

HIV CareLink

A Newsletter for HIV/AIDS
Primary Care Providers

Volume 8 - Issue 6

Special Bulletin

May 18, 2007

UPDATE ON THE 14th CONFERENCE ON RETROVIRUSES AND OPPORTUNISTIC INFECTIONS (CROI): Los Angeles, CA

Part 2

February 25-28, 2007

Alicia D. Wright, Pharm.D. Candidate

University of Florida, College of Pharmacy

The following are summaries of selected abstracts from the 14th CROI held in Los Angeles, CA in February of this year. For more detailed information on the abstracts, go to www.clinicalcareoptions.com/HIV (conference summaries) or www.retroconference.org/2007 (downloadable abstracts).

EDITORS

Jeffrey Beal, M.D.
(239) 839-4645
aetbeal@earthlink.net

Joanne Orrick, Pharm.D., B.C.P.S.
(352) 273-6365
orricj@ufl.edu

MANAGING EDITOR

Kimberly Alfonso, M.Acc.
(813) 974-4430
alfonso@fmhi.usf.edu

ABOUT US

The Florida/Caribbean AIDS Education and Training Center provides HIV education, consultation, and resource materials to health care providers in Florida, Puerto Rico and the US Virgin Islands.

Major funding is provided by the US Public Health Service's Health Resources Services Administration (HRSA) DHHS-HAB Grant No. H4AHA00049 through the University of South Florida Center for HIV Education and Research, Michael Knox, Ph.D., Director

Early Mortality in Patients with HIV-Associated TB

Lawn S, et al. Abstract 81

- Previous analyses have revealed a high mortality in HIV-infected tuberculosis (TB) patients awaiting initiation of antiretroviral therapy (ART)¹. Optimal time to initiate ART remains unknown
- Prospective observational study to more clearly define TB-associated mortality and to determine if there is any correlation between initiation of ARVs and clinical outcomes
- Prospectively assessed mortality before starting ART and 4 months following therapy initiation
- Study population: 888 pts from South African ARV therapy program
 - Without TB: 675, With TB: 213, Active TB: 73

Results:

- Mortality significantly greater in HIV-infected patients with TB compared to those without TB ($p < 0.01$). Baseline median CD4+ cell counts significantly less among patients with TB.

	Deaths per 100 person-years	Baseline Median CD4+ cell count (cells/mm ³)
Without TB	21	108
Inactive TB	37	66
Active TB	44	84

- Multivariate analyses showed CD4+ cell count < 100 cells/mm³ and WHO stage IV HIV disease to be the only 2 predictors of mortality (not TB status)
- Risk of death associated with ART status

- 73 patients with TB diagnosed before initiation of ART
 - 48 pts received ART after median of 42 days
 - 14 deaths occurred, 10 (71%) in pts awaiting ART
 - Most within first 4 wks of anti-TB therapy (n=7)
 - 4 deaths after initiation of ART, 2 due to immune reconstitution syndrome

Conclusions:

- Data suggests need for initiation of ART within 1st month of TB diagnosis in pts with CD4+ cell count < 100 cells/mm³

Reference:

1. Moore D et al. Prevalence, incidence and mortality associated with tuberculosis in HIV-infected patients initiating antiretroviral therapy in rural Uganda. AIDS 2007, 17: 713-718.

TB-Associated Immune Reconstitution Inflammatory Syndrome (IRIS) within an ART Program in Sub-Saharan Africa

Lawn S, et al. Abstract 863

(Lawn et al. AIDS 2007; 21(3):335-41)

- Retrospective analysis to determine risk factors, frequency, and effect of TB associated IRIS in pts initiating ART in sub-Saharan African
- Study population: 160 HIV-infected pts receiving TB tx at time of ART initiation (ART= stavudine + lamivudine + efavirenz)
- Baseline characteristics (median):
 - CD4+ cell count = 68 cells/mm³
 - HIV-RNA level = 5.13 log₁₀ copies/mL
 - Days after TB diagnosis until ART initiated = 105

For more information,
please visit our website:

www.FAETC.org

To request clinical consultation, please call the
National Clinicians' Consultation Hotline:

