

Update from IAS 2020

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Learning Objectives

After attending this presentation, learners will be able to

- Explain the circumstances around the latest purported long-term remission case
- Advise their patients about the latest data about weight gain on ART
- Counsel women who are contemplating pregnancy about risk of neural tube defects and dolutegravir

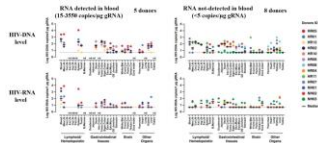
Slide 3 of 23

Cure/Remission

Slide 4 of 23

Reservoir Size – Autopsy Study

- Autopsy study: 8 patients with negative blood HIV usRNA on ART, 5 HIV RNA+ on ART
- Sampled tissues for HIV DNA, RNA and intact genomes



- 95% of pro-virus defective, + RNA in many tissues despite none in blood

Slide 5 of 23

Imamichi #OAA0403

Pro-viral Integration Sites

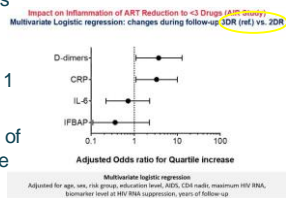
- Viral integration mapping in T4 cells from 50 pts suppressed on ART
- 38,214 unique integration sites, up to 8,000 per person
- 80% integrated within genes, skewed towards cell cycling, inflammation
- Majority of integrated virus not replication competent
- Even in those with clonal proliferation, many other infected cells also present

Slide 6 of 23

Roychoudury #OAA0404

< 3 Drug ART Pro-inflammatory?

- 8,415 otherwise healthy pts suppressed on ART
- 7,665 on 3 drugs, 424 changed to 2 drugs, 327 to 1 drug
- No difference in endpoints of death or end organ disease
- Studied biomarkers in 90 (3 drug), 60 (2 dr), 30 (1dr)



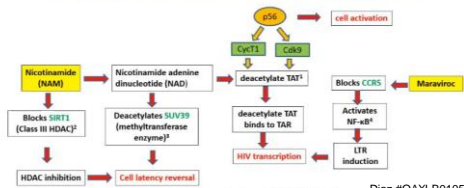
Slide 7 of 23

Serrano-Villar #OAB0303

Another Patient Cured?

1 patient from a study of adding DTG+ Maraviroc + Nicotinamide to ART

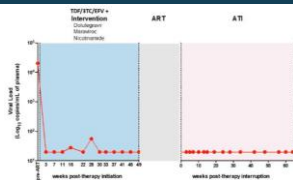
Multiple Latency Reversal Mechanism for Nicotinamide and Maraviroc



Slide 8 of 23

Diaz #OAXLB0105

Post-ART Interruption



- No detectable HIV RNA or DNA in blood, co-culture negative for HIV
- HIV-EIA reverted to negative, but Western blot positive
- No other study subjects in remission

Slide 9 of 23

Diaz #OAXLB0105

New ART - Islatravir

- Phase 1b study of DOR/3TC/TDF vs. ISL + DOR + 3TC (3TC stopped at 24 weeks)
- At week 48 viral suppression similar; viral loads to low for resistance testing in virologic failures
- Adverse effects similar, headache more common for ISL
- Small samples (30/arm)



Slide 10 of 23

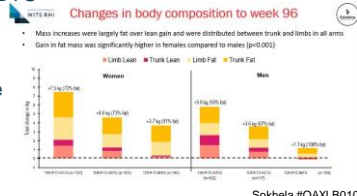
Orkin #OAB0302, DeJesus #OAB0304

ART Complications

Slide 11 of 23

Advance Study: TAF vs. TDF; DTG vs. EFV

- ART Naïve randomized to FTC +: TDF/EFV or TDF+DTG or TAF+DTG ~350 per arm
- Viral suppression similar all arms, but more RTI resistance in EFV arm
- Hip osteopenia:
16/351(5%)TAF
58/608(10%)TDF



Slide 12 of 23

Sokhela #OAXLB0104

What About Stopping TAF?

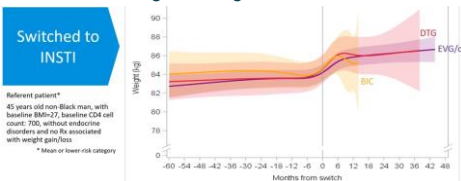
- TANGO study – 3 Drug regimen with TAF randomized 1:1 to continue or change to DTG/3TC
 - Adjusted* mean (SE) change from baseline in weight (kg) in the DTG/3TC and TAF-based regimen arms, respectively, was 0.81 (0.27) and 0.88 (0.25) in the boosted subgroup and 0.81 (0.45) and 0.40 (0.44) in the unboosted subgroup
- | Weight parameter | DTG/3TC (N=343) | TAF-based regimen (N=343) |
|---|-----------------|---------------------------|
| Adjusted* change from baseline, mean (SE), kg | 0.81 (0.23) | 0.76 (0.22) |
| Prior TAF duration <1 y† | 1.45 (0.46) | 1.35 (0.47) |
| Prior TAF duration ≥1 y† | 0.60 (0.26) | 0.60 (0.25) |
| Increased from baseline, n (%) | | |
| ≥10% | 11 (3) | 13 (4) |
- Changing to DTG/3TC not associated with weight loss by 48 weeks

Slide 13 of 23

van Wyk #0606

OPERA Cohort – U.S.

