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Subject Headings/Subheadings
Conference summary
Contraception
Gynaecology
Infant feeding/Breastfeeding
MTCT (Mother-to-Child Transmission)
Obstetrics
PMTCT/ARV (Prevention of Mother-to-Child Transmission/AntiRetroVirals)
Primary prevention of sexual transmission/VCT (Voluntary Counselling and Testing)
Termination of pregnancy/Abortion

Citation format (by alphabetical order of the authors)
Author(s). Title. Source.
Notes (prepared by the Bordeaux Working Group)
Author address, if available (for reprints)
URL, if available (link to author abstract/full text/journal TOC)
Subject Headings

Abstract: We examined the association of placental malaria and mother-to-child transmission (MTCT) of HIV in a prospective community-randomized trial in Rakai District, Uganda. In the 746 HIV-positive mother-infant pairs, the MTCT rate was 20.4%. Placental malaria was more common in HIV-positive than HIV-negative women. After multivariate adjustment for HIV viral load, the risk of MTCT associated with placental malaria was 2.89 and with HIV viral load the risk was 2.85. Interventions to prevent malaria during pregnancy could potentially reduce MTCT.

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MTCT


Abstract: Among women attending family planning clinics in Nairobi, Kenya, the HIV-seroprevalence rates for different contraceptive methods were: depomedroxyprogesterone acetate (DMPA) 431/32 79 (13.1%), combination oral contraceptive pill 114/1073 (10.6%), and progestrone-only contraceptive pill (POCP) 45/741 (6.1%). After adjusting for age, marital status, and parity, women using the POCP had a lower HIV seroprevalence (adjusted odds ratio 0.5, 95% confidence interval 0.3-0.7) than women using DMPA. This association was most pronounced among POCP users of lower parity.

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Gynaecology


Abstract: OBJECTIVE: To compare the number and type of nevirapine (NVP) resistance mutations detected in Ugandan women with subtype A vs. D HIV-1 infection after single-dose NVP prophylaxis. DESIGN: In the HIVNET 012 trial, a higher rate of NVP resistance (NVPR) was seen in women with subtype D than A after single-dose NVP. In this study, the number and type of NVPR mutations detected 6-8 weeks after NVP were compared in women with subtypes A vs. D. METHODS: Plasma samples were available for 282 (92%) of 306 women who received NVP in HIVNET 012. Samples were analyzed with the ViroSeq HIV-1 Genotyping System (Applied Biosystems, Foster City, CA). Subtyping was performed by phylogenetic analysis of pol region sequences. RESULTS: Results were obtained for 279 women, including 147 with subtype A, 98 with subtype D, 6 with subtype C, and 28 with recombinant HIV-1. NVPR mutations were detected in 70 (25%) of 279 women. NVPR was more common in women with subtype D vs. A (35.7 vs. 19%, P = 0.0035). Complex patterns of NVPR mutations were detected in both subtypes. Among women with NVPR, 43% of women with subtype A and 46% of women with subtype D had >/=2 NVPR mutations. The mean number and pattern of NVPR mutations detected in women with subtypes A and D were similar. CONCLUSIONS: This study confirms a higher rate of NVPR in women with subtype D than A and further defines the pattern of NVPR mutations that emerge 6-8 weeks after single-dose NVP prophylaxis in these subtypes.

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PMTCT/ARV


Abstract: Micronutrient status has been associated with shedding of human immunodeficiency virus type 1 (HIV-1) in the lower-genital tract in observational studies. We examined the effect of vitamin supplements on genital HIV-1 shedding and interleukin-1beta (IL-1beta), a cytokine marker of vaginal inflammation and promotion of HIV-1 infection. Consenting HIV-1-infected pregnant women were randomized to receive daily supplementation with vitamin A and/or multivitamins B-complex, C, and E with use of a factorial design. Cervicovaginal lavage (CVL) specimens were obtained shortly before delivery. Significantly more women who received vitamin A had detectable levels of HIV-1 in CVL (74.8%), compared with those who did not receive vitamin A (65.1%) (P = .04, by multivariate analysis). Multivitamin B-complex, C, and E had no effect on the risk of viral shedding. Our results
raise concern about the use of vitamin A supplements by HIV-1-infected women. Use of prenatal multivitamin supplements (including vitamins B-complex, C, and E) should be continued despite the lack of effect on HIV-1 transmission because of previously reported positive effects on maternal health and pregnancy outcomes.

