CAB Conference Call
March 22, 2012
12:00 EST
Meeting Minutes

Participants:

Andrew	Jacobi Medical Center
Carrie	University of Colorado
Danish	Tulane University
DeAngelo	University of Florida – Jacksonville
Delia	University of Miami
Jennifer	University of Colorado
Juanita	Tulane University
Julie	Harvard University
Julie	Westat
Kimbrae	Texas Children's Hospital
Laurie	FSTRF
Lennie	St. Jude
Linda	St. Christopher's Hospital for Children
Megan	Westat
Melanie	UMD – New Jersey Medical School
Rosetta	Bronx - Lebanon
Theresa	Texas Children's Hospital
Yuri	University of Miami

• APPROVAL OF MINUTES

The minutes from the February 23, 2012 call were approved with no changes.

• NEW ARV MEDICATIONS – DR. ANDREW WIZNIA

Dr. Andrew Wiznia talked about new antiretroviral (ARV) medications. Medications are absorbed differently in different age groups. Ideally, ARV therapies are supposed to achieve a sustainable undetectable viral load. Medications can suppress the virus to raise the CD4 count. ARV medications should be given at a high enough dose to suppress the viral load but be able to be absorbed safely. The goal is to stop the virus from taking over CD4 cells and making more copies of virus. Hopefully, the cell will be able to recognize the virus and make an immune response against it.

Table 1: New ARV Medications

Class of Drug	Drug	Brand Name
Nucleoside Reverse Transcriptase Inhibitors (NRTIs)	Zidovudine or Azidothymidine	Retrovir
	Didanosine	Videx
	Stavudine	Zerit
	Lamivudine	Epivir
	Abacavir	Ziagen
	Tenofovir	Viread
Non-Nucleoside Reverse-Transcriptase Inhibitors (NNRTIs)	Efavirenz	Sustiva
	Delavirdine	Rescriptor
	Nevirapine	Viramune
	Etravirine	Intellence
	Rilpivirine	Edurant
Integrase Inhibitors	Raltegravir	Isentress
Protease Inhibitors	Indinavir	Crixican
	Ritonavir	Norvir
	Saquinavir	Fortovase
	Nelfinavir	Viracept
	Fos-Amprenavir	Lexiva
	Lopinavir/Ritonavir	Kaletra
	Atazanavir	Reyataz
	Tipranavir	Aptivus
	Darunavir	Prezista

Dr. Wiznia talked about the replication cycle of the virus. Reverse transcriptase is an enzyme found in cells. Viral RNA is the virus' genetic material. Cells in the human body typically go from DNA to RNA. Viruses use reverse transcriptase to go from viral RNA to DNA. The virus can then use the cell's machinery to replicate its DNA. This means that the virus is working opposite to the way a cell normally works. The goal of some medications is to stop the virus from replicating. Nucleoside reverse transcriptase inhibitors (NRTIs) and non-nucleoside reverse-transcriptase inhibitors (NNRTIs) try to stop the virus from replicating. NRTIs work by interfering with the reverse transcriptase. For example, if the virus is trying to spell a word in order to replicate, NRTIs would misspell the word to stop the virus from replicating. NNRTIs work like putting gum in a lock. If there is gum in a lock, then the key will not work to open the door. NNRTIs work by attaching themselves to the reverse transcriptase to prevent it from converting RNA to DNA. In turn, the virus cannot replicate.

The virus has to get into a cell in order to reproduce. It first binds to the cell. ARV medications called CCR5 co-receptor antagonists stop the virus from binding to the cell. These medications block the receptor where the virus needs to bind in order to get inside the cell. When the receptor is blocked, the virus cannot get inside the cell.
A copy of the virus' DNA needs to get incorporated into the regular DNA of the cell in order to reproduce. The DNA has to get into the cell's nucleus where the cell's machinery is. An enzyme called integrase inserts the virus into the DNA of the cell. This is called integration. There are ARV medications that block integration. These medications stop integrase from inserting the virus into the regular DNA of the cell. These medications are called integrase inhibitors. Raltegravir is an integrase inhibitor. Recently, Raltegravir became FDA approved for ages 2+.

If the viral DNA gets into the cell's nucleus, it can use the cell's machinery to make more copies of the virus. It can reproduce by making very long proteins. The long proteins need to be cut into smaller proteins to make them more flexible to make more copies of virus. When the virus leaves the cell it bursts the cell. The more cells that burst, the lower the CD4 count becomes. An enzyme called protease can cut the long proteins into smaller pieces. ARV medications called protease inhibitors can stop protease from cutting the large proteins. This stops the virus from making more copies of virus.

IC_{50} is how much drug is needed in the blood stream to reduce the virus by half. There are now medications that can boost the drug levels of ARV medications like Ritonavir. Ritonavir can stop the breakdown of the ARV medication so that it lasts in the body longer.

If a person forgets to take their medication, the medication levels in the body will drop. If the medication levels drop then, the virus can change and become resistant to the medication.

• NEWSLETTER, JUNE 2012 EDITION

Megan talked about the June 2012 edition of the PHACS CAB Newsletter. The theme for the December 2011 edition of the PHACS CAB Newsletter was adherence. Megan added a question to the evaluation survey about possible newsletter themes for the June 2012 newsletter. Some suggested topics for the June 2012 newsletter are:

- disclosure,
- study participants' rights,
- HIV prevention,
- preventing mother to child HIV transmission,
- mothers,
- peace of mind,
- healthy living with HIV,
- medications and HIV,
- HIV education, and
- adolescent health.

Megan will add a question to the evaluation survey to vote for a newsletter theme for the June 2012 newsletter.

NOTE: The next CAB call will be on Thursday, April 26, 2012 at 12:00 pm EST.