Table 1a. Evidence of the efficacy of antiretroviral therapy to reduce the risk of mother-to-child transmission of HIV infection

Studies of anti-retroviral therapy to prevent mother-to-child transmission in non-breast feeding populations

Study Name	Countries	Study size	Treatment Components			Age HIV assessed	Transmission Rates %	% Reduction (p)
			Pre-partum (Initial Gestation Week)	Intra-partum (IV/Oral)	Post-Partum (wks)			
ACTG 076/ ANRS 024[12]	France USA	402	14 – 34 Zidovudine 100mg 5 x daily	IV Zidovudine	6 Zidovudine	18 months (antibody)	22.6 placebo 7.6 ZDV	66.3 % (0.00006)
Bangkok Trial[44]	Thailand	392	36 Zidovudine 300mg bd	Oral Zidovudine	Nil	6 months DNA PCR	18.9 placebo 9.4 ZDV	50% (0.006)
PHPT[43] Long/Long arm	Thailand	1437	Zidovudine 300mg bd 28	Zidovudine Oral	Zidovudine 6	180 days DNA PCR	6.7	57.6% cf short/short interim (0.004)
Short/Long arm			35	Oral	6		5.7	
Long/Short arm			28	Oral	3 days		8.4	
Short/Short arm			35	Oral	3 days		10.6 *discontinued	
AI455-094[53]	Soweto	197	34 – 36 Zidovudine 300mg bd Stavudine 40mg bd Didanosine 200mg bd D4T & DDI	 Zidovudine Stavudine Didanosine D4T & DDI	6 weeks Zidovudine Stavudine Didanosine D4T & DDI	6 weeks DNA PCR	 6.3 4.2 1.9 2.0	On-going study

Table 1b. Studies of anti-retroviral therapy to prevent mother-to-child transmission in breast feeding populations

Study Name	Countries	Study size	Treatment Components			Age HIV assessed	Transmission Rates %	% Reduction (p)
			Pre-partum (Initial Gestation Week)	Intra-partum (IV/Oral)	Post-Partum (wks)	DNA PCR	Placebo v ZDV	
RetroCI[49]	Côte D'Ivoire	230	36 Zidovudine 300mg bd	Oral	Nil	3 months 6 months 12 months 18 months 24 months	26.1 v 16.5 26.1 v 16.9 28.5 v 18.5 30.1 v 21.6 30.1 v 22.1	37 % (0.07) 35% 35% 28% 27% (<0.5)
DITRAME[50]	Burkino Faso, Côte d'Ivoire		36 Zidovudine 300mg bd	Oral	1 week maternal	6 months 15 months	27.5 v 18 30.6 v 21.5	35% 30%
PETRA[70]	RSA, Tanzania Uganda		36 Zidovudine 300mg bd Lamivudine 150mg bd Nil Nil	Oral Oral Oral	Yes Yes Nil	6 weeks 18 months 6 weeks 18 months 6 weeks 18 months	17.2 v 8.6 26.6 v 20.7 17.2 v 10.8 26.6 v 24.4 17.2 v 17.7 26.6 v 25.7	50% (0.001) 22% (0.07) 37% (0.02) 8% (0.5) - 3% (0.8) 3% (0.8)
HIVNET 012[65]	Uganda		Nil	Zidovudine 300mg stat + 3hrly v Nevirapine 200mg stat	Zidovudine 7 days v Nevirapine stat 48 <72 hrs	6-8 weeks 12 months	ZDV v NVP 20.0 v 11.8 24.1 v 15.7	41% (0.006) 35%
SAINT[67]	RSA		Nil	Oral ZDV + 3TC v NVP	One week	8 weeks	ZDV+3TC v NVP 10.8 v 14	Equivalence

Table 2: Evidence of the efficacy of pre-labour caesarean section to reduce the risk of mother-to-child transmission of HIV

