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The HIV Landscape in the New Reality: 2020 Year in Review CME / ABIM MOC

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Educational Impact Challenge

The goal of this activity is to increase knowledge on the most recent developments in clinical practice for people living with HIV in 2020.

Before you begin this activity, please assess your clinical knowledge by completing this brief survey. Answering these questions again after the activity will allow you to see what you learned and to compare your answers with those of your peers.

Note: The information on the coronavirus outbreak is continually evolving. The content within this activity serves as a historical reference to the information that was available at the time of this publication. We continue to add to the collection of activities on this subject as new information becomes available.

SARS-CoV-2 and People Living with HIV

HIV and COVID-19 Outcomes

The biggest story in medicine this year has been the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)/coronavirus disease 2019 (COVID-19) pandemic, which has affected populations worldwide. In HIV care, the emergence of the COVID-19 pandemic has raised concerns about a "syndemic," in which the COVID-19 pandemic and HIV epidemic would interact synergistically to increase disease burden.[1] Older persons living with HIV (PLWH) may be particularly vulnerable to a syndemic, as older age and the presence of comorbidities -- such as hypertension or diabetes -- are associated with worse COVID-19 outcomes.[1,2] At the same time, PLWH younger than 50 may be at increased risk for poor COVID-19 outcomes because they are less likely to be diagnosed with HIV and engaged in HIV care.[1]

As with anything related to COVID-19, data regarding the impact of COVID-19 on PLWH are emerging at a rapid pace and can become outdated quickly, and the picture is not always clear. A call to action published earlier this year suggested that PLWH do not contract COVID-19 at disproportionate rates,[3] and 2 studies presented at the 2020 HIV Glasgow Virtual Program found no evidence of higher SARS-CoV-2 seropositivity among PLWH.[4,5] However, a systematic review and meta-analysis presented at ID Week 2020 found the prevalence of HIV to be twofold higher among patients with COVID-19 than in the general population, suggesting a higher susceptibility to COVID-19 among PLWH.[6]

With respect to patients with controlled HIV infection, defined as an undetectable viral load and a CD4-positive T-cell count of 200 cells/µL or higher, a UK study presented at HIV Glasgow 2020 reported that HIV-positive status was associated with a 63% increase in risk for day 28 mortality following COVID-19-associated hospitalization.[7] Despite this, a systematic review of 8 studies suggested that COVID-19 outcomes were no worse in people with controlled HIV infection than they were in the general population.[2] This was consistent with 2 studies that found no differences between PLWH and the general population with respect to comorbid conditions associated with poor COVID-19 outcomes[8] or in outcomes for patients hospitalized with COVID-19.[9]

Current COVID-19 guidelines for patients with well-controlled HIV recommend that PLWH have at least a 30-day supply of antiretroviral therapy (ART); that they be reassured that their risk for severe complications from COVID-19 is likely low as long as HIV remains controlled; that they be advised about the association between known risk factors and increased risk; and that they keep their vaccinations, including influenza and pneumococcal vaccines, up to date.[2] The guidelines also recommend that sputum and blood cultures be taken from patients with HIV and COVID-19 to detect superimposed bacterial infections, which have been associated with poorer COVID-19 outcomes.[2]

With respect to uncontrolled disease, the picture is even less clear. Half of patients with AIDS or uncontrolled HIV disease have comorbidities that would increase their risk for severe COVID-19 disease, suggesting that this patient population is particularly vulnerable to poor COVID-19 outcomes.[10] However, studies reviewed by Cooper and colleagues reported varying outcomes among patients with CD4 counts lower than

70 cells/μL,[2] and in a study presented at ID Week, all patients who died had undetectable viral loads, suggesting that patients with uncontrolled HIV are not at increased risk for COVID-19-associated mortality.[11]

Effects of the Pandemic on HIV Care

The COVID-19 pandemic has forced medical facilities across the globe to redeploy resources, leading to interruptions in and barriers to HIV screening, testing, and care.[2,10,12-16] PLWH are also more likely to experience treatment interruptions as a result of stay-at-home orders.[3] In response, some medical facilities have found alternative means of providing some kind of care, including telemedicine and the use of community organizations and non-government organizations to deliver home self-testing kits and ART[16-20] Despite these efforts, however, the cancellation of appointments could result in some patients being left behind or lost to follow-up at crucial points of treatment.[21] In addition, PLWH are already more likely to experience social isolation, and such isolation can be amplified with the lockdowns.[2-3] Social isolation, disruptions in HIV care, and other stressors associated with COVID-19 may have mental health repercussions among PLWH, ultimately leading to reduced therapeutic adherence and worse HIV outcomes.[2,3,10,18,22-24]

Health Disparities

The effects of COVID-19 are having a disproportionate impact on people of color and/or lower socioeconomic status, thereby amplifying disparities that already exist within HIV care.[3] Many PLWH are members of marginalized communities and therefore at risk for other social impacts of physical distancing and stay-at-home orders, such as risky or violent domestic arrangements, reduced access to needle exchange programs, long-term separation from primary social supports, and reduced access to medical or pharmacy services.[3] These issues must be taken into consideration to effectively address COVID-19 in vulnerable populations, including PLWH,[1] and ensure that no one is left behind.

