



Post-exposure prophylaxis for reducing Mother-To-Child Transmission of HIV

CITATION

Taha TE, Kumwenda NI, Gibbons A, et al. Short postexposure prophylaxis in newborn babies to reduce mother-to-child transmission of HIV-1: NVAZ randomised clinical trial. *Lancet* 2003; 362: 1171-77

RESEARCH QUESTION

What post-exposure prophylaxis regimen given to newborns shortly after birth is more effective for reducing mother-to-child transmission of HIV: nevirapine (NVP) plus zidovudine (ZDV) or nevirapine alone?

STUDY DESIGN

Randomised, open-label clinical trial

STUDY SETTING AND DATE

Clinics in Blantyre, Malawi; April 2000 to January 2002
IRB approval obtained. Written informed consent obtained.

PARTICIPANTS

Included: singleton babies, mother HIV positive and presented in advanced labour
Excluded: babies who were preterm or had abnormalities/serious illnesses

INTERVENTIONS

1. NVP 2mg/kg as a single oral dose plus ZDV 4mg/kg orally twice daily for 7 days
2. NVP 2mg/kg, single oral dose

OUTCOMES

Primary: HIV infection at 6-8 weeks in babies not infected at birth; HIV-1 RNA test
Other: Adverse events related to treatment

RISK OF BIAS

Selection bias – negligible risk

Computer-generated randomisation. Permuted blocks of 10 with 1:1 allocation, stratified by clinic. Allocation concealed using sequentially-numbered, sealed, opaque envelopes
Baseline characteristics balanced (*Table 1*)

Performance bias – small risk

Mothers and providers not blind. Breastfeeding rates > 99% in both groups
Adherence to ZDV was not reported.

Detection bias – small risk

Main outcome was objective and laboratory staff were blind. Trained research nurses and clinicians recorded the type and severity of adverse events.

Attrition (exclusion) bias – small to moderate risk

See Trial profile pg 1173

For primary outcome:

NVP plus ZDV 118/562 (21%) randomized babies excluded from analysis. But if babies HIV positive at birth (50) and those with HIV negative mothers (7) not taken into account then exclusions 61/505 (12%)

NVP 136/557 (24%) excluded from analysis. But if babies HIV positive at birth (56) and those with HIV negative mothers (6) not taken into account then exclusions 61/562 (11%). Ignoring babies HIV positive at birth then exclusions 74/495 (15%)

STUDY FINDINGS

HIV positive at 6-8 weeks but not at birth

Treatment	Event rate	RRR (95% CI)	ARR (95% CI)	NNT (95%)
NVP/ZDV	34/444 (7.7%)	36% (3 to 69%)	4.4 (0.4 to 8.4)	23 (12 to 239)
NVP	51/421 (12.1%)			

HIV positive at 6-8 weeks regardless of HIV status at birth (closer to ITT)

Treatment	Event rate	RRR (95% CI)	ARR (95% CI)	NNT (95%)
NVP/ZDV	74/484 (15.3%)	27% (3 to 50%)	5.6 (0.7 to 10.5)	18 (10 to 140)
NVP	98/468 (20.9%)			

Adverse events

Low rates in both groups, mostly mild and few attributable to treatment.

Total infant deaths: NVP/ZDV 8.5% vs NVP 11.8% the majority in those testing positive at birth.

COMMENTS

Interventions feasible in resource-poor settings and findings likely to be generalisable

BOTTOM LINE

Short-course, post-exposure prophylaxis with NVP and ZDV given to neonates born to HIV-infected mothers presenting late in pregnancy appears to be an effective and safe option for reducing MTCT of HIV

PREPARED BY: Jimmy Volmink
EMAIL: Jimmy.Volmink@mrc.ac.za
DATE: 24 August 2004