**MTCT**


**Abstract:** For HIV-infected women who have not received antiretroviral treatment or transmission prophylaxis in pregnancy, starting antiretrovirals in labor or soon after birth can still decrease the risk of perinatal transmission. There is, therefore, potential benefit in conducting rapid HIV testing in labor, but hospitals are seldom prepared to conduct such testing. We compared protocols for rapid HIV testing at 2 hospitals to determine what proportion of women had results back early enough to intervene if results had been positive. Hospital A initially used HIV enzyme-linked immunosorbent assays (ELISAs) and changed to using rapid tests (eg, Single Use Diagnostic System [SUDS]); hospital B used only the SUDS. With use of the SUDS in hospital A, results were reported more quickly than with the ELISA protocol in the same hospital (P < 0.0001). Comparing use of the SUDS in the 2 hospitals, test results were available more quickly in hospital A than hospital B (P < 0.05), which resulted in hospital A having more results reported prior to delivery (64% vs. 38%, P < 0.05) and within 12 hours postdelivery (94% vs. 73%, P < 0.05). If HIV testing in labor is to have its maximum effect on decreasing the risk of perinatal HIV transmission, hospitals need to institute rapid HIV testing, but protocols must ensure that results are available as quickly as possible.

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**Primary Prevention of Sexual Transmission/VCT**


**Abstract:** The purpose of this study was to analyze the quantitation of the human immunodeficiency virus type 1 RNA (HIV-1 RNA) in the genital tract of HIV-1-infected pregnant women and to evaluate a possible correlation with the viral load in blood plasma (Spearman's rank correlation coefficient). A total of 38 each of cervical, vaginal, and blood samples from 38 women were obtained during the third trimester of pregnancy for quantitation of the HIV-1 RNA load. Viral loads were determined by reverse transcription-polymerase chain reaction. The HIV-1 RNA viral load was detectable in 29 of the 38 (76.3%) blood samples, in 6 of the 38 (15.7%) cervical secretion samples, and in 8 of the 38 (21%) vaginal secretion samples. Overall, the correlation between the HIV-1 RNA viral load in the blood plasma and in cervical secretion samples was 0.51 (P<0.001). However, the correlation disappeared (r=0.27) when three patients with high blood plasma viral loads were eliminated from the statistical study. The viral load in the vaginal secretions did not correlate with that in the blood samples (r=0.26). There were two cases in which HIV-1 RNA was undetectable in the blood and cervix but was detectable in vaginal secretions: one woman had 220 copies/ml and the other 68 copies/ml. These results suggest that pregnant women with undetectable viral loads in blood plasma are still at risk of transmitting the virus vertically during vaginal delivery. Because of this, antiretroviral prophylaxis during vaginal delivery must be administered to HIV-1-infected women and their newborns, regardless of the mother's viral load in plasma. In conclusion, quantification of cervicovaginal levels of HIV-1 may represent a useful tool for assessing the individual risk associated with a vaginal delivery and for guiding decisions about whether a scheduled caesarean should be recommended.

**MTCT**


**Abstract:** OBJECTIVE: To determine feeding practices and nutritional status of infants born to HIV-1-infected women. METHODS: Feeding plans and practices were evaluated by questionnaires and focus group discussions. Infants were weighed at 1 and 6 weeks and tested for HIV-1 at 6 weeks. RESULTS: Of 128 women seen after delivery, 111 completed the study. Mothers who planned to breast feed were more likely to feed their infants as planned (86% vs. 55%; P < 0.001). Women opted to breast feed due to financial constraints, partner influence, and fear of losing confidentiality. Women who reported that their partners were willing to have HIV-1 testing were less likely to be breast feeding at 6 weeks (odds ratio [OR] = 0.3, 95% confidence interval [CI]: 0.1-0.8; P = 0.01). At 6 weeks, more infants were mixed fed (31% vs. 21%; P = 0.05) than at 1 week. Lower infant weight at 6 weeks was...
associated with not breast feeding (P = 0.001), HIV-1 infection (P = 0.05), birth weight <3000 g (P = 0.01), maternal
employment (P = 0.02), and paying <$12.5 per month in house rent (among infants not breast fed; P = 0.05).
CONCLUSIONS: Replacement feeding was difficult, particularly without partner support in HIV-1 testing. Mixed
feeding was common and increased by 6 weeks. Mothers of low socioeconomic status who opt not to breast feed
require support to avoid nutritional compromise of infants.
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Infant feeding/Breastfeeding


