

The CanCURE Post-mortem HIV Tissue Biobank: Working Together Towards an HIV Cure

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Conflict of Interest Disclosure : None

Background

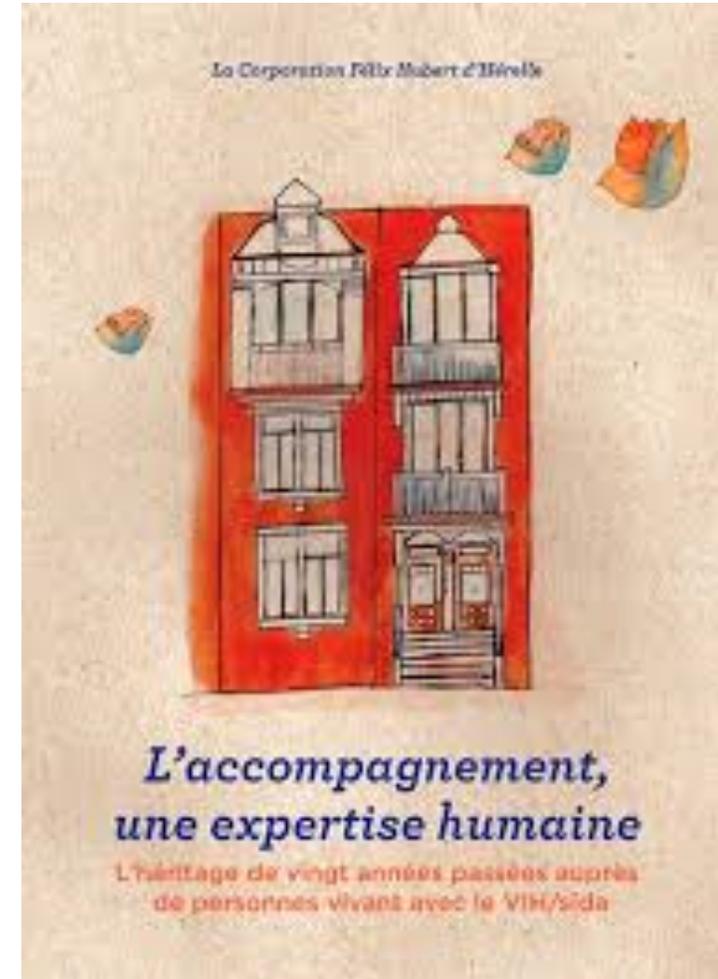
- *HIV reservoirs in tissues* are established during primary infection and include peripheral blood cells as well as anatomical organs and tissues. HIV plays “hide and seek” with the immune system and antiretroviral therapy (ART). When ART is stopped, HIV rebounds.
- *Current research in humans* involving deep tissues and organs is limited as it is difficult to reach many anatomic sites safely in order to biopsy (obtain very small pieces).
- *Autopsies* are rarely performed quickly enough (*within 6 hours*). After this time the genetic material, cells and tissue degrade and cannot be accurately analyzed.

Objective

- To establish a post-mortem tissue biobank for a detailed mapping and characterization of reservoirs within anatomical sites, with a focus on CD4 T cells and macrophage infection.
 - a biobank is a secure facility to store biological specimens

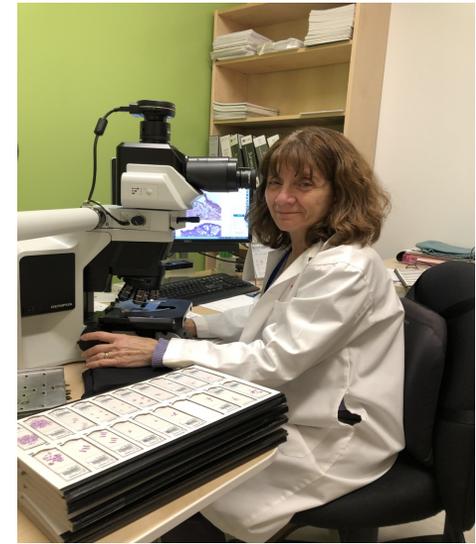
Methods

- PLWH with suppressed viral load on antiretroviral therapy, able to provide informed consent and who pass away at either the Royal Victoria Hospital (Glen Site) or Maison d'Hérelle, a community house for PLWH in Montreal, are eligible to undergo rapid autopsy. Recruitment will favor individuals with known terminal illness/shorter life-expectancy (<6 months). Family/next-of-kin/power of attorney must be on-board.



Methods *continued*

- Within 6 hours of death, the body would be transferred to the MUHC Pathology suite. Small surgical incisions would be made to take small biopsies from spleen, liver, lungs, lymph nodes, heart, aorta, gut, bone marrow and ovaries or testes/urethra and brain. Afterwards, incisions would be re-sewn, and the body would be sent to the facility of the person's wish for burial or cremation.
- Applications will include immunophenotyping by flow cytometry and immunohistochemistry as well as characterization of HIV reservoirs (quantifications by qPCR or DNA/RNA scope and HIV genotyping).
 - This will allow mapping of HIV within various organs



**Dr Badia Issa-Chergui,
Autopsy Pathologist**



**Dr Nick Bertos,
Platform Manager**

Project status

- Informed consent was written with input of a CanCURE Community Advisory Board member.
- A community event about the biobank was held after the CanCURE Annual General Meeting in November 2019 to obtain feedback relating to rapid autopsy and biobanking procedures.
- Protocol has been approved by the Research Ethics Board of the McGill University Health Centre
- Concurrent study is ongoing to assess perspectives of people living with HIV. Findings will provide guidance for approaching, including, and interacting with participants in the CanCURE HIV Autopsy Biobank and other end-of-life HIV cure studies.
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