Inclusion in Research and Translatability of Research Results to Different Populations

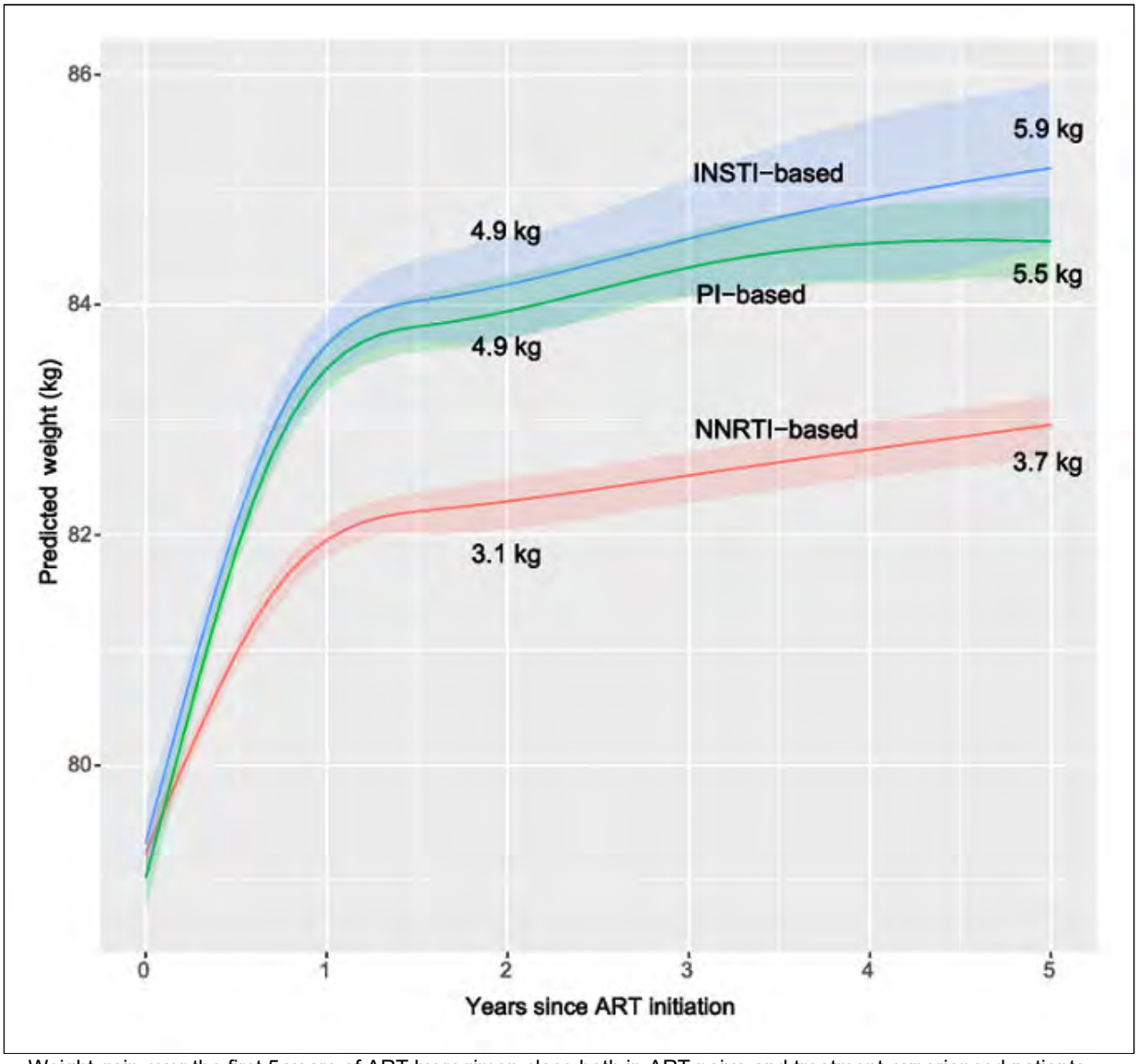
The acknowledgement of these disparities is part of a larger question dominating discussions in HIV care this year: that of inclusion in research and the translatability of research results. Historically marginalized populations, including women, various minorities, and older adults, have faced a disproportionate burden of disease, and clinical trial participation of some of these populations has been low. Efforts have aimed to increase participation by these groups, but in some cases, eligibility criteria may have established a barrier to participation. For example, trials that exclude certain comorbidities can unintentionally exclude older adults who are more likely to have them.