Abstract: A plasma HIV-1 RNA amplification assay (RNA assay), a quantitative peripheral blood mononuclear cell (PBMC) microculture (culture), and a PBMC HIV-1 DNA amplification assay (DNA assay) were compared for diagnosis of HIV-1 infection in infants receiving zidovudine in Pediatric AIDS Clinical Trials Group protocol 185; assays were performed for all 24 infected and 100 uninfected infants. HIV-1 infection was defined as >or=2 positive cultures or positive antibody to HIV-1 at >or=18 months. Cultures were performed at birth and 6 and 24 weeks of age; DNA and RNA assays were performed on cryopreserved specimens. The sensitivity of culture and DNA and RNA assays at birth was 20.8%, 10.5%, and 26.7%, respectively. At older ages, sensitivity typically exceeded 80%, remaining highest for the DNA assay (>85%). Assay specificity was >99%. Positive predictive values exceeded 93% for each assay at each age; negative predictive values were highest (>90%) for the RNA assay. At birth (P < 0.005) and age 6 weeks (P < 0.001), a significantly larger proportion of infected infants were identified by means of the RNA assay than by the other assays. The diagnostic performance of the RNA assay matched or exceeded that of culture and the DNA assay. Given that RNA assays require less blood volume and yield rapid results, our study adds to existing data suggesting that RNA assays may be used for early diagnosis of HIV-1 infection in infants.

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MTCT


Abstract: Zidovudine monotherapy is used to reduce perinatal HIV transmission in women with low viral loads. There are few data on the risk of drug resistance in this select cohort of women. We determined the prevalence of newly acquired mutations conferring reduced sensitivity to zidovudine after exposure during pregnancy, and found that the development of mutations was uncommon and was restricted to women treated before 1998 who had higher baseline viral loads than those currently recommended monotherapy.

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PMTCT/ARV


Abstract: Despite the success of antiretroviral prophylaxis in reducing mother-to-child HIV-1 transmission, postpartum transmission through breast milk remains a problem. Antiretroviral administration to the infant during the period of breast-feeding could protect against postnatal transmission. An open-label phase 1/2 study was designed to assess the safety and trough concentrations of nevirapine (NVP) given once weekly (OW), twice weekly (TW), or once daily (OD) to HIV-exposed breast-feeding infants for 24 weeks. Following maternal dosing with 200 mg NVP orally at onset of labor, breast-feeding infants were randomized within 48 hours of birth to 1 of 3 regimens: arm 1, NVP given OW (4 mg/kg from birth to 14 days, upward arrow to 8 mg/kg from 15 days to 24 weeks), arm 2, NVP given TW (4 mg/kg from birth to 14 days, upward arrow to 8 mg/kg from 15 days to 24 weeks), and arm 3, NVP given OD (2 mg/kg from birth to 14 days, upward arrow to 4 mg/kg from 15 days to 24 weeks). Trough NVP concentrations and clinical and laboratory abnormalities were monitored. Of the 75 infants randomized (26 to OW, 25 to TW, and 24 to OD dosing), 63 completed the 32-week follow-up visit. No severe skin, hepatic, or renal toxicity related to NVP was observed. Neutropenia occurred in 8 infants. Trough NVP levels were lower than the therapeutic
target (100 ng/mL) in 48 of 75 (64.0%) samples from infants in the OW arm, 3 of 65 (4.6%) samples in the TW arm, and 0 of 72 samples in the OD arm. Median (range) trough NVP concentrations were 64 ng/mL (range: <25-1519 ng/mL) with OW dosing; 459 (range: <25-1386 ng/mL) with TW dosing; and 1348 (range: 108-4843 ng/ml) with OD dosing. Our data indicate that NVP prophylaxis for 6 months was safe and well tolerated in infants. OD NVP dosing resulted in all infants with trough concentration greater than the therapeutic target and maintenance of high drug concentrations. A phase 3 study is planned to assess the efficacy of OD infant NVP regimen to prevent breast-feeding HIV-1 transmission.

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PMTCT/ARV


Abstract: One quarter of pregnant women in Zambia are infected with HIV. Understanding how knowledge of HIV relates to personal risk perception and avoidance of risky behaviors is critical to devising effective HIV prevention strategies. In conjunction with a large clinical trial in Lusaka, Zambia, we surveyed postpartum women who had been tested for HIV but did not know their status before undergoing the questionnaire. Of 858 women for whom complete data were available, 248 (29%) were HIV infected. Women 22 years of age or older (adjusted odds ratio [AOR], 1.7; 95% confidence interval [CI], 1.1-2.5), women reporting > or =2 sexual partners in their lifetime (AOR, 1.8; 95% CI, 1.3-2.5), and women reporting a history of a sexually transmitted infection (AOR, 2.7; 95% CI, 1.7-4.3) were more likely to be HIV infected. Having had > or =2 lifetime sexual partners was a marker for perception of high personnel risk for HIV infection (AOR, 1.5; 95% CI, 1.1-2.1). However, there was no relationship between perceived risk of HIV infection and actual HIV status. In fact, 127 (52%) of 245 women who stated that they were at no or low risk for HIV infection were HIV infected. Living in an area of high HIV seroprevalence like Zambia seems to be the greatest risk factor for infection in unselected pregnant women. Before significant inroads can be made in decreasing the incidence of HIV infection among pregnant women, population-based strategies that involve men must be implemented.

