Fertility Treatment in Couples with Seropositivity for Human Immunodeficiency Virus: Ethics Opinion

Human immunodeficiency virus results in acquired immunodeficiency syndrome which alters the immune system. The virus can be transmitted through contact with infected semen, vaginal fluids, or blood.

Keywords: *Ethics, human immunodeficiency virus, infertility, reproduction, serodiscordant*

Access this article online

Quick Response Code:

Website: www.jhrsonline.org

DOI: 10.4103/jhrs.JHRS_65_18

Overview

The effective use of highly active antiretroviral therapy (HAART) for the treatment of human immunodeficiency virus (HIV) has resulted in prolonged life expectancy (over 40 years from diagnosis) and an improved quality of life for people living with HIV. The risk of vertical HIV transmission during pregnancy has been reduced to <1%. As a result of these breakthroughs, fertility issues for those of reproductive age are becoming increasingly important. This includes discordant HIV couples with female positive/male negative, male positive/female negative, and both positive. It is assumed for this document that all HIV-positive couples are receiving the maximal and effective treatment for HIV.

As the success of antiretroviral therapy has increased, the guidelines for the treatment of HIV-seropositive couples have changed:

- 1990 Centers for Disease Control and Prevention[1] initially recommended against reproductive assistance HIV-serodiscordant couples.
- 2002 American Society for Reproductive Medicine (ASRM) revised the guidelines:[2] HIV-serodiscordant couples may seek treatment.
- 2004 European Society of Human Reproduction and Embryology (ESHRE) Ethics Task Force:[3] Ethically acceptable to offer sperm washing and assisted reproduction to HIV serodiscordant couples with adequate precautions.
- 2010 ASRM Ethics Committee guidelines:[4] "Fertility clinics should offer services to HIV couples willing for treatment and should use risk reduction therapies."
- 2013 ASRM[5] guidelines published to reduce the risk of viral transmission: basic principles include reduction of viral load in infected partner, decreased noninfected partner's exposure and infection risk, discussion of risk reduction strategies with couple, and obtaining informed consent before any procedure.
- 2014 World Health Organization[6] stated, "All couples and individuals have the right to decide freely and responsibly the number and spacing of their children and to have access to the information, education and means to do so which includes HIV-infected couples. Need to integrate guiding principles into all aspects of HIV treatment and care."
- 2015 ASRM Ethics Committee guidelines:[7] "The current treatments for HIV can limit the risk of viral transmission to partner and offspring. Recent studies showed that in HIV-infected women, the use of antiretroviral therapy and avoidance of breastfeeding reduce the chance of newborn infection to approximately 2%. In couples in whom the male partner is infected with HIV, the use of sperm preparation techniques coupled with either inseminations or *in vitro* fertilization with intracytoplasmic sperm injection has proven to be highly effective in avoiding seroconversion of uninfected women and offspring."

Address for correspondence:
Indian Society for Assisted Reproduction, Flat No. 23A, 2nd Floor, Elco Arcade, Hill Road, Bandra (West), Mumbai - 400 050, Maharashtra, India.
E-mail: isar.office@gmail.com

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Fertility treatment in couples with seropositivity for human immunodeficiency virus: Ethics opinion. J Hum Reprod Sci 2018;11:86-8.

Human immunodeficiency virus and infertility

There are clinical issues associated with HIV and its antiretroviral treatment that are relevant to infertility treatment such as menstrual irregularities, tubal factors, reduced ovarian reserve, and reduced sperm parameters.

Prevention of infection

There is evidence that the risks of infection for a discordant partner can be significantly reduced. Evidence suggests that HIV does not attach or infect sperm, so sperm washing can reduce the risk of transmission by eliminating round cells and seminal plasma. The most rigorous and effective methods should be used for sperm washing. In a systematic review, safety has been examined in both intrauterine insemination and ART cycles with no seroconversion of the female partner and no neonatal transmission when the male partner is positive.

Ethical Concerns

1. There are multiple issues of provision of just access and support in health care regarding HIV-positive individuals seeking fertility care. HIV couples are denied treatment in various ART centers due to the potential risk of HIV transmission to the other couples undergoing treatment at the center or to the staff. Couples have been denied treatment based on a belief that transmission cannot be prevented to the newborn or uninfected partner. Concerns about the longevity of seropositive HIV patients have also led to denial of treatment
2. The desire to reproduce, in the HIV context, has limits (doing no harm) to what options can be offered based on the potential for risk to the uninfected partner or by vertical transmission to the fetus
3. Harm to the potential neonate is an important ethical factor in consideration of treatment for the parents. This includes the long-term parental prognosis which impacts the well-being (health, success, and survival) of children. ESHRE[3] and other ethics bodies have expressed concerns about the use of ART in couples with both parents' HIV positive as the potential for parental loss is higher, placing the child's security and well-being at risk
4. The overall benefit of the procedure chosen needs evaluation for each circumstance. Choosing the most effective option can reduce the number of cycles and exposures and reduce the risks to the patient and their partner.