Discussions of efforts to mitigate these disparities are increasing. The Women Against Viruses in Europe (WAVE) working group has been established by the European AIDS Clinical Society to address gender health disparities and promote the health and wellbeing of all women living with HIV.[25] Sessions at the 2020 HIV Glasgow Virtual Meeting focused on increased representation of women in HIV clinical trials and on sex-specific analyses to inform decisions on dosing, safety, and efficacy of therapeutic agents for HIV.[26] In addition, presentations at both HIV Glasgow and ID Week addressed considerations for older adults living with HIV.

Integrase Strand Transfer Inhibitors (INSTIs) and Weight Gain

Concerns about inclusion tie into another big story for 2020: weight gain associated with INSTI-based regimens. INSTIs, particularly dolutegravir (DTG) and bictegravir (BIC), have become the preferred anchor drugs in first-line ART because of their durable virologic efficacy, lower pill burden, low rate of adverse events (AEs), and favorable metabolic lipid profiles, compared with protease inhibitors (PIs) and efavirenz (EFV).[27-30] However, increasing evidence shows that INSTIs are associated with unexpected weight gain, both in ART-naive patients and in treatment-experienced patients who are switching to INSTI-based regimens or adding an INSTI to their current regimens (Figure 1).[27-29,31-33] In one study presented at the 2020 HIV Glasgow Virtual Meeting, 35% of treatment-experienced patients experienced a weight gain of 10% or more following a switch to DTG, and 4% experienced treatment-emergent obesity.[34]

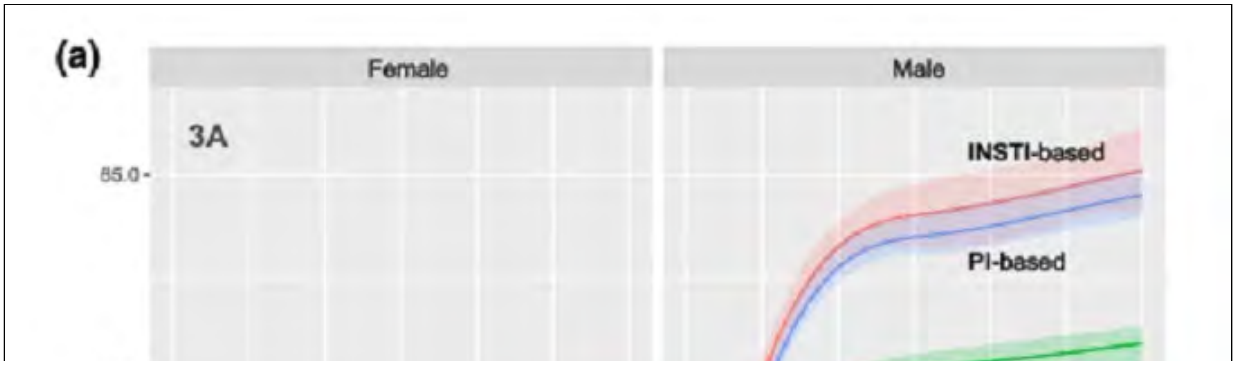
Figure 1. INSTIs Are Associated With Unexpected Weight Gain Among Patients With HIV

