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HIV Cure Research: Expanding the Ethical Considerations

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Mounting evidence is fueling excitement over the possibility of curing HIV-infection. Two “Boston patients” who underwent bone marrow transplantation¹ and a “Mississippi baby” who was given aggressive antiretroviral therapy (ART)² soon after birth seem to be free of HIV-infection. These accounts build upon reports of the “Berlin patient” who lacks evidence of HIV-infection following transplantation with cells conferring HIV resistance³ and members of the “Visconti cohort” who appear free of HIV-infection after stopping ART⁴. In aggregate, these findings support the plausibility of “HIV Cure Research” aimed at eliminating the need for continuous ART, with its inherent burdens and costs.

HIV cure research includes diverse approaches ranging from bone marrow transplantation, to aggressive early treatment of HIV infection, to withdrawal of ART to permit the killing of HIV in biological reservoirs perhaps augmented by activating latent virus⁵. Although substantial resources are being directed towards advancing this agenda, the research raises complex ethical issues.

Lo and Grady, outline a key set of points to consider in HIV cure research including collaborative partnership, social value, scientific validity, fair selection of participants, favorable risk-benefit balance, independent review, informed consent, and respect for enrolled participants and communities⁶. Without a doubt, these issues must be addressed. However, this approach should be supplemented by: 1) a more robust view of the inherent ethical issues; 2) rigorous consent processes; 3) oversight that includes relevant expertise; and 4) empirical data to help inform trial design and consent.

Ethical Considerations

First, although attention to research burdens, risks and benefits rightly focuses primarily on the primary research subjects, risks to others, primarily sexual partners, should be considered and managed.

Second, continued attention should be paid to protecting the confidentiality of patient-participants. Not only is confidentiality expected by many patients, but an absence of confidentiality protections may limit willingness to participate and the celebrity associated with research may pose additional burdens.

Third, non-financial (as well as financial) conflicts of interest need to be disclosed and managed. Since scientific enthusiasm might inadvertently cloud the interpretation of data,⁷ sponsors, funders and investigators should ‘disclose’ such potential biases transparently to enable careful peer-review.

Fourth, although this research rightfully attracts considerable public attention, findings can easily be misinterpreted, needlessly inflating hope⁸. Accordingly, scientists, journals, and institutions should strive to provide balanced resources to help make emerging scientific information publicly accessible.

Consent

Given the high stakes, the informed consent process for HIV cure research must be robust, beginning with sensitivity to the language used to describe it. Consider that the term “cure”, while catchy, may be mistaken in early clinical research (akin to “gene therapy” and “stem cell therapy”).⁹ Further, the appropriate analogy may be “remission” rather than “cure”. Beyond these linguistic concerns, those with relevant expertise should be enlisted in developing the consent process¹⁰. Finally, it may be appropriate to have uninvolved clinicians obtain consent.

Ethics Oversight

Much like research involving gene-transfer and embryonic stem cell research, those charged with conducting research oversight may not be expected to have the full range of expertise to conduct a proficient review. Accordingly, traditional research oversight should be supplemented with appropriate scientific and community level expertise.

The Need for Data

Empirical data regarding the informational needs of potential research participants and communities, the acceptability of alternative approaches, and willingness to undergo multiple biopsies would help inform future trial design and its oversight.

Concluding Comments

As work proceeds to assess the true feasibility of a ‘cure’, it is critical that the ethical issues in HIV cure research are addressed not only to protect the rights, interests and welfare of those living with HIV who participate, but also help to ensure the likelihood of conducting meaningful science.

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