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Primary Prevention of Sexual Transmission/VCT


Abstract: To investigate whether previously described sex differences in virological and immunological markers in vertically infected children are preceded by sex differences in the overall risk or timing of mother-to-child transmission (MTCT) we analysed 3231 mother-child pairs enrolled in the European Collaborative Study. Girls were at a 1.5 times increased risk of MTCT overall, but the sex effect was limited to elective caesarean section deliveries, suggesting that girls may have an increased risk of intrauterine transmission compared with boys.

MTCT


Abstract: Objective: A previous cross-sectional study reported that hormonal contraception may be associated with increased infectivity in HIV-1 infected women. We conducted a prospective study to determine if cervical shedding of HIV-1 increased after initiating hormonal contraception. Design: Shedding of HIV-1 DNA (a marker of HIV-1 infected cells) and HIV-1 RNA were measured before and after initiating hormonal contraception. Methods: HIV-1 seropositive women were recruited from a Kenyan family planning clinic. At baseline, cervical secretions were collected for HIV-1 DNA and RNA assays in women initiating hormonal contraception; follow-up samples were collected a median of 64 days later. Results: One-hundred and one women chose depot medroxyprogesterone (Depo), 53 chose low-dose oral contraceptives (OC), seven high-dose OC, and 52 progesterone-only OC. At follow-up, there was a significant increase in the prevalence of cervical HIV-1 DNA detection (from 42% to 52%, odds ratio (OR), 1.62; 95% confidence interval (0), 1.03-2.63) for all hormonal contraception combined, and a trend for an increase for each individual type. Although the prevalence of cervical HIV-1 RNA increased slightly (from 82% to 86%; OR, 1.56; 95% CI, 0.83-3.03), the concentration of cervical HIV-1 RNA did not change significantly overall (from 2.81 to 2.84 log(10) copies/swab; P = 0.77) or for individual contraception types. Conclusions: A modest but
significant increase in shedding of HIV-1 DNA but not of HIV-1 RNA was detected after starting hormonal contraception. Our results may have important implications regarding the infectivity of women using hormonal contraception, and highlight the need for epidemiologic studies of transmission rates from women using and not using hormonal contraception. (C) 2004 Lippincott Williams Wilkins.

Gynaecology


Abstract: Objective: The purpose of this study was to evaluate rates of maternal toxicity, pregnancy complications, and peripartum morbidity by type and duration of antiretroviral therapy (ART) during pregnancy. Study design: The Pediatric AIDS Clinical Trials Group (PACTG) Protocol 316 (PACTG 316) study evaluated the addition of intrapartum/neonatal nevirapine to background ART to reduce perinatal transmission of human immunodeficiency virus-1 (HIV-1). For this secondary analysis, women were categorized into one of six groups on the basis of ART during pregnancy (monotherapy [monoRx], combination without protease inhibitor [PI], combination with PI), and start time (early: before or during first trimester; late: second or third trimester). Results: One thousand four hundred seven women were included: 288 monoRx late, 34 monoRx early, 327 combo, no PI late, 175 combo, no PI early, 320 combo, PI late, and 263 combo, PI early. Symptoms and laboratory abnormalities of moderate grade or more occurred in less than 5% of women. Only gestational diabetes (highest in combo PI early) varied significantly by therapy group. Conclusion: In HIV-infected women receiving prenatal care and ART, adverse events were uncommon.

PMTCT/ARV


Abstract: To determine whether GB virus C (GBV-C) infection is associated with protection against vertical transmission of human immunodeficiency virus (HIV), we tested 186 HIV-positive pregnant women for GBV-C. Neither active nor prior GBV-C infection was associated with a lower rate of HIV acquisition among infants. Thus, GBV-C does not appear to protect against perinatal HIV acquisition.

