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HIV & Conception

Reproductive options for HIV affected couples should be presented to patients.

CASE: *Jose is a 30-year-old male diagnosed with HIV in 2012 and has been virally suppressed on antiretroviral therapy (ART) for more than four years. He and his wife (who is HIV-negative) want to have a child, but are unsure of their options. The couple present to his HIV provider for some guidance on available "safe" conception options.*

For patients engaged in care and receiving treatment, HIV is a chronic disease. With appropriate therapy, persons living with HIV can have a good quality of life, anticipate a normal life span and may choose to conceive children. Moreover, studies of both men and women living with HIV have shown they desire children at about the same rate as the general population. After all, parenthood constitutes an important life project for most women and men, and involuntary childlessness is a major life issue associated with strong psychological consequences.

Advances in biomedical treatment and prevention have expanded available safer conception options for persons living with HIV. There is growing evidence that the use of ART to suppress viral load alone or coupled with the use of pre-exposure prophylaxis (PrEP) can virtually eliminate HIV transmission risk among serodifferent (also known as sero-discordant) partners. Since HIV-affected couples desire to have children, it is important that fertility requests be addressed and that safer conception is discussed as part of routine HIV care.

On June 2, 2017 The Centers for Disease Control and Prevention (CDC) released a report on strategies for preventing HIV transmission among HIV-uninfected women attempting conception with male partners living with HIV.[1] Sperm washing (SW) was endorsed as an option, a process involving separating spermatozoa from infectious elements in the semen. After sperm washing, there are three additional assisted reproductive technology procedures to attempt conception: intrauterine insemination (IUI), in vitro fertilization (IVF), and IVF followed by intracytoplasmic sperm injection (ICSI).

The recent Morbidity and Mortality Weekly Report (MMWR) was noteworthy because in 1990 the CDC reported a case of HIV transmission from a man to his HIV-uninfected partner who underwent SW-IUI.[2]

In this case, suboptimal sperm washing techniques were used, including the omission of density gradient procedures that may have caused infected leukocytes or free virus to not have been removed from the man's semen. Notably, this was also prior to the highly active antiretroviral therapy (HAART) era.

Based on this single case, the CDC recommended in 1990 against the use of insemination with semen from men living with HIV. Since then, the American College of Obstetricians and Gynecologists and the American Society of Reproductive Medicine have said that HIV should not result in discrimination and published guidelines for fertility treatment that should be offered if it is desired. Both professional societies recommend sperm washing + IUI be offered to HIV-serodifferent couples as standard of care.[3,4]

A retrospective analysis of 635 HIV serodifferent couples enrolled in Italy SW-IUI program was published in 2013.[5] The objective was to evaluate the safety of sperm washing for achieving pregnancy when the man is HIV-infected and the woman is HIV negative. The follow-up study evaluated 367 women and confirmed zero HIV transmissions related to SW-IUI.

The reality is that for most individuals living with HIV in the United States who desire children, there are both geographic and financial barriers that prohibit access to assisted reproductive technology services, which usually are not covered by insurance and have very high out-of-pocket costs. In addition, very few assisted reproductive technology centers offer services to HIV-affected couples.

Observational studies, a meta-analysis, and a large randomized clinical trial have demonstrated a significant decrease in the rate of HIV transmission among serodifferent couples where the person with HIV is on ART and has a suppressed viral load.[6]

In fact, there were no linked HIV transmissions among study participants with undetectable viral loads—a prevention method commonly referred to as treatment as prevention (TasP).

Additionally, numerous pre-exposure prophylaxis (PrEP) studies demonstrated this intervention to be safe and highly effective, with CDC and WHO endorsements for offering PrEP to those at risk for acquiring HIV including serodifferent couples. TasP and PrEP, highly effective forms of safer conception whether used alone or in combination, are currently the more widely available options for safer conception and can be used in combination with timed intercourse.

Expanding access to assisted reproductive technologies remains a critical option for HIV-infected and affected individuals. It is imperative that HIV providers keep current with the best science and available guidelines to assist in counselling their patients, including a review of the recent MMWR from the CDC. **HIV**

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