Recommendations for Human Immunodeficiency Virus-Positive Partners (Just Reorganized for a Good Flow of Points)

1. HIV-positive couples should not be denied access to ART based on HIV seropositivity if quality standards to prevent transmission are met[8]
2. ART should be carried out only in those institutions, which are able to adhere to strict quality standards such as universal precautions for infection control with maternal–fetal medicine specialist, HIV/acquired immunodeficiency syndrome specialist, fertility specialist, neonatologist/pediatrician, and psychiatrist/social worker/psychologist, have appropriate laboratory facilities and separate freezing facilities for gametes and embryos[8]
3. If serodiscordance or HIV positivity is discovered during evaluation for fertility treatment, the provider has a responsibility to counsel the couples regarding this finding
4. Clinical evaluation of the couple is important to assess the feasibility of ART treatment in light of status of HIV treatment and coexisting disease. Optimum medical status of HIV suppression should be required before treatment to maximally reduce the risks
5. A multidisciplinary team approach is essential for counseling and effective treatment
6. Preconceptual counseling and informed consent must be carefully reviewed with the partners including reproductive options available and potential treatment failure, effect of HAART on reproductive function, risk of vertical transmission, factors affecting HIV transmission, and long-term health outcome and support networks
7. It is important to emphasize that no treatment option is 100% risk free. Alternate options must also be offered which include use of donor sperm in HIV-positive men and surrogacy in HIV-positive women
8. Only those couples who have high motivation for childbearing that includes strict adherent to their antiretroviral therapy resulting in well-controlled HIV, stable CD4 count, and undetectable viral load (serum and semen) should be selected for the treatment
9. Couples should be offered the most effective ART treatment with the least risk of transmission of HIV. The goal must be to prevent transmission to partner and fetus (non-maleficence)
10. Maximal effort and counseling to prevent transmission to the fetus and neonate is required
11. When HIV-positive individuals seeking ART

treatment are not maximally treated, the health professional does not have an obligation to offer ART as it risks the safety of others (patient, partner, and potential offspring)

12. When both partners are positive, counseling regarding the impact of potential parental loss for the child should be reviewed before partners choosing ART
13. Informed consent based on all the above elements is mandatory
14. Expansion of access to ART for HIV-positive couples should be done. This requires advocacy for additional research and effort to provide more options for safe laboratory procedures that reduce infectious risk and expand access.

Conclusion

ART is safe and effective for significantly reducing horizontal and vertical transmission in HIV-serodiscordant or HIV-positive couples. Good clinical status with undetectable viral load and high CD4 count is mandatory before consideration for the treatment for fertility. In addition, the risks to each partner, and the offspring needs careful exploration during informed consent and care should only be given in centers that are able to provide the level of services needed for ART management.

Acknowledgments

This report was developed by the Ethics Committee of the Indian Society for Assisted Reproduction as a service to its members and other practicing clinicians. While this document reflects the views of members of that Committee, it is not intended to be the only approved standard of practice or to dictate an exclusive course of treatment in all cases. This report was reviewed by the Ethics Committee of the American Society for Reproductive Medicine and their input was considered in the preparation of the final document. We acknowledge Joanna Cain, Former Chair of the "FIGO International Ethics Committee" for participation during the development of the ethics committee opinion as an International Advisor.

The following members of the Ethics Committee have contributed to the development of this document:

Duru Shah, Madhuri Patil, Sujata Kar, Nalini Mahajan, Sadhana Desai, Ameet Patki, (Indian Society for Assisted Reproduction), Manohar Motwani (Private Practitioner), Sanjay Chauhan (Scientist F, ICMR-NIRRH), Hitesh Bhatt (Medico Legal Advisor), Amit Karkhanis (Legal Advisor), Anushree Patil (Scientist D, ICMR-NIRRH), Flavia Agnes (Lawyer and Activist), and Subarna Ghosh (Reproductive Activist).

We thank Abbott India Limited for their logistic support during the preparation of the Ethics Opinion.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

1. Centers for Disease Control and Prevention. Preexposure Prophylaxis for the Prevention of HIV in the United States. Atlanta: Centers for Disease Control and Prevention; 2017.
2. Ethics Committee of the American Society for Reproductive Medicine. Human immunodeficiency virus and infertility treatment. Fertil Steril 2002;77:218-22.
3. Shenfield F, Pennings G, Cohen J, Devroey P, Tarlatzis B, Sureau C, *et al.* Taskforce 8: Ethics of medically assisted fertility treatment for HIV positive men and women. Hum Reprod 2004;19:2454-6.
4. Ethics Committee of the American Society for Reproductive Medicine. Human immunodeficiency virus and infertility treatment. Fertil Steril 2010;94:11-5.
5. Practice Committee of American Society for Reproductive Medicine. Recommendations for reducing the risk of viral transmission during fertility treatment with the use of autologous gametes: A committee opinion. Fertil Steril 2013;99:340-6.
6. World Health Organization. Framework for Ensuring Human Rights in the Provision of Contraceptive Information and Services. Geneva: World Health Organization; 2014.
7. Ethics Committee of American Society for Reproductive Medicine. Human immunodeficiency virus (HIV) and infertility treatment: A committee opinion. Fertil Steril 2015;104:e1-8.
8. Fourie JM, Loskutoff N, Huyser C. Semen decontamination for the elimination of seminal HIV-1. Reprod Biomed Online 2015;30:296-302.