1-800-933-3413



HIV CareLink

Results

- 19 pts developed TB-associated IRIS during the first 4 months of initiating ART
- IRIS developed in 32% (n=12) of pts starting ART within first 2 months of TB diagnosis

Characteristics	IRIS (n=19)	No IRIS (n=141)	P value
Median age, years	35	32	0.6
Female, n (%)	11 (58)	105 (74)	0.13
CD4+ cell count, n (%)			
> 150 cell/mm ³	0	26 (18)	
100-149 cells/mm ³	2 (11)	28 (20)	
55-99 cells/mm ³	5 (26)	42 (30)	
<50 cells/mm ³	12 (63)	25 (32)	0.03
Median HIV-1 RNA level, log ₁₀ copies/mL	5.13	4.96	0.27

- ↑ risk of IRIS in pts starting ART within 2 mos of TB diagnosis
 - Relative risk compared to those starting > 90 days from TB diagnosis
 - 10.6 (1.88-59.5, p=0.007) for 31-60 days
 - 69.5 (9.94-485.6, p < 0.001) for 0-30 days
 - % of pts with CD4+ counts < 50 (n=37) who develop IRIS following ART initiation after TB diagnosis:
 - 100% when ART initiation within 0-30 days
 - ART initiation 31-60 days: 33%
 - ART initiation 61-90 days: 14%
 - ART initiation 91-120 days: 7%
 - ART initiation > 120 days: 0%
 - Most IRIS cases were self-limiting; however 2 patients died

Conclusions

- Risk of developing TB-associated IRIS is high in HIV-infected patients in sub-Saharan Africa with low baseline CD4+ cell counts and early initiation of ART during TB treatment

Use of Interferon-Gamma Release Assay to Detect Latent TB in HIV-Infected Patients

Luetkemeyer A, et al. Abstract 860

- HIV-infected persons with latent TB infection more likely to progress to active TB compared to those who are not HIV-infected. Detection and treatment of latent TB is vital in this population.
- Tuberculin skin test (TST) and interferon-gamma release assay (IGRA) are tests that detect latent TB infection. One major drawback of the TST test is the need for the patient to return to clinic in 48-72 hours to have the test interpreted
 - IGRA is a hopeful alternative to TST; efficacy not established in HIV-infected pts
 - Uses TB-specific antigens: early secreted antigen target-6, culture filtrate protein-10, and portion of TB antigen TB7.7
- Observational study to compare the accuracy and sensitivity of IGRA vs. TST for diagnosis of latent TB in HIV-infected patients

- Study population: 294 HIV-infected pts ≥ 18 yrs of age from 2 San Francisco cohorts [SCOPE (Study on Consequences of the PI Era) and REACH (Research in Access to Care for the Homeless)].
 - Exclusions: receiving TB treatment, prior severe reaction to TST, and/ or pregnant
- TST performed (5 units of purified protein derivative) and interpreted 48-72 hours following test.
- IGRA test performed using enzyme-linked immunosorbent assay for interferon -γ (QuantiFERON®-TB-Gold In-Tube, QFT)

Results

- 70% (n=205) of pts returned to have TST interpreted
- Concordance between TST and IGRA = 83.9% (kappa = 0.37; P = 0.001)
 - Concordant TB (-) results: 85.2%
 - Concordant TB (+) results: 4.1%
 - Discordance occurred in 10.7 % [5.1% TST (+)/QFT (-); 5.6% TST (-)/QFT (+)]
 - 2.4% of pts had (+) TST but (-) QFT if those with prior (+) TST excluded (i.e. presumed false-negative QFT for TB infection)
- IGRA Test indeterminate results

CD4+ cell count	% of indeterminate results
<100 cell/mm ³	16.1
100-350 cells/mm ³	3.6
>350 cell/mm ³	3.9

Conclusions

- High concordance between TST and QFT in HIV-infected pts (similar to that seen in immunocompetent pts)
- Higher indeterminate QFT results in advanced disease (CD4+ cell count < 100 cells/mm³) warrants further investigation

Factors Influencing High Prevalence of Low Bone Mineral Density (BMD) in HIV-Infected Population