		Transmission Rate %		OR (95% CI)	Transmission Rate %		OR (95% CI)	Transmission Rate %		OR (95% CI)
	Relative efficacy of PLCS	PLCS	SVD & other MOD		PLCS & AZT *	SVD, other MOD & AZT*		PLCS & advanced maternal disease **	SVD, other MOD & advanced maternal disease**	
Meta-analysis 15 cohorts pre 1997 US & Europe N = 8533[96]	**50%**	**8.4** (72/857)	**16.7** (1280/7676)	**0.43** (0.33-0.56)	**2** (4/196)	**7.3** (92/1255)	**0.13** (0.09-0.19)	**13** (18/138)	**21.4** (206/963)	**Not given**
European Mode of Delivery study ELCS at 38 weeks[52] 1993-98 N = 436	**70%**	Allocated to PLCS	Allocated to SVD	OR (95% CI)	Allocated to PLCS +AZT*	Allocated to SVD +AZT	OR (95% CI)	Allocated to PLCS + CD4 <200	Allocated to SVD + CD4 <200	
		1.8 (3/170)	**10.5** (21/200)	**0.2** (0.1-0.6)	**0.8** (1/119)	**4.3** (5/117)	**0.2** (0-1.7)	**0** (0/16)	**14.3** (2/14)	NS
		Actual CS (ELCS +EMCS)	Actual SVD	OR (95% CI)	Actual CS +AZT (ELCS +EMCS)	Actual SVD + AZT	OR (95% CI)	Actual CS + CD4 <200 (ELCS +EMCS)	Actual SVD + CD4 <200	
		3.4 (7/203)	**10.2** (17/167)	**0.4** (0.2-0.9)	**2.1** (3/144)	**3.3** (3/92)	**0.6** (0.1-3.2)	**0** (0/20)	**20** (2/10)	NS

PLCS Pre-labour caesarian section, SVD spontaneous vaginal delivery, MOD mode of delivery
* Full 076 protocol with antepartum, intrapartum, and postpartum AZT.
** advanced maternal disease – an AIDS diagnosis and / or CD4 < 200 / < 14%
NS not significant by Fisher's exact test

Table 4: Infant doses for anti-retroviral and PCP prophylaxis

Name	Dosing	Study	Comments
Monotherapy			
Zidovudine (AZT)	**Term infant:** oral dosing 2mg / kg every 6 hours. 4 mg / kg every 12 hours **Premature infant:** oral dosing 1.5 mg / kg every 12 hours for first 2 weeks, then 2 mg / kg every 8 hours to completion. **Sick infants:** unable to oral feed Term infant IV dose, 1.5 mg /kg every 6 hours. Premature infant IV dose 1.5 mg /kg every 8 hours.	ACTG 076 study (see below dosing with 3TC) Under study in PACTG protocol 311	Anaemia and neutropaenia, more common with combination therapy in mother and infant. May need to stop therapy early, or substitute another drug. Should not be administered with D4T, potential negative competitive effect.
Lamivudine (3TC)	2 mg / kg every 12 hours	Moodley et al JID 1998: 178, 1327-33	
Didanosine (DDI)	50 mg / m^2 every 12 hours	ACTG 249 Livingston et al, 5th CROI 1998 #226	Difficult to separate dosing from feeding in very young infants. May cause GI symptoms.
Stavudine (D4T)	1 mg / kg every 12 hours	Under study in PACTG protocol 332	Should not be administered with AZT, potential negative competitive effect.
Abacavir (ABC)	2 mg / kg every 12 hours	Johnson et al 7th CROI #720 Dosing still under study	
Zalcitabine (DDC)	No known dose		
Nevirapine (NVP)	**Stat dosing regime:** single dose to mother in labour and to infant at 48-72 hours of age 2 mg / kg **Continuous dosing regime:** 5 mg / kg once daily for 2 weeks, then 120 mg / m^2 every 12 hours for 2 weeks, then 200 mg / m^2 every 12 hours to completion.	HIV NET 006 Musoke et al, AIDS 1999, 13: 479-86. Under study in PACTG protocol 365.	Consider whether mother has received NVP before delivery. This regime may under dose infants with exposure to NVP in –utero and hepatic enzyme induction. It may be necessary to start with the higher dose, as if from 2 weeks of age. (It may be helpful to monitor levels)

Efavirenz,	No known doses		
Delavirdine	No known doses		
Ritonavir	Still under study, no dose available yet	PACTG 354	
Amprenavir, Indinavir, Saquinavir, Nelfinavir, Lopinavir	No known doses		
Combination therapy			
Zidovudine + Lamivudine	Lamivudine 2 mg / kg every 12 hours, Zidovudine 4 mg / kg every 12 hours	Mudd et al 1999 2nd Conf Global Strategies #360	
Zidovudine + Lamivudine + Nelfinavir	Nelfinavir 10 mg / kg every 8 hours, , Lamivudine 2 mg / kg every 12 hours, Zidovudine 2.6 mg / kg every 8 hours	PACTG 353 Bryson et al 2000 7th CROI #715	Dosing of Nelfinavir was inadequate, now trialing dose of 40 mg / kg 12 hourly.
Prophylaxis			
Co-trimoxazole	Co-trimoxazole 900 mg / m^2, < 0.25 m^2 -120mg 0.25 -0.39 m^2 - 240 mg once daily Monday, Wednesday, Friday,	Simonds et al NEJM 1995; 332: 786-90.	May cause a rash, or bone marrow suppression. Most important to give if no interventions to reduce transmission have been undertaken.