- Analyzed 6,919 who changed TDF to TAF and maintained 3rd drug or changed to INSTI



Those maintaining NNRTI, PI, INSTI or changing to INSTI had similar weight gain switching TDF + TAF

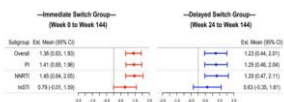
Mallon #OAB0604

Slide 14 of 23

Change to DOR/3TC/TDF – Effect on Weight

- Change from PI, NNRTI or INSTI based regimen to DOR/3TC/TDF
- Post hoc analysis of weight trends

Mean Weight Change from Time of Switch to Week 144 by Prior ART Regimen



PI = boosted didanosine, zalcitabine, or zalcitabine; NNRTI = efavirenz, nevirapine, or efavirenz; INSTI = boosted dolutegravir and was used with tenofovir disoproxil fumarate (TDF) in most cases (17/20 in INSTI, 7/9 in NNRTI).
Adjusted for weight at time of switch, race (black or non-black), ethnicity (cherokee or other), gender, age, baseline CD4 count, and HIV risk level.

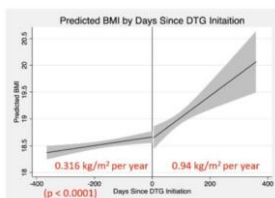
Patients on TAF+INSTI at baseline did not lose weight by week 48 after switch to TDF+DOR

Slide 15 of 23

Kumar #OAB0603

TLD “Roll Out” – Effect on Weight

- Study Africans who changed ART to TDF/3TC/DTG (TLD)
- Switching to TLD showed faster progression to overweight
- In adolescents BMI gains greatest in thin children



Slide 16 of 23

Ake #OAB0602, Kay #OAB0106

DTG Neural Tube Risk – Tsepamo Update

- Continued follow-up of birth defects in Botswana

NTD Prevalence (95% CI) with DTG at conception,
Apr 1, 2019-April 30, 2020



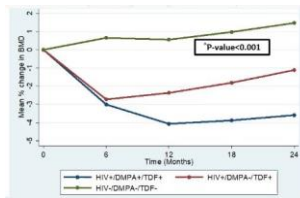
- Conclusion: 1 excess neural tube defect/1000 treated during conception

Slide 17 of 23

Zash #OAXLB0102

DepoProvera – Effect on Bone with TDF

- DMPA decreases estrogen and increases bone resorption
- Studied HIV+ women age 18–35 on DMPA at start of ART, compared to HIV+ non-DMPA, HIV-DMPA associated with increased bone loss with TDF containing regimens



Slide 18 of 23

Matovu #OAB0105

Other Infections

Slide 19 of 23

Risk Factors for HCV Re-Infection - MSM

- Analysis of European MSM cured of HCV by DAA
- Excluded those who relapsed with same virus

Risk	Adjusted O.R.
Shared Sex Toys	4.9 (2.3 – 10.3)
Receptive CAI	4.3 (1.9 – 9.8)
CD4 < 500	3.6 (1.7 – 7.6)
Group Sex	2.8 (1.3 – 6.0)
Pre-Sex Anal Rinsing	2.5 (1.1 – 5.4)
IDU	2.0 (0.7 – 4.8)

Slide 20 of 23

Newsun #PDB0306

Tuberculosis-

Update on the Nix-TB study of XDR/MDR treated with 6 months of Bedaquiline, Pretomanid, Linezolid (BPAL)

109 patients, 51% HIV+ on ART with mean CD4 304
Linezolid toxicity common, but responds to interruption

Table 1. Primary efficacy analysis*			
Outcome	XDR	MDR	Overall
Intention-to-treat population [†]			
No. of patients	71	18	109
Favourable outcome			
No. of patients	63	33	96
Percent of patients (95% CI)	89 (79–95)	92 (79–98)	88 (83–93)
Unfavourable outcome – no. (%)	8 (11)	5 (6)	13 (12)
Deaths – no.	6	1	7
Withdrawal during treatment – no.	1	0	1
Lost to follow-up after end of treatment – no.	0	1	1
Relapse – no.	1	1	2

*See: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5101014/>

	n (%)	favourable (95% CI)	proportion favourable (95% CI)
HIV positive	56 (51.4%)	56 (51.4%)	51% (48–55)
HIV negative	53 (48.6%)	53 (48.6%)	52% (49–56)

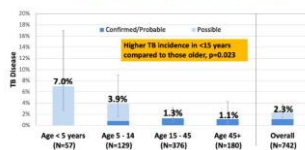
Slide 21 of 23

Ologbosi #OAB0502

Tuberculosis: Household Transmission

- Incidence of infection among MDR household contacts
 - At 1 year 21% acquired TB infection, 2.7% TB disease

Significant differences in age-specific incidence of TB disease among household contacts



Slide 22 of 23

Gupta #OAB0503

Question-and-Answer Session