Vaginal disinfection for preventing mother-to-child transmission of HIV infection

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Available evidence is insufficient to draw any conclusions about the effectiveness of vaginal lavage in preventing mother-to-child transmission of HIV.

RHL Commentary by Temmerman M

1. EVIDENCE SUMMARY

The review evaluates the effects of vaginal lavage during labour and delivery on the risk of mother-to-child transmission of HIV. Only one methodologically weak controlled trial comparing vaginal disinfection with diluted chlorhexidine (0.2%) during labour and delivery was included, based on the Cochrane selection criteria.

The results of this trial involving 606 HIV-infected women in Mombassa, Kenya, found no difference in the incidence rates of mother-to-child-transmission (MTCT) between the lavage and non-lavage group (17.2% versus 15.9%) (1).

The reviewers excluded from the review a chlorhexidine trial from Malawi because of methodological problems (large time blocks of 2-3 months) and high loss-to-follow up rates. The results of the Malawi trial also failed to show any impact on vertical transmission, except in a subgroup of women with rupture of membranes for more than 4 hours (2).

The Cochrane review does not include the results of a placebo-controlled West-African trial. One per cent benzalkonium chloride vaginal suppositories on a daily basis from 36 weeks of pregnancy, including during labour and delivery, were compared with placebo. No difference in mother-to-child transmission rates was found between the active treatment arm and the placebo group (23.5% versus 24.8%, respectively) (3).

The reviewers point out that the evidence from existing trials does not allow any conclusions on the effect of vaginal lavage in perinatal HIV infection.

2. RELEVANCE TO UNDER-RESOURCED SETTINGS

2.1. Magnitude of the problem

WHO and UNAIDS estimate that by the end of 2002 there were more than 42 million people living with
HIV/AIDS globally; 38.6 million are adults aged 15–49 years, and 3.2 million are under the age of 15. Five million new infections of HIV and 3.1 million deaths due to HIV/AIDS occurred globally in 2002 (4). Most of these infections occur in developing countries, mainly in Africa. Mother-to-child transmission (MTCT) is the dominant mode of acquisition of HIV infection for children. Each day an estimated 1600 children born to HIV-infected mothers become infected, 1500 of them are in sub-Saharan Africa. MTCT can occur before, during and after delivery; overall rates range from 15% to 35%. Risk factors for MTCT include high levels of maternal viral load, vaginal delivery, prematurity and breastfeeding (5). Presence of HIV in the genital tract has been shown to be an independent risk factor for perinatal HIV transmission (6).

2.2. Applicability of the results

The included trial was conducted in a Sub-Saharan setting with high HIV prevalence and MTCT. Thus, the results would be applicable to similar settings. The Cochrane Review points to the fact that currently there is insufficient evidence to develop practice guidelines for vaginal cleansing to reduce perinatal HIV transmission.

2.3. Implementation of the intervention

If vaginal lavage with chlorhexidine or another antiseptic is shown to be effective in reducing MTCT of HIV, implementation of the intervention will be simple and feasible in busy labour wards in developing countries.

3. RESEARCH

The lack of positive effect of vaginal lavage on transmission could be due to wrong assumptions about the potential effect of lavage on the virus, or to technical constraints in vaginal cleansing. The concentration of the chlorhexidine used is virucidal in vitro but may be too low to be active in vivo. The secretions and fluids excreted in the birth canal during labour might dilute the antiseptic and inactivate it. The technique of flushing might be inadequate to wash away infectious secretions that are too viscous and adhere to the walls of the birth canal wall. Also, the source of HIV in infant infection may be the amniotic fluid or the placenta, with the infection occurring in the uterus rather than the birth canal.

Therefore, the need for further research into the above mentioned issues remains. Developing a low-cost, safe intervention that does not necessarily require testing, and is easy to implement in busy health care facilities with high HIV prevalence and limited resources remains an important goal.

There is a need for well-designed randomized trials to reduce MTCT during labour using low-tech and easily implementable interventions. The trials will need to be large because of the ethical imperative of proving antiretrovirals to all HIV-infected women participating in trials. Hence, huge numbers of study patients will be needed to show an additional effect of vaginal lavage (or a similar procedure) on reduction of MTCT in women on antiretroviral therapy.

References

- Mandelbrot L, Msellati P, Meda N et al. 15 Month follow up of African children following vaginal cleansing with benzalkonium chloride of their HIV infected mothers during late pregnancy and delivery. Sexually transmitted infections 2002;267-270.


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