Overton E, et al. Abstract 836

- ↓ BMD prevalent among HIV-infected patients
- Prospective, observational case-control analysis of pts in the Study to Understand the Natural History of HIV/AIDS (SUN) cohort
- Study population: 625 HIV-infected pts matched with HIV-uninfected controls from National Health and Nutrition Examination Study III (NHANES III) according to age, sex, race, and BMI
- HIV-infected patient characteristics: mean age 41 years, 78% male, mean BMI 26.4 kg/m², 75% on ART

Results

- ↓ BMD more prevalent in HIV-infected cohort compared to NHANES II cohort

BMD Measure	HIV Cohort N= 625	NHANES Cohort N=625	P value
Mean T-score at femoral neck	-0.77	-0.36	≤ 0.001
Osteopenia* (%)	51.7	29.1	NG‡
Osteoporosis† (%)	9.8	1	NG‡

*Osteopenia: T-score -1.0 to 2.5 by DEXA

†Osteoporosis†: T scores ≤ -2.5

‡NG=not given

The complete collection of previous issues of HIV CareLink are available online.

To view past issues, please visit the archives at:

www.FAETC.org/Newsletter



HIV CareLink

- Factors associated with low BMD: male sex, low BMI, unemployment, older age
- Factors associated with osteoporosis: low BMI (<22.5 kg/m²), older age (> 45 years), low CD4+ count (<200 cells/mm³) and longer duration of HIV-infection (>97.7 months)

Conclusions

- Low BMD, including osteopenia and osteoporosis, is much higher in HIV-infected vs. HIV-uninfected individuals
- Factors associated with low BMD include male sex, older age, low BMI, low CD4+, longer duration of HIV infection

Alendronate with Calcium and Vitamin D Supplementation Superior to Calcium and Vitamin D Alone in Management of Low BMD in HIV-Infected patients (ACTG 5163)

McComsey GA, et al. Abstract 42

- Bisphosphonates (e.g. alendronate) inhibit bone resorption and are the standard treatment for postmenopausal and male osteoporosis
- Prospective, randomized, placebo-controlled multicenter trial to assess the efficacy of calcium and vitamin D ± once-weekly alendronate (70 mg) in improving BMD
- Study population: 82 HIV-infected individuals
 - Baseline characteristics (median): Lumbar spine T-scores: -2.1; age: 48 years; median CD4+: 469 cells/mm³; HIV RNA < 400 copies/mL in 91%

Results

Median Change in BMD at 48 wks	Alendronate+ Calcium/ Vit D (n=42)	Calcium/ Vit D (n=40)	P Value
Lumber Spine	3.38%	1.10%	0.03
Total Hip	3.95%	1.31%	0.004
Trochanter	4.42%	0.72%	0.03
Femoral Neck	2.21%	1.24%	0.35

- No apparent gender differences or significant adverse effects; black race associated with less improvements in BMD

Conclusions

- Once-weekly alendronate with calcium/vitamin D is safe/effective in treatment of low BMD in HIV-infected individuals
- Calcium/ vitamin D associated with modest improvements in BMD

Pharmacists are invited to attend

An AIDS Update (HIV 101)

Wednesday, June 6, 2007 Hyatt Regency

Miami, FL

Dinner Program

Presented by:
Florida/Caribbean
AIDS Education and
Training Center

Sponsored by:
Florida A&M University
College of Pharmacy and
Pharmaceutical Sciences



Florida/Caribbean
AETC
AIDS EDUCATION AND TRAINING CENTER
Florida • Puerto Rico • U.S. Virgin Islands



With Support from Tibotec Therapeutics
and Gilead Sciences, Inc.

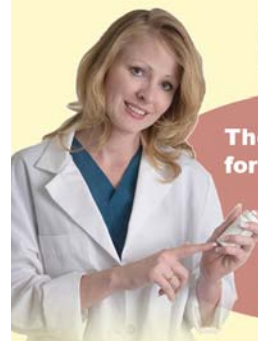


**Tibotec
Therapeutics**
DIVISION OF ORTHO BIOTECH PRODUCTS, L.P.



The Registration fee
for this event is \$25

Registration must be
completed by
June 1, 2007



www.FAETC.org/Pharmacy/Miami

The complete collection of previous issues of HIV CareLink are available online.

To view past issues, please visit the archives at:

www.FAETC.org/Newsletter