

# ***HIV D+/R+ transplants: the Montefiore Medical Center experience***

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# Disclosures

- Vagish Hemmige: unrelated grant support from Merck for vaccine research
- Snehal Patel: None
- Yorg Al Azzi: None

# Introduction

## Our HIV D+/R+ transplant program

- Learning process required to start accepting organs from donors with HIV

## Our cardiac transplant program

- Background
- Cardiac HIV D-/R+ experience

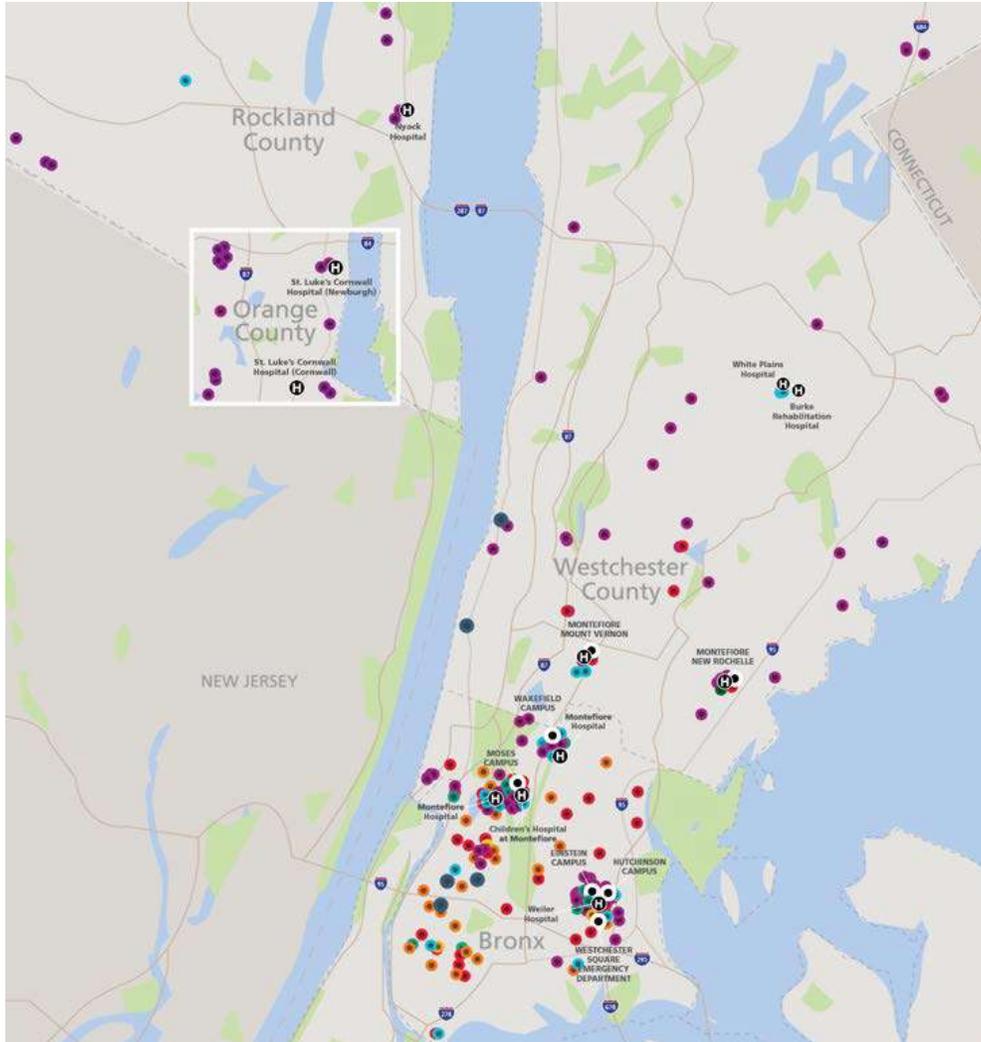
## First HIV D+/R+ cardiac transplant

- Pre-transplant donor and recipient evaluation
- Post-transplant experience to date

## Our takeaways

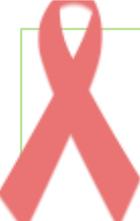
- Implications for federal policy

# Montefiore Medical Center



- Campuses
- Ⓜ Hospitals
- Advanced Primary Care Centers
- Multi-specialty Care
- Nutrition
- Dental
- Behavioral Health and Substance Abuse Disorders
- School Health
- Clinical Affiliations
- Nursing Homes

