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Prevention of HIV Infection in Women Partners of Men Infected with HIV

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In industrialized countries there is large reservoir of heterosexual men infected with HIV, most of them form long-term relationship with uninfected females and wish to have children. Conception by intercourse carries a risk of sexual transmission of HIV and the virus can be transmitted to the child. Fifteen years ago we devised a combined method to process semen in order to reduce to undetectable titres both cell-associated and cell-free virus. The seminal processing method is a combination of gradient centrifugation to eliminate seminal leukocytes, washing of the first pellet of spermatozoa and collection of highly motile spermatozoa after spontaneous migration at the upper layer of the culture medium. Washed spermatozoa obtained after the procedure are then tested for residual contamination with HIV and uncontaminated samples can be used for insemination or extracorporeal fertilization. HIV discordant couples without infertility factors can be assisted intrauterine transfer of washed spermatozoa (intrauterine insemination), while those with fertility problems need egg-retrieval and in-vitro fertilization. Approximately five thousands cycles of assisted conceptions have been carried out in Europe, without any reported case of infection in the female partners or in the 500 infants already delivered. In Europe, there are now over twenty centres providing reproductive care to couples carrying HIV and there is network named Create (Centres for reproductive assistance to couples with HIV in Europe) which aims to create a common database to monitor the evolution of reproductive care in this setting. Patients requesting assistance are changing in term of age, modality of infection, co-infection with HCV, response to antiviral treatment and fertility parameters. Although the method of seminal processing is basically the same in all centres, testing for residual HIV in the final spermatozoa pellet changes considerably according to sensitivity of detecting methods, percentage of contaminated samples and false-positive results. A major problem to be addressed is that of serological follow-up of females receiving assistance as incomplete figures have rendered the assessment of the efficacy of this method uncertain. Some couples are now counselled to try spontaneous conception considering the increased efficacy of antiviral treatment also on the seminal viral reservoir and this possibility should be explored, but the elevated prevalence of infertility factors in these couples can increased the risk of such a policy or make impossible in-vivo conception. In this evolving scenario guidelines for reproductive assistance and specialised referral centres are a need for all the specialists involved in the care of individuals infected with HIV who desire to have children.

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