

## Letter to Editor

# Other View on Conceptive Options for People Living with HIV

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Dear editor, we have read with great interest the recent paper authored by Surasith Chaithongwongwatthana in your journal<sup>(1)</sup>. The author went over the reproductive options for couples living with HIV according to their sera concordance status.

In general, we agreed with the different options proposed in the article. However, regarding the choice of sperm washing in the case that the male is the infected partner, the following considerations should be taken into account. Several studies have suggested that sperm cells might be the source of infection, considering their ability to interact with HIV particles<sup>(2-7)</sup>. In addition, others reports have demonstrated seroconversion of women after in vitro fertilization with pure sperm from HIV positive men<sup>(2,8-10)</sup>. Furthermore, HIV transfer by spermatozoa into the oocyte<sup>(2)</sup> and macrophages<sup>(11)</sup> have been shown, indicating at least that sperm cells can act as vectors of HIV constituting a potential source of infection.

Our in vitro results show the presence of viral RNA, but not DNA, in samples of sperm cells from HIV-1 negative individuals, after exposure of in vitro HIV particles, suggesting an interaction between HIV and sperm cells<sup>(12,13)</sup> using cellular receptors as mannose<sup>(12,14)</sup> and heparin sulfate<sup>(15)</sup>. Additionally, previous detection of proviral DNA in sperm cells from HIV-infected men has been shown<sup>(2,4,6,16)</sup>.

How the HIV enters into the spermatogonia is still uncertain, but some authors have suggested that these immature cells are infected through the

CD4 molecule<sup>(6)</sup>, which is apparently expressed in these cells and it is subsequently lost during the spermatogenesis process<sup>(16)</sup>.

These findings confirm the relevance of sperm cells as a potential vector of the virus, and could explain how horizontal transmission observed after in vitro insemination with sperm cells from HIV-infected men were carried out<sup>(8-10,17)</sup>. In addition, the existence of three children HIV positive born to serodiscordant couples, HIV-1 negative mothers and HIV-1 positive fathers<sup>(18,19)</sup>, allows to speculate on the plausibility of an alternative route of vertical transmission, e.g., father to fetus.

In conclusion, in any case during reproductive treatment using semen or sperm from HIV positive men, the risk of female or fetus infection is higher than zero.

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