**M** Integrated medical system with several tertiary care hospitals in Bronx, New York

 Largest single-site HIV provider in New York State (>3000 patients in care)

 Active heart, lung, liver, kidney, and pancreas transplant programs

 Teaching system for Albert Einstein College of Medicine

# HOPE act experience: kidney

- Our center has experience transplanting highly treatment-experienced patients
- 15+ HIV D-/R+ kidney transplants to date

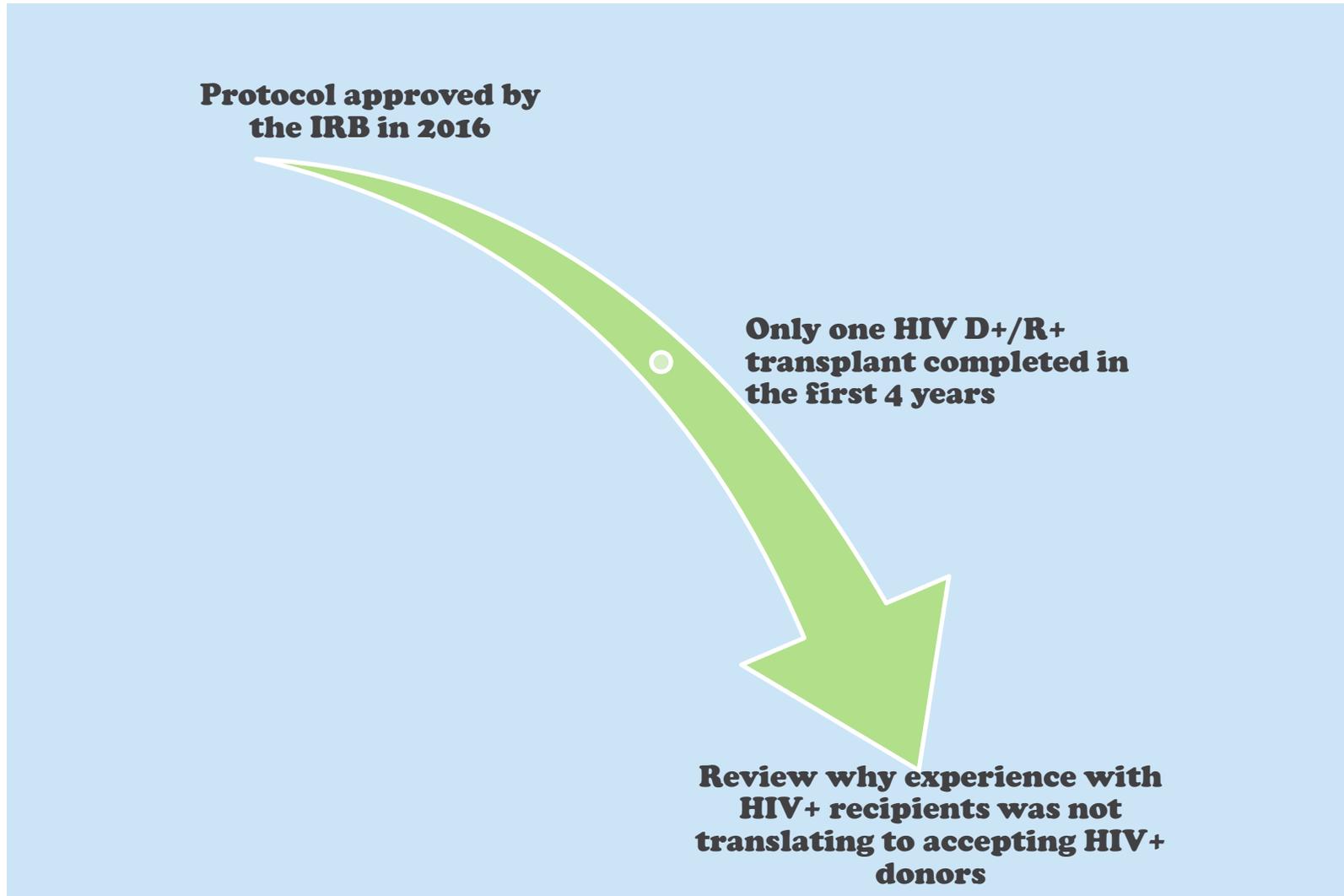
Many patients perinatally infected

Established protocol to avoid protease inhibitor or cobicistat-based regimens

- If unavoidable, use of belatacept-based immunosuppression

Several ID providers with both HIV and transplant expertise

# HOPE act experience: kidney



# HOPE act experience: kidney

## Barrier

Concern about donor resistance in cases without a genotype or known treatment history--reflective of the disproportionately high amount of HIV resistance present in our locale