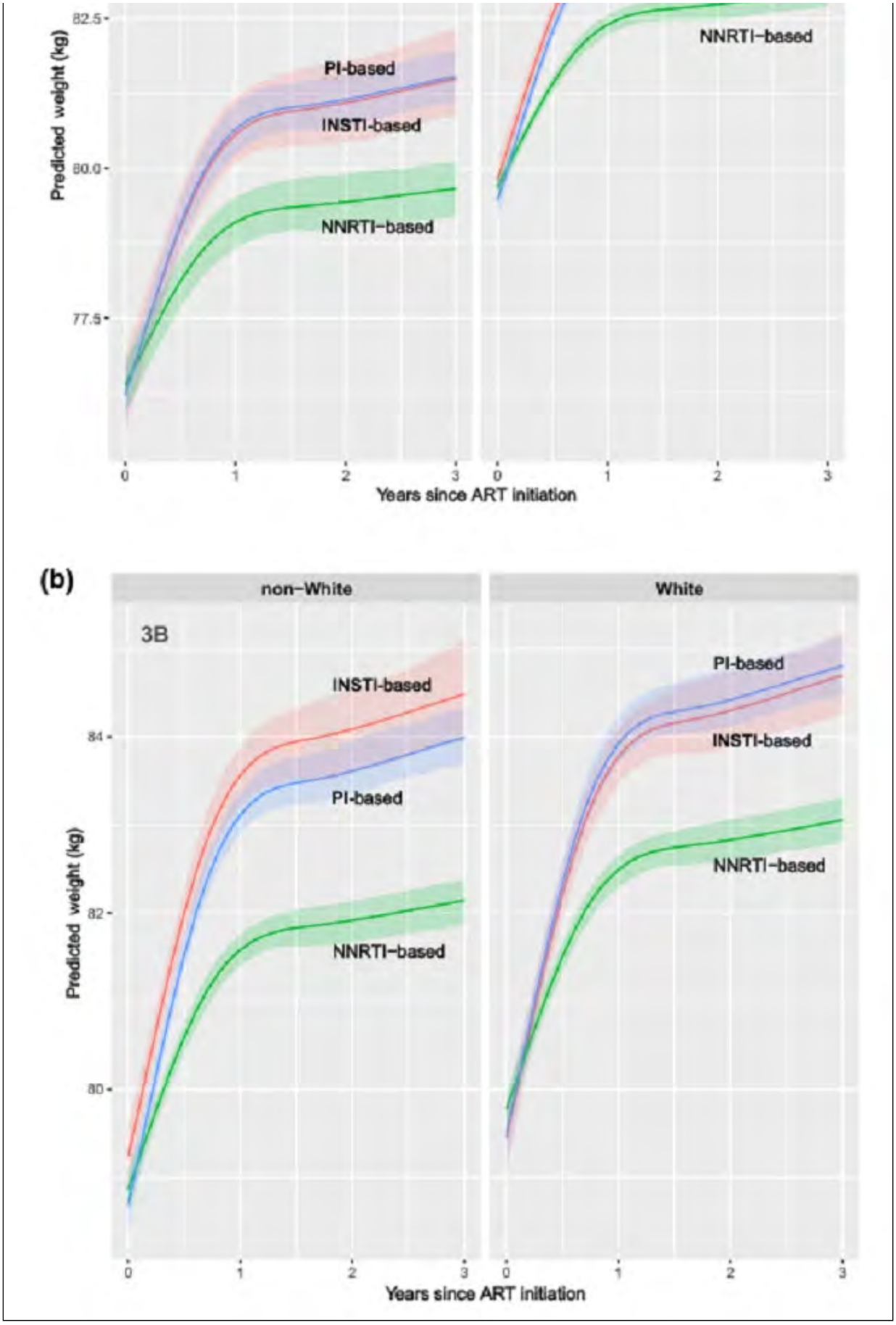


Weight gain over the first 5 years of ART by regimen class both in ART-naive and treatment-experienced patients. Source: Bourgi K et al. *J Int AIDS Soc*. 2020;23:e25484.[31]

INSTI-associated weight gain would appear to be modest among most patients,[35] though as data emerge from more representative populations the evidence indicates a disproportionate burden among women and Black PLWH (Figure 2).[27,29,35,36] A study of 1118 participants in the US Women's Interagency HIV Study found that women experienced higher increases in body weight, body mass index (BMI), percent body fat, and waist, hip, arm, and thigh circumferences following a switch to INSTI-based ART or addition of an INSTI to their regimen.[36] Likewise, 96-week data from the ADVANCE study showed a higher rate of treatment-emergent obesity and a higher increase in fat mass among female patients on DTG-based regimens, and almost 11% of female patients receiving DTG + tenofovir alafenamide (TAF) and emtricitabine (FTC) experienced treatment-emergent metabolic syndrome.[37,38] Two retrospective cohort studies presented at ID Week 2020, one in ART-naive patients (73% Black, 21% female) and one in patients switching from tenofovir disoproxil fumarate (TDF) and TAF (73% Black, 33% female), also showed that INSTI-associated weight gain was greatest among female patients.[39,40]

Figure 2. INSTI-Associated Weight Gain Disproportionally Affects Female and Black PLWH





Weight gain over the first 3 years of ART by a) regimen class and sex and b) by regimen class and dichotomized race. Source: Bourgi K et al. *J Int AIDS Soc.* 2020;23:e25484.[31]

Although ART-associated weight gain appears to be comparable between patients on INSTI-based regimens and those on PI-based regimens,[31,41] the proportion of individuals with overweight or obesity increases significantly with INSTI-based regimens.[41] Likewise, no significant differences in weight gain have been observed among patients switching from one INSTI-based regimen to another, but patients switching from non-INSTI- to INSTI-based regimens experience significant weight gain.[28,41] The amount of weight gained appears to be highest for DTG-based regimens[27,31] and lowest for elvitegravir (EVG)-based regimens.[28,43] In addition, as demonstrated by the ADVANCE study and reports from ID Week 2020, TAF is associated with higher weight gain and higher rates of treatment-emergent obesity and metabolic syndrome.[27,37,38,40,44,45]

