AIDS

A non-condom solution?

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Tests show that the spermicide Nonoxylol 9 destroys the HIV virus. Good news for women at risk of infection through heterosexual relations? Lise Thiry thinks what you put in your mouth is much more important.

The early evidence of Nonoxylol 9's anti-HIV effects came from studies using test tubes, and cats. The results on Kenyan prostitutes (the perfect test group — very sexually active, but not using condoms) were less encouraging. Nonoxylol 9 caused ulceration in the vaginal mucus, thus increasing the risk of infection. The dose they were given, was 5-10 times stronger in Nonoxylol 9 than commercial spermicides used in the USA. Luckily, the women in the test group did not develop HIV any faster than the women in the control group, who had used a neutral product instead of Nonoxylol 9. A similar trial in Cameroon using a lower dose of Nonoxylol 9 (2-3 times stronger than commercial spermicides) did seem to reduce the risk of HIV infection for prostitutes.

Unfortunately, it is difficult to create an effective antivirus spermicide, which is not a vaginal irritant for women who have sexual intercourse more than once every 24 hours, unless one uses more expensive bicyclam drugs. (Laurent Belec, in Transcriptase n 46, June 1996) Research is being hindered by the inflexible position of the World Health Organisation, which is demanding not just total safety, and the stability of the treatment in tropical conditions, but event that the new cream "must be suitable for application well before the sexual contact, so as not to affect the spontaneity of the relationship," and "must respect the women's desire to procreate." Two preconditions which condoms fail.

Meanwhile, every 25 seconds a women somewhere in the world is infected with HIV. Surely it's time for a new, less-than-perfect treatment, alongside the less-than-perfect alternatives: the condom and fidelity. Obviously, the availability of vaginal sprays and creams with an anti-HIV effect is no miracle liberation of women. In some cultures, women associate sexual relationships very closely with their role as potential mothers. The ideal anti-HIV product for these women would be one which killed the virus but let the sperm swim through! Perfect sperm, not weakened or damaged by the activity of the anti-HIV agents. No biologist is ready to develop such a product!

Lower genetic resistance?

The evidence is there, even if we hesitate to say it aloud â€“ some people have repeated high-risk encounters, without catching HIV. 10% of the spouses of haemophiliacs who caught HIV through contaminated blood products (but did not know of their sickness, so did not use condoms with their partners) caught HIV in the year following their partner's infection. The others did not. And many continued to be HIV free during years of unprotected sexual relations, in the period before their partners' sickness was diagnosed.

Some people catch HIV after one unprotected sexual exchange. Others have sex hundreds of times, without catching their partner's infection. It was originally thought that this was because there were a variety of strains of HIV, some more, and some less contagious. But it is increasingly suspected that in fact humans have a variable personal resistance.

While many of Nairobi's prostitutes have contracted AIDS, because their clients refuse to use condoms, others have been on the game for years, without any sign of HIV. It has proved impossible to infect these women's blood with HIV, even in laboratory tests. Similar results have been observed among groups of homosexual men with high risk
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lifestyles.

The strange thing is that this resistance only applies to recent strains of HIV. These "lucky ones" are still vulnerable, in laboratory tests, to older strains of HIV, collected and archived when the disease was first observed.

One explanation is that these people's resistance to HIV has been acquired by a "vaccination" contact. Other researchers suggest a genetic explanation. It seems that genetic factors could only "protect" 1% of the European population. And the "lucky" genes seem to be completely absent in the African population.

There is still a lot of work to do. No-one knows why such a genetic immunity should have developed, millennia before AIDS appeared. Nor is it clear if the apparent immunity of a minority of the population is absolute, or only covers certain strains of the HIV virus.

Mother and child

Pregnancy does not increase the threat of AIDS among HIV-positive women who eat properly. In one Kenyan study, 17% of HIV positive pregnant women had a severe vitamin A deficiency, and 32% passed their infection to the foetus. Among mothers with adequate vitamin A levels, "only" about 7% of foetuses became infected. A comparable study in Houston, Texas reported that 13% of all foetuses of HIV-positive mothers became infected. In other words, the high infection and contagion levels in Africa are not due to some primitive practice, but to poverty.

Vitamin A deficiency is also responsible for a higher rate of contamination through breast-feeding. 100% of vitamin-deficient women in the same Kenyan study had traces of HIV in their milk, compared to 38% of women without the deficiency. In other words, the rate of HIV contagion is inversely linked to overall nutrition. Just as with tuberculosis, the poor diet of the poor is one of the main factors behind their vulnerability to HIV.