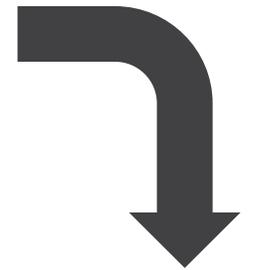
Not all transplant ID faculty are practicing HIV clinicians

Many offers came on nights and weekends when the barrier to contacting other physicians is higher

Fear of being the first to accept an offer in case of a less than positive outcome

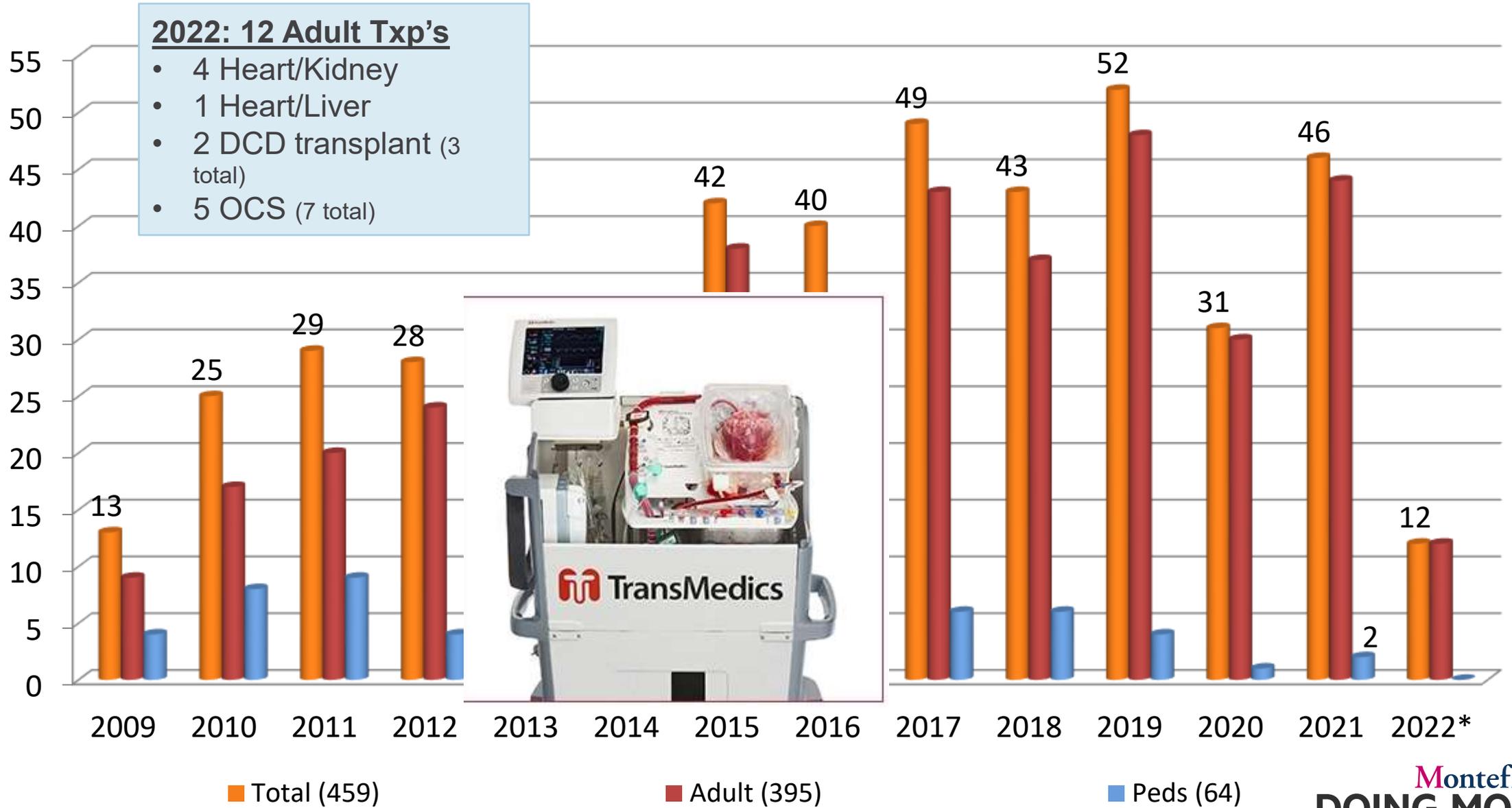
As members of each team rotated service, was never the same group assessing an organ offer for more than a single case (no learning between cases)