These findings are of tremendous clinical importance because of the increased risk for long-term complications associated with increased weight. The prevalence of obesity among PLWH on ART is already high, and it has increased steadily over the past 2 decades, most likely as a result of improved survival with ART, an obesogenic environment, shifting demographics, and an aging population.[29,31] Excess adiposity is associated with increased risk for diabetes mellitus, neurocognitive impairment, and liver disease; accordingly, the evidence suggests that the burden of metabolic diseases among PLWH is increasing along with the rise in obesity.[29] Consistent with this evidence, posters presented at ID Week 2020 reported an association between INSTI-based regimens and metabolic diseases,[46,47] with one study finding that DTG and BIC were associated with hyperglycemia and new-onset diabetes.[46]

More research is needed to define the clinical impact of INSTI-associated weight gain on lipid profiles and cardiovascular risk.[27,36] However, one published study has reported a higher increase in high-density lipoprotein among PLWH whose weight had increased by at least 10% following initiation of a DTG-based regimen,[27] another has shown significant increases in triglycerides among patients switching to an EVG-based regimen,[28] and yet another has shown an increase in hypertension and hyperlipidemia among PLWH switching to a regimen containing TAF.[44]

How to manage INSTI-associated weight gain is not clear. Simply switching ART components may not be sufficient to reverse the effects, as suggested by data from the switching studies. At the very least, close monitoring of weight changes following the initiation of INSTI-based regimens may be warranted to identify patients who could benefit from weight-loss interventions and closer assessments of cardiometabolic risks.[31,45,46]

Pre-Exposure Prophylaxis (PrEP)

Concerns about inclusion and health disparities are also relevant to continued discussion on the uptake and acceptability of PrEP. Although adherence to PrEP is the strongest predictor of efficacy, uptake has been low in the US and in Africa.[48] In 2018, cisgender women accounted for 19% of new HIV infections in the United States but only 7% of all PrEP users.[49] A study presented at ID Week found that 89% to 98% of individuals across 8 PrEP clinics were men and that PrEP adherence, as determined by measuring urinary tenofovir concentrations, was significantly lower among individuals assigned female at birth.[49] PrEP use also remains low in the US South, with a short-term retention rate of 55% and a long-term retention rate of only 37%.[50] These findings are consistent with a study showing that PrEP users were more likely to be non-Hispanic White, older, and male, and less likely to reside in the US South.[51] They were also more likely to use commercial health insurance than public health care coverage or publicly sponsored assistance programs.[51] A study among transgender women found high rates of linkage to care and PrEP prescription and initiation, even among those with mental health and substance use comorbidities, but there was a significant reduction in persistence.[52] Thus, many individuals who would benefit from PrEP do not receive it, and those who receive prescriptions for PrEP are different from the broader population at risk for acquiring HIV.[51]

ART in Women and Pregnancy

Efficacy and Safety of ART During Pregnancy

This year saw the publication and presentation of more studies supporting the efficacy and safety of ART during pregnancy. A study presented at the 2020 HIV Glasgow Virtual Program found no statistically significant associations between any ART regimens and adverse pregnancy outcomes.[53] At the same time, 2 open-label studies published in 2020 demonstrated that the proportion of mothers with a viral load lower than 50 copies/mL at delivery was significantly higher among those receiving INSTI-based regimens later in pregnancy than among those receiving EFV, with no differences in grade 3 or 4 AEs, maternal outcomes, or infant outcomes.[54,55] In the DolPHIN-2 study in South Africa and Uganda, more mothers in the DTG group reported serious AEs, but this was driven primarily by prolonged pregnancies.[55]

Data presented this year may have finally put to rest concerns about neural tube defects among infants born to mothers who conceived while taking DTG-based regimens. Initial reports from the Tsepamo study noted a significant increase in these defects, prompting a drug safety alert for clinicians and patients to consider avoiding DTG during the periconception period.[56] As a result, guidelines in the US and Europe recommend against DTG during the first trimester, and guidelines in the UK recommend against it for women who are planning pregnancy and through the first 8 weeks of pregnancy.[56] A recent update from the Tsepamo study reported a neural tube defect prevalence rate of 0.3% following DTG exposure at conception, compared with 0.1% following exposure to non-DTG ART,[57] and no neural tube defects were reported in the DolPHIN-2 study.[55]

Adherence to ART can be particularly challenging for HIV-positive mothers during pregnancy, delivery, and the postpartum period.[58] A recent analysis of 2 IMPAACT PROMISE 1077 cohorts has provided reassuring data that short-term lapses in ART do not result in more rapid disease progression or death.[58] The rates of AIDS-defining illness and death were low across all comparison groups during the 4-year follow-up period, and there were no statistically significant differences in these outcomes between mothers receiving short-term ART during the antenatal period and those receiving it during breastfeeding.[58] However, the safety of TDF with respect to pregnancy outcomes is not clear. The IMPAACT PROMISE trial had previously reported that the risk for very preterm delivery increased by more than twofold and that the risk for early infant death increased fourfold among mothers taking TDF, compared with those taking zidovudine (ZDV).[59] This report contradicted a study finding no significant differences in adverse pregnancy outcomes between mothers taking DTG and those taking ZDV in 2 US perinatal HIV prevention cohorts.[59]

