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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
The aim of this study was to describe the time trends in prophylactic ARV interventions to reduce MTCT and the determinants of MTCT of HIV before and after the introduction of ART prophylaxis, taking into account the treatment initiated. This study was conducted on the basis of the data collected by the Italian Register for HIV Infection in Children between 1985 and 1999, i.e. 3770 infants born to HIV-1 positive women. Between 1996 and 1999, 78.7% of the mother-infant pairs received ART. By 1999, 89.9% of the mother-infant pairs received ART: combined ART (55%), complete PACTG 076 protocol regimen (23%) or incomplete PACTG 076 protocol regimen (11%). The proportion of elective caesarean deliveries increased from 17% between 1985 and 1995 to 64% in the 1996-1999 period. This rate was 81% in 1999. Breastfeeding decreased from 3.4% to 1.4% over the two study periods. The vertical transmission rate was 18.5% (95% CI: 14.0% - 23.6%) in 1985 and 4.4% (95% CI: 2.3% - 7.6%) in 1999. CDC clinical categories B or C increased transmission by 53% (p=0.004) and elective caesarean delivery reduced transmission by 46% (p=0.001) between 1985 and 1995, after adjustment for all other factors. Breastfed children were 10 times more likely to be infected than the bottle-fed ones (p=0.001), after the introduction of ART prophylaxis. Between 1996 and 1999, the risk of vertical transmission of HIV was reduced by 76% (p=0.001): 88% (p=0.001) for the mother-infant pairs receiving the complete regimen, 88% for those receiving the incomplete regimen (p=0.001) and by 93% (p=0.001) for those in which the mother received combined ART. There is no question that combined ART prophylaxis is the most effective intervention in reducing MTCT in Italy, but the full success relies on the combination of the three interventions (ART, elective caesarean, complete avoidance of breastfeeding), with 2% of infants becoming infected when these three interventions were combined. This study confirms at a population level the results of randomized trials showing the effectiveness of prophylactic interventions in reducing MTCT.

Notes: In this study, the authors evaluated for the first time infant salivary secretory leukocyte protease inhibitor (SLPI) levels in a cohort of infants exposed to HIV-1 and investigated whether the concentration of SLPI in saliva affects MTCT of HIV. This study was conducted between 1999 and 2001 in Nairobi (Kenya). Saliva specimens were collected from 188 infants at birth and at ages 1, 3 and 6 months, a total of 602 samples were analysed. HIV-1 transmission rates were 18% and 25% at one and 12 months of age, respectively. On one hand, there was no association between SLPI levels at birth and the overall risk of HIV transmission. On the other hand, the risk of postnatal HIV transmission through breastmilk was lower for infants with elevated SLPI levels at one month of age. On the basis of the seven infants HIV infected through breastmilk, the authors estimate that there is a 50% reduction in HIV transmission for every 100 ng/mL increase in salivary SLPI concentration at 1 month. These observations could lead to the development of pharmacological agents that would mimic the action of SLPI in vivo. Yet, further investigations are needed to clarify the potential role of SLPI in reducing MTCT of HIV-1 through breastmilk.

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Notes: A cross sectional, record-based study, associated with a survey of knowledge, attitudes and practices were performed among 140 HIV infected women consulting a Brazilian gynecological clinic between August 1997 and March 1998. This study highlights the significant increase in knowledge on contraceptive methods and their use after diagnosis of HIV infection. Furthermore, it shows that contraceptive behaviour highly depends on the number of children: tubal ligation is the widely used method among Brazilian women with more than one child (52%) when it is condoms (38%) and hormonal methods (32%) for women with one children, and condoms (65%) for women without child. However, 12.4% of sexually active HIV infected women where not using any contraceptive method at the time of the interview. The method highly advocated of male condom plus another contraceptive was used by only 27% of sexually active HIV infected women. The authors conclude that the realisation of being HIV infected had a strong impact on contraceptive practices, and therefore, contraception and gynaecological care have to be fully integrated into HIV and family planning clinics.

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Notes: The authors argue in this viewpoint on the possible role of erythropoietin (EPO) to prevent MTCT of HIV through breastmilk. Indeed, human milk contains a large amount of EPO, that can thus be directly consumed by the breastfed baby. This amount of EPO in breastmilk rises when maternal plasma EPO concentration increases. EPO in milk could maintain mammary epithelium integrity and/or intestinal epithelial integrity in the breastfed neonate. This may therefore reduce the risk of HIV transmission through breastmilk. This implies that some neonates could be at higher risk for HIV transmission through breastmilk, and thus may need to be identified to receive specific interventions. Finally the authors hypothesize that the effect of the administration of parenteral recombinant human erythropoietin (rHuEPO) to HIV-infected mothers just after delivery needs to be investigated. However, the prohibitive cost of rHuEPO as of today may limit its widespread use in poor countries where MTCT of HIV via breastmilk is dramatically frequent.

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**Notes:** There is an urgent need to develop strategies to prevent acquisition of HIV and other sexually transmitted infections (STIs). Microbicides are being developed for women-controlled protection against STIs. Several randomised clinical trials have investigated the effect of intravaginal use of nonoxynol-9 on acquisition of STIs, resulting in conflicting results regarding effectiveness and safety profile. This paper reports on a multicentre randomised placebo-controlled trial which compared a 52.5 mg nonoxynol-9 gel (COL-1492) with a placebo gel in 892 female sex workers in four countries: Benin, Côte d'Ivoire, South Africa and Thailand. Primary endpoint was incident HIV-1 infection. Secondary endpoints included Neisseria Gonorrhoeae and Chlamydia trachomatis infections and acceptability of the gel under situations of long-term use. Results of the primary analysis (n=765) showed that HIV-1 incidence in nonoxynol-9 users was 59 (16%) of 376 compared with 104 (27%) of 389 in placebo users (14.7 vs 10.3 per 100 women years; hazard ratio adjusted for centre 1.5; 95% CI: 1.0 -2.2; p=0.0047), 239 (32%) women reported use of a mean of more than 3.5 applications per working day, and in these women, risk of HIV-1 infection in nonoxynol-9 users was almost twice that in placebo users (hazard ratio 1.8; 95% CI: 1.0-3.2). 516 (68%) women used the gel less frequently than 3-5 times a day, and in these, risk did not differ between the two treatment arms. Overall, relative risks among nonoxynol-9 users were 1.12 (0.88-1.42) for HIV infection, 0.91 (0.67-1.24) for Chlamydia infection, and 1.18 (1.02-1.36) for genital lesions. The results of this study confirm that nonoxynol-9 is not an effective vaginal microbicide and has no role in HIV-1 prevention. The authors highlight the need for further research as no effective microbicide to reduce HIV and STIs is currently available.

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**Primary prevention of sexual transmission/VCT**