Concern re: organ quality or risk of rejection



**7 HIV D+/R+ transplants in subsequent 18 months**

# Montefiore Heart Transplant Volume



60 transplants prior to 2009

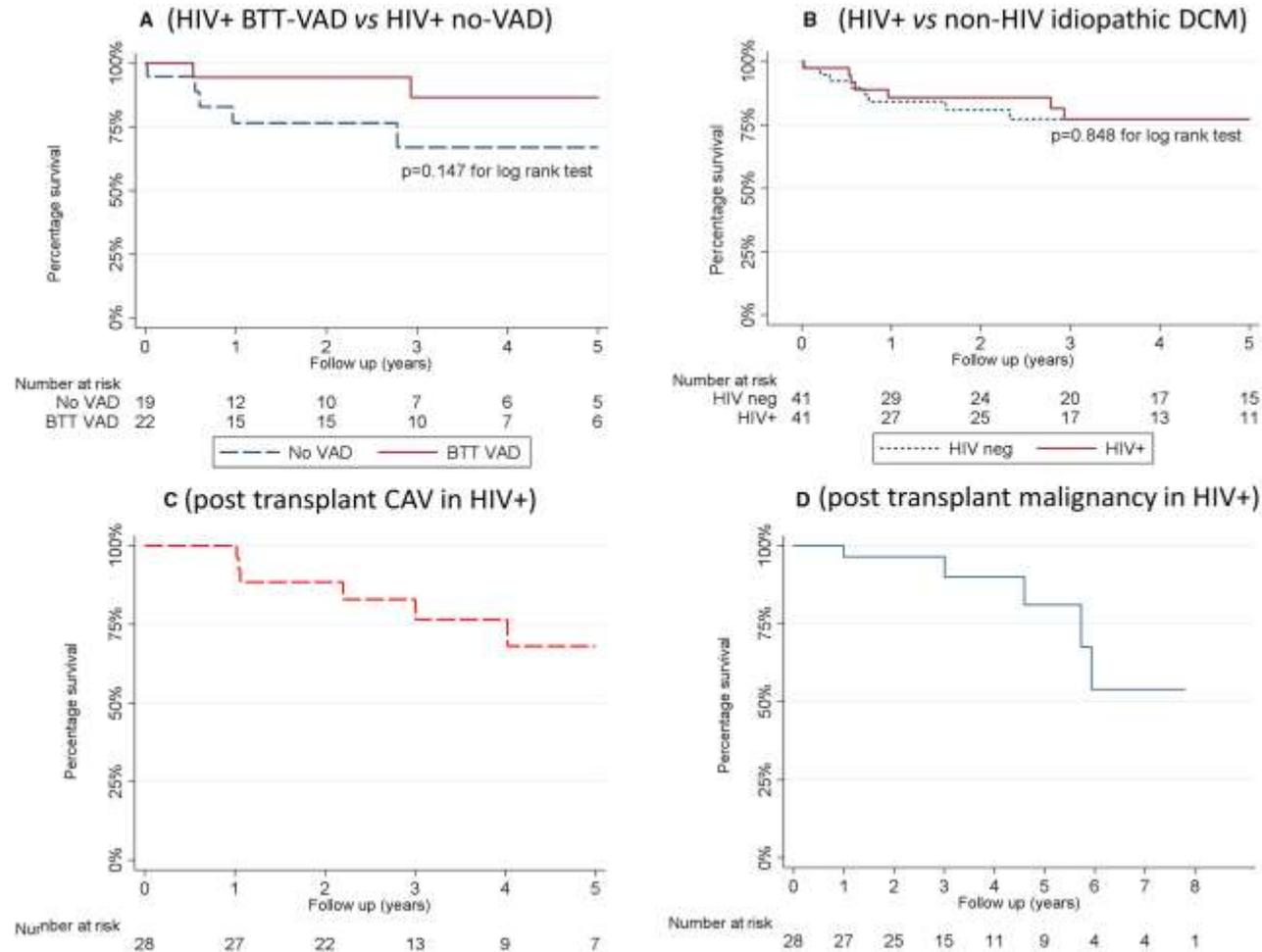
# Montefiore Cardiac Transplant Program

- ID evaluation of *all* potential heart recipients (not just HIV positive) prior to transplant
- Dedicated Heart-Lung ID inpatient consult team for LVADs/heart transplant/lung transplant patients
- Weekly multidisciplinary meeting with cardiology, cardiac surgery, pharmacy, and ID representation
- All donor offers discussed weekly for improved selection
- Cardiac transplant team rounds with ICU daily

# Montefiore Cardiac Transplant Program HIV experience

- Four HIV+ recipients from our center all alive and well, all with >1year f/u.
  - Our provider team reached the threshold of five transplants due to one provider's experience at another center, an arrangement that was cleared with Christine Durand at Johns Hopkins.
- All patients evaluated by ID prior to transplant, and established on interaction-free regimens
- No HIV-related post-transplant complications:
  - One recipient hospitalized for concern for septic joint—ultimately diagnosed with gout
  - One recipient hospitalized with infectious diarrhea—diagnosed with norovirus
  - Two recipients with no significant infectious complications post-transplant

# HIV+ recipient publication from Montefiore



# HIV D+/R+ Cardiac Transplant: the first patient

- 62-year-old woman (5'4", ABO: O, PRA 0 for >5K) with an ischemic CM, LVEF 25% (LVD 6.4 cm), ESRD on PD since late 2020 (initial on HD for several months s/p AVF).
- Initially, listed for kidney transplant alone. Nov 2021 a HIV+ kidney was accepted but repeat echo prior to OR revealed a drop in LVEF from 40% to 25%.
- Past Medical History:
  - HIV on ARVs: CD4 count: 356, VL<20 on 11/2021.
    - HIV dx 1992, no opportunistic infections.
    - Multiple regimens over the years, switched for new meds or lipodystrophy,
    - Past regimens have included AZT, AZT/lamivudine/boosted lopinavir, and boosted lopinavir monotherapy.
    - Currently on dolutegravir/rilpivirine
