A 42 years old man with HIV-Ab positive, candidate for heart transplant

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- Educated petroleum engineer with ischemic cardiomyopathy
- Evaluated and listed for heart transplant.
- Serologic testing for HIV, hepatitis B and C was negative, while CMV and EBV IgG were positive.
- No absolute or relative contraindications to transplantation were identified.

- Vaccination was done:
- Influenza
- Pneumococcal 13
- Hepatitis b
- DT

- Wait in list for 1 month
- After 1 month, he returned with decompensated heart failure. The only choice for treatment and cure on that time was transplant. (LVAD not available)
- Per hospital protocol, viral markers were rechecked.
- HIV screening revealed reactive 4th generation HIV 1/2 antigen/antibody assays.
- He denied prior blood transfusions, intravenous drug use, or other recognized risk factors for HIV infection.

- HIV screening revealed repeatedly(in our hospital and another referral lab) to role out false positive result.one sample was positive again.
- the HIV-1 RNA nucleic acid test (NAT) was undetectable (<20 copies/mL), and the CD4 count was 1865 cells/mm.
- Non of our surgeon accepted to operate him.

- He received conservative treatment and renal failure happened.
- After that his family try to take allocation for heart transplant and finally another hospital accepted to do transplantation as a non-HIV positive patient.

- We did not have any news from him until he came back after 2 months post transplantation. He was in good condition.
- The subsequent course remained uneventful until 4 months after the transplant, when the patient developed persistent leukopenia.
- Initially, the dose of mycophenolate mofetil was reduced. However, when leukopenia persisted (WBC count = 2.8 × 103/μL with 59% neutrophils, 2% bands, 34%lymphocytes, 2%monocytes, 2% eosinophils and 1% basophils), HIV serology was ordered and the ELISA test was again positive. At that time , the viral load by PCR was 210 751 copies/mL and the CD4 cell count was 335 cells/mm3.

Positive test result: an unexpected finding

I don’t have any idea!

Management of Antiretroviral Therapy (ART) Post-Transplant and Drug-Drug Interactions (DDI)

- ART Initiation: ART is ideally initiated pre-transplant with viral suppression. Post-transplant initiation requires careful synchronization with immunosuppression dosing to maintain viral control while preventing rejection.
- DDI Management: The primary challenge involves interactions between ART (especially PIs/Boosters utilizing CYP3A4) and Calcineurin Inhibitors (CNIs) like Tacrolimus.
- Mechanism: Certain ART components can drastically increase or decrease CNI levels, leading to toxicity or acute rejection, respectively.
- Resolution: Management relies on selecting ART regimens with minimal CYP3A4 liability (e.g., NRTIs, certain NNRTIs), and rigorous Therapeutic Drug Monitoring (TDM) to adjust CNI doses proactively.

- The patient developed acute allograft rejection shortly after the initiation of the combined antiretroviral and immunosuppressive regimens.
- This necessitated an immediate escalation of immunosuppressive therapy, specifically high-dose pulse corticosteroids, managed concurrently with ART adjustments under strict Therapeutic Drug Monitoring (TDM) to mitigate toxicity risk.
- Despite intensive, multi-agent immunosuppressive escalation aimed at reversing the acute rejection episode, the patient experienced refractory graft failure, leading to subsequent mortality.


THANK YOU