with a weight ≥60kg. Patients with a weight <60kg require a lower dose of stavudine.

Patients already taking stavudine, lamivudine and nevirapine can be switched to Triomune-40® 1 tablet bd immediately without any lead-in period. Patients who have not used nevirapine before will require a lead-in period. For the first two weeks of therapy 1x Triomune-40® tablet should be taken in the morning and 1x stavudine 40mg capsule and 1x lamivudine 150mg tablet in the evening. After 2 weeks the dose is 1x Triomune-40® tablet bd, if no hypersensitivity reactions (e.g. rash, liver function test abnormalities). The lead in dose reduces the frequency of a nevirapine rash.

Triomune-40® tablets cost R235.98 (single exit price incl. VAT) for 60 tablets. Triomune® is 25% cheaper than the individual agents and has compliance benefits.

Please contact AfA on 0800 227 700 or +27 21 514 1768 or afa@afadm.co.za to switch your patients to Triomune-40® tablets.

For further information on Triomune-40® please contact, Dr Carine Page, Medical Advisor Cipla-Medpro, Tel: 021 943 4200, Cell: 082 871 5127, E-mail: carine@ciplamedpro.co.za

Referring Patients to Public Sector ARV Clinics

The ARV roll-out in the SA public sector is now over 2 years old. More than 130 000 patients have commenced ART in clinics in all 9 provinces.

Patients who have received HIV care in the private sector may decide for financial or personal reasons to transfer their care to a public sector clinic. Obviously ensuring a smooth transition of care is both in the interests of the patient's health and will help to foster good relations between private and public sector services.

We suggest that when a patient decides to make such a move they be provided with a referral letter which gives details of their HIV, opportunistic infections, ART history, CD4 and VL monitoring and adherence to therapy (a pro forma letter is attached). An appointment should be made with the public sector clinic and attempts made to ensure a continuous supply of antiretrovirals and other medications until that date.

AfA would like to assist in enabling such a smooth transition. AfA can assist by supplying a summary of the patient's antiretroviral and monitoring history for you to send with the patient and can advise regarding what treatments the patient could change to in the public sector given that the choices of antiretroviral drugs may be different.

There are more than **28 000** patients currently registered with AfA. **73%** of these patients are on HAART.

Using Kaletra® with Rifampicin

Patients on HAART who need anti-tuberculous therapy should have their HAART tailored so that rifampicin can be used. Rifampicin is a key drug for curing TB, and is a component of the fixed dose combination therapy used in state clinics, which is where TB ought to be treated.

Rifampicin is a potent inducer of the hepatic enzyme (CYP3A) responsible for metabolising protease inhibitors. In a pharmacokinetic study of healthy adult volunteers, co-administered rifampicin reduced the trough levels of standard dose Kaletra® (lopinavir / ritonavir) by 93%, which were sub-therapeutic. In that study it was shown that additional ritonavir (300 mg BD together with Kaletra® 3 caps BD), which is an inhibitor of CYP3A, was able to overcome this enzyme induction.

However, additional ritonavir to boost lopinavir levels has several problems. For children the ritonavir syrup has an unpleasant taste and also has a very short expiry date. The adult capsules are large. Therefore adherence is likely to be difficult.

The study had a second arm of double dose Kaletra® (lopinavir / ritonavir 800/200 mg or 6 caps BD). Both arms resulted in similar blood levels. There was more variability in the lopinavir levels in the double dose arm, but trough levels were still acceptable. The double dose appeared to be better tolerated than the ritonavir boosted arm, but the numbers were too small to reach statistical significance.

If patients on Kaletra® require TB therapy it is best to switch them to efavirenz, which can be co-administered with rifampicin without a dose adjustment (although some authorities recommend increasing the adult efavirenz dose to 800 mg). However, this is seldom possible as the vast majority of patients on Kaletra® have failed first line therapy with efavirenz or nevirapine (there is cross-resistance between them). Clinicians may select either Kaletra® with additional ritonavir boosting, or double dose Kaletra® with TB therapy.

The additional ritonavir boosting or double dose Kaletra® should be continued for a week after rifampicin is stopped.

Reference

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