  - Renal Cell Ca, s/p right nephrectomy in 2006.
  - ESRD related to FSGS from HIV.

# HIV D+/R+ Cardiac Transplant: Donor Data

- 30 year old female died of ICH from MVA
- HIV diagnosed in Dec 2020 compliant with therapy
  - Regimen unknown
  - NAAT undetectable
- No Opportunistic infections

# HIV D+/R+ Cardiac Transplant: Transplant procedure

- Portable extracorporeal organ perfusion system utilized during procurement
- Cardiopulmonary bypass time: 152 minutes
- Ischemic time: 123 minutes
- Operation uncomplicated

# HIV D+/R+ Cardiac Transplant: Post Transplant Course

- No surgical Issues.
- Failed extubation POD#1 due to delirium.
- POD #4 hypotensive with new infiltrates
- Serratia in sputum and blood cultures
- Blood cultures remained positive for 5 days and eventually cleared on appropriate antimicrobials.
- CT Scan – no abscess or other source
  
- Currently, POD #30
  - Delayed renal recovery but now urinating, without HD for 5 days
  - Hemodynamically stable without rejection
  - s/p trach, tolerating 72hrs off vent and capping trial

# Our takeaways

We hope our experience can highlight the requirements that should be instituted prior to initiating an HIV D+/R+ thoracic transplant program and influence federal policy

There are unique barriers to accepting HIV donors that prior HIV recipient experience alone cannot mitigate. For our center, prior experience with HIV D+/R+ kidney transplants was **much** more contributory than our HIV D-/R+ heart experience.

We feel strongly that *internal* teamwork (surgery, transplant medicine, transplant ID, HIV and pharmacy) and *external* teamwork (coordination with, and access to, specialists at experienced centers) are key for success of any transplant program initiating an HIV D+/R+ program and overcoming any unexpected obstacles

While a history of successfully completing five HIV D-/R+ transplants *for that specific organ* is one proxy for having this degree of teamwork, alternative pathways of ascertaining that the appropriate structure is in place would allow more centers to pursue HIV D+/R+ transplant while protecting patients