MTCT


Abstract: BACKGROUND: There is a continuing need to evaluate sustainable interventions for prevention of mother-to-child transmission (MTCT) of HIV type 1. We evaluated different concentrations (0.25%, 1%, and 2%) of chlorhexidine (CHX) for perinatal maternal and infant washes to identify the maximum tolerable concentration of CHX for such an intervention. METHODS: Women were enrolled during their third trimester at the maternity unit of the Chris Hani Baragwanath Hospital in Soweto, South Africa, and perinatal maternal and infant washes were completed. Subjective maternal symptoms as well as infant examinations were used to assess tolerability of the washes. RESULTS: The 0.25% concentration of CHX was well tolerated by the mothers (n = 29). Ten of 79 women (13%) with 1% CHX washes complained of mild vaginal area burning or itching, and washes were stopped in 5 (6%). Twenty-three of 75 women (31%) in the 2% CHX wash group had subjective complaints, and the washes were stopped in 12 (16%). There were no clinical indications of toxicity of the CHX washes among infants. CONCLUSION: A 1% solution of CHX appears to be a safe and tolerable concentration of CHX for consideration in an MTCT prevention trial.

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PMTCT, Obstetrics

**Abstract:** Objectives: To examine the risks of intra-uterine (IU), intra- and early post-partum (IP/ePP) and late post-partum (LPP) mother-to-child transmission (MTCT) of HIV-1 and infant mortality in the first 6 months of life. Methods: Whole blood was collected in ethylenediaminetetra-acetic acid at birth, 6 weeks, 3 and 6 months from 996 infants born to HIV-1 seropositive mothers. Polymerase chain reaction using Roche DNA amplification assay, version 1.5 (Roche Diagnostics Incorporation, Alameda, California, USA) was used to determine timing of MTCT. Logistic regression models determined risk factors for HIV-1 transmission and survival analyses examined mortality by timing of transmission. Results: Two hundred and forty-nine mothers (30.7%) transmitted HIV-1 infection to their infants by 6 months of age. Eighty-nine infants [9.4%; 95% confidence interval (CI), 7.7-11.5], 104 infants (16.0%; 95% CI, 10.8-21.2) and 21 infants (5.3%; 95% CI, 1.6-12.2) were infected IU, IP/ePP and LPP respectively. Low maternal CD4 cell count and arm circumference were risk factors for IP/ePP transmission. Infant mortality was higher among infected infants than uninfected (P < 0.001, log rank test). Timing of infection, birth weight and maternal CD4 cell counts were important factors in predicting infant death. Conclusion: In the first 6 months of life, IU and IP/ePP transmission contributed more than three-quarters of the 30.7% MTCT. Our data, in addition to serving as a historical comparison, may be useful in designing and evaluating the efficacy of short course antiretroviral trials aimed at reducing MTCT in developing countries.

**MTCT**


**Abstract:** One of the most remarkable advances in the control of the HIV/AIDS pandemic has been the introduction of highly active antiretroviral therapy (HAART). The use of HAART has been associated to reductions in AIDS-related mortality in most countries where HAART is available. Unfortunately, the adherence required to keep good control of viral replication is higher than what is required in other medical conditions. Several studies have shown a relationship between adherence and viral suppression ranging between 90-95% required for complete suppression. Multiple factors have been related to adherence among which are: gender, racial /ethnic distribution, age, personality traits, education, alcohol use and others. For women living with HIV there might be additional difficulties to handle in order to be adherent (i.e. Multiple family responsibilities). A group of 165 women living with HIV attending a multidisciplinary clinic were interviewed with a 3-day adherence questionnaire. Correlation with clinical information was obtained from the Clinic Data Base. A total of 37 pregnant and 128 non-pregnant women were included in this analysis, 96% of which were on HAART. Complete adherence (100%) was reported by 91% of the pregnant and 70% of the non-pregnant women. (Fisher's exact test 0.009). The majority, 99% knew the names of their medications. There were no differences among groups in scholarity, history or actual cigarette smoking, history or actual drug use, CD4 lymphocyte counts (median or proportion below 350 cells/mm(3)), mean HIV RNA viral load or the proportion of patients with HIV RNA<1,000 copies/ml. The transmission rate for the sample of pregnant women was zero. The reported adherence rates to HAART for women living with HIV were highest among the pregnant women. This difference was statistically significant (Chi Sq 0.05). The great majority (93%) reported knowing the names of the medications. In spite of reported barriers to adherence, pregnant women attending a multidisciplinary clinic for HIV care and research, reported good rates of adherence to HAART. This is also reflected in the good perinatal outcomes. Non-pregnant women with lower adherence rates might need additional interventions to improve adherence.

**PMTCT/ARV**