Breastfeeding

Women living with HIV in high-income settings are advised against breastfeeding because of the risk for HIV transmission through breastfeeding and because formula feeding is generally safe in these settings.[56] Increasingly, however, mothers with suppressed viral loads in high-income settings are choosing to breastfeed against medical advice for social, personal, and cultural reasons.[56] Moreover, World Health Organization (WHO) recommendations, intended for low-income countries with high HIV prevalence, state that mothers living with HIV can breastfeed for at least 12 months and continue breastfeeding for up to 24 months while receiving support for ART adherence.[56] Although no study has examined the risk for postnatal HIV transmission through breastfeeding in high-income countries, studies in low-income countries have shown that successful treatment with ART throughout pregnancy and breastfeeding can reduce, but not eliminate, the risk for HIV transmission through breast milk.[56]

The contrast in recommendations between high- and low-income settings, fears of stigma among mothers who engage in formula feeding, and increasing evidence of morbidity associated with formula feeding raises questions about maintaining such rigid recommendations against breastfeeding in high-income settings.[56] Advocates have proposed shifting to a model of shared decision-making following an open discussion of the risks and benefits of various feeding approaches.[56] Strategies to promote engagement and emphasize the importance of adherence are important, as poor adherence can lead to viremia and increase the risk for HIV transmission through breastfeeding.[56] It should also be recognized that counseling should be individualized to each mother's needs and preferences.[56]

ART Optimization for Aging Patients With Comorbidities

Worldwide, 17% to 20% of PLWH are aged 50 years and older, and that percentage is increasing as more PLWH live longer on ART.[30,60] At the same time, UNESCO estimates that 6.9 million adults aged 50 years and older will be infected with HIV in 2020, representing an increase of 47% from 2010.[60] All major treatment guidelines recommend ART for all people with HIV, regardless of CD4 count.[30] However, older PLWH have been underrepresented in pivotal clinical trials.[30] With the increasing proportion of older adults among PLWH and the changes associated with aging in general, adequate representation of older PLWH in HIV clinical trials is increasingly important.

Because older PLWH have not traditionally been represented in clinical trials, the pharmacokinetics and pharmacodynamics of ART in this population is uncertain.[30] In addition, aging itself is associated with a chronic inflammatory process, called "inflammaging" by some, that places older adults at increased risk for chronic conditions such as cardiovascular disease and diabetes.[61] Older adults are also at increased risk for organ dysfunction, declines in physical and cognitive function, and frailty.[30,60,62] These risks may be compounded by HIV infection, which can be said to accelerate aging,[62] and older PLWH may be at increased risk for complications associated with long-term ART.[60] Moreover, the immune system declines with age, altering the response to infection and ART.[60] A recent meta-analysis found that viral suppression is significantly higher among older PLWH than younger ones at 36 months after ART initiation, but baseline CD4 counts are lower, baseline viral loads are higher, and CD4 count restoration is lower among older PLWH.[60] AIDS-related mortality is only slightly higher among older PLWH, but total and non-AIDS-related mortality is significantly higher.[60] These factors highlight the importance of early diagnosis and treatment for older PLWH, and adjuvant therapy to strengthen immune function should be considered.[30,60]

The increased risk for age-associated conditions increases risks associated with polypharmacy, inappropriate prescribing, and adverse drug-drug interactions.[30,60,62] A retrospective chart review of PLWH having at least one potentially inappropriate prescription found that 28.8% of those patients presented with at least one AE, that 67% presented with serious AEs, and that the risk for AEs increased with increasing number of medications.[63] This indicates a need for medication reconciliation, review, and prioritization for older PLWH.[63]

It is therefore important to place HIV care and treatment selection in the context of a broader, holistic approach to management. Although the evidence supports recommendations for INSTI-based and TAF-containing regimens as first-line therapy for all adults, including older PLWH,[30,64-66] the weight gain observed with these regimens should be considered in the context of older adults' increased risk for obesity-associated conditions. Other known toxicities associated with ART components should be considered in this context.[30]

ART

New Treatments

Doravirine (DOR) is a novel non-nucleoside reverse transcriptase inhibitor (NNRTI) with potent activity against wild-type HIV and the most common NNRTI-resistant variants.[67] It has been approved in the United States, Canada, and Europe, both as a single agent and as a once-daily fixed-dose combination tablet combining DOR with TDF/lamivudine (3TC).[67] In the phase 3 DRIVE-FORWARD trial assessing DOR in ART-naive patients, 84% of those receiving DOR plus 2 nucleoside reverse transcriptase inhibitors (NRTIs) achieved a viral load < 50 copies/mL at 48 weeks, compared with 80% of those receiving boosted darunavir (DRV).[67] The DRIVE-FORWARD trial therefore established noninferiority for DOR.[67] At 96 weeks, however, DOR showed greater efficacy (73% vs 66% for DRV) in reducing viral load to < 50 copies/mL.[67] DOR was well tolerated and showed a superior lipid profile throughout the trial.[67] AE profiles were similar between the 2 treatment groups, and treatment-emergent resistance occurred in 1% or less of both groups.[67]

A study presented at ID Week 2020 analyzed week 96 results from phase 2 and 3 trials of DOR in ART-naive adults and looked specifically at safety and efficacy in older PLWH.[68] This analysis showed a higher proportion of patients with viral loads < 50 copies/mL and a lower discontinuation rate for lack of efficacy in patients aged 50 years and older receiving DOR, compared with those younger than 50 years. Rates of AEs and serious AEs were similar between age cohorts across all treatment groups. Thus, DOR is also a beneficial option for older PLWH.[68]

MK-8507, a novel NNRTI with a high in vitro barrier to resistance, is in development as a once-weekly oral treatment for HIV.[69] A study presented at the 2020 HIV Glasgow Virtual Program found that single MK-8507 doses as low as 4 mg reduced viral load at 7 days, with a reduction ranging from 1.22 $\log_{10}$ copies/mL at 40 mg to 1.53 $\log_{10}$ copies/mL at 600 mg.[69]All doses were well tolerated, with the most common AEs being nasopharyngitis and headache.

Islatravir is the first nucleoside reverse transcriptase translocation inhibitor (NRTTI) in development for prevention and treatment of HIV.[70] Week 96 data presented at the 2020 HIV Glasgow Virtual Program showed that islatravir plus DOR maintained viral suppression, with 90% of patients receiving a 0.75 mg dose maintaining viral loads < 50 copies/mL compared with 80.6% of those receiving DOR + TDF/3TC.[70] Islatravir was also well tolerated, with fewer AEs reported in the islatravir group. Further analysis found a low rate of protocol-defined virologic failure across all participants, with only one additional failure occurring between week 48 and week 96.[71] Individuals who discontinued still had viral loads lower than 200 copies/mL.

Fostemsavir (FTR), a gp120 attachment inhibitor, was approved by the US FDA in July 2020 for the treatment of heavily treatment-experienced patients who have run out of treatment options, based on results from the ongoing phase 3 BRIGHTE trial.[72] Further analysis from the BRIGHTE study showed that gp120 polymorphisms, temsavir IC50 fold change, and HIV-1 subtype did not reliably predict virologic outcome at day 8 or influence the durability of response to FTR plus background therapy.[73]

A poster presented at ID Week 2020 highlighted considerations to reduce the risk for thromboembolic events among individuals taking FTR and estrogen-based hormone therapy.[74] Although coadministration of FTR with hormone therapy was not expected to affect FTR efficacy, the poster suggested reducing the dose of ethinyl estradiol to 30 µg or less daily to minimize risk. While the poster suggested that alternative or additional contraception methods be considered and guided by PI-prescribing recommendations, it also suggested that FTR could be coadministered with gender-affirming or menopausal hormone therapy, with doses adjusted as needed.[74]

Two-Drug Regimens (2DRs) and Long-Acting Injectables

2DR and long-acting injectables continue to receive attention. Data from the GEMINI and TANGO studies have confirmed that DTG/3TC is noninferior to 3-drug regimens (3DRs) in both treatment-naive and treatment-experienced patients, and the SWORD studies have shown that DTG/rilpivirine (RPV) is noninferior to 3DR ART in treatment-experienced patients.[75] At the 2020 HIV Glasgow Virtual Program, the TANGO study presented 96-week data, and the GEMINI studies reported 3-year results, all confirming the long-term noninferiority of DTG-based 2DR to comparator regimens.[76,77] At ID Week 2020, the GEMINI studies reported that the week 48 virologic response to 2DR was lower in participants with less than 90% adherence; however, the impact was similar between 2DRs and 3DRs.[78]

The LATTE studies have demonstrated that long-acting intramuscular cabotegravir (CAB) + intramuscular RPV shows similar results to 3-drug therapy.[75] ATLAS and ATLAS-2M study data presented at HIV-Glasgow showed that long-acting CAB + RPV maintained virologic suppression through 96 weeks, with no new safety signals,[79] and that CAB+RPV every 2 months demonstrated comparable safety and efficacy to standard-of-care, guideline-recommended oral ART.[80] Further analysis of data from ATLAS-2M also showed high efficacy rates, tolerability, and satisfaction rates for CAB + RPV every 2 months among women.[81] The FLAIR study, which has established noninferiority of switching suppressed patients from daily oral DTG + ABC/3TC to monthly CAB + RPV following an oral lead-in, reported week 124 results showing similar safety and tolerability when patients switched directly to CAB + RPV without a lead-in period.[82] In baseline and multivariable factor analyses of pooled data from the ATLAS, FLAIR, and ATLAS-2M studies, no baseline factor predicted virologic failure on CAB/RPV, but confirmed virologic failure was modestly higher among participants with a combination of RPV resistance mutations, A6/A1 subtype, or higher BMI.[83]

Although presentations from the 2020 HIV Glasgow Virtual Program and ID Week 2020 focused primarily on INSTI-based 2DR, PI-based 2DR has also shown efficacy and safety in both treatment-naive and treatment experienced patients.[75]

Summary and Conclusions

This year in clinical practice has been dominated by the COVID-19 pandemic. The precise impact of COVID on PLWH is not clear, although the evidence to date suggests that PLWH are not at increased risk for severe COVID-19 disease. Response to the pandemic has certainly had repercussions for PLWH. Stay-at-home orders, physical distancing, and the redeployment of medical resources have led to disruptions in care and increased strains on mental health, which could have implications for adherence and HIV outcomes. In addition, the pandemic has particularly highlighted health disparities that already existed in HIV care. More effort is needed to close these gaps and ensure no PLWH is left behind.

The issue of inclusion and representation in research is receiving increasing focus as new data reveal other disparities. Several studies have shown an association between INSTI-based regimens and significant weight gain, obesity, and even metabolic disorders. These findings are driven primarily by a disproportionate burden of weight gain among female and Black PLWH. Likewise, uptake of and adherence to PrEP continue to be low among women, racial and ethnic minorities, and PLWH in the US South, even though these populations would benefit from it.

The increasing number of older PLWH highlights the need to include more older adults in HIV clinical trials. Because this population has not traditionally been eligible, the pharmacokinetics, pharmacodynamics, and complications associated with long-term ART are not clear. Aging itself is associated with increased risk for metabolic and cardiovascular diseases, neurocognitive declines, and frailty, and HIV infection enhances this risk. With these increased risks, changes in immune function, and the increased likelihood of issues associated with polypharmacy, HIV care and ART selection should be incorporated into a broader, holistic approach to management for older PLWH. This is particularly true when selecting ART regimens.

This year has seen more data supporting the safety of ART during pregnancy. New data from the Tsepamo study indicate that the prevalence of neural tube defects among infants exposed to DTG at conception is even lower than initially presumed, and new data from the IMPAACT PROMISE study suggests that short-term lapses in ART among pregnant or breastfeeding mothers do not increase the risk for HIV disease progression or death. This year has also seen increased discussion, in high-income countries, of moving away from strict recommendations against breastfeeding to a model of shared decision-making.

The gp120 attachment inhibitor FTR has been approved in the United States as salvage therapy for heavily treatment-experienced PLWH, and considerations have been proposed for patients taking FTR and estrogen-based hormone therapy. This year has also seen promising efficacy and safety data for 2 novel NNRTIs, as well as for the first NRTTI, and data presented at the 2020 HIV Glasgow Virtual Program and ID Week 2020 continue to support the noninferiority of 2DR in both treatment-naive and treatment-experienced patients.

Educational Impact Challenge

What did you learn from this activity? Please click on the "Next" button to proceed to a brief survey to see how your knowledge improved after the education. You can also see how your answers compare with those of your peers.

Educational Impact Challenge

2DR = 2-drug regimen
3DR = 3-drug regimen
3TC = lamivudine
ABC = abacavir
AE = adverse event
ART = antiretroviral therapy
BIC = bictegravir
BMI = body mass index
CAB = cabotegravir
cobi = cobicistat
DOR = doravirine
DRV = darunavir
DTG = dolutegravir
EFV = efavirenz
EVG = elvitegravir
FTC = emtricitabine
FTR = fostemsavir
INSTI = integrase strand transfer inhibitor
NNRTI = non-nucleoside reverse transcriptase inhibitor
NRTI = nucleoside reverse transcriptase inhibitor

NRTTI = nucleoside reverse transcriptase translocation inhibitor
PI = protease inhibitor
PLWH = persons living with HIV
PrEP = pre-exposure prophylaxis
r = ritonavir
RPV = rilpivirine
TAF = tenofovir alafenamide
TDF = tenofovir disoproxil fumarate
WAVE = Women Against Viruses in Europe
WHO = World Health Organization
ZDV = zidovudine

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