Hot Topic: Lipodystrophy Update

By Eric Brus, Director, HIV Health Promotion, AIDS Action Committee

HIV infection and some of the drugs used to fight the virus have been linked to changes in body shape known as lipodystrophy. These changes – which can take the form of fat loss, gain, or both – are a major concern for many people living with HIV. Researchers have been trying to learn more about the causes of lipodystrophy, as well as the steps that might be taken to prevent or reverse it.

I recently spoke with Dr. Calvin Cohen, Research Director of the Community Research Initiative of New England, to get an update about lipodystrophy. Our conversation focused on the findings from several studies reported at the 2007 Conference on Retroviruses and Opportunistic Infections in Los Angeles.

Question: Could you first give some background information about lipodystrophy?

CC: Sure. The general term “lipodystrophy” actually refers to several different types of changes that can occur in the bodies of HIV-infected persons. Some people experience fat loss from the face, arms, legs, and buttocks. Others gain fat in the belly, neck, upper back, or breasts. And some persons experience both fat loss and fat gain.

Lipodystrophy may also be associated with changes in metabolism – the way the body breaks down and uses substances, such as fats and carbohydrates. Some people develop abnormally high levels of blood lipids (fats such as cholesterol and triglycerides) and blood sugar. These metabolic changes have been linked to higher rates of heart disease and diabetes.

Question: What causes lipodystrophy?

CC: The causes of lipodystrophy are not yet fully known. However, studies have identified several different factors that may be involved. The use of some HIV continued on next page >
meds has been linked to the development of particular forms of lipodystrophy and to changes in metabolism. For example, the nuke drugs Zerit (also called d4T) and Retrovir (AZT) increase the risk of fat loss (lipodatrophy). Certain protease inhibitors have been associated with the fat-gain type of lipodystrophy, as well as increased blood lipid and sugar levels.

It’s important to note, however, that some HIV-infected persons who have never been on treatment have also experienced these body shape and metabolic changes. People who are white and over 40 years old have a higher risk of developing lipodystrophy than younger persons of different race or ethnicity. Other risk factors include having an AIDS diagnosis for more than 3 years and having a lowest-ever CD4 T-cell count below 100.

**Question:** Did the Retrovirus Conference shed light on lipodystrophy’s causes?

**CC:** There was a very surprising result from one large study that compared the efficacy and side effects of drug regimens using Sustiva (efavirenz), Kaletra (boosted lopinavir), or both. In particular, researchers compared the following three types of regimens: 1) Sustiva + 2 nukes; 2) Kaletra + 2 nukes; and 3) Kaletra + Sustiva (with no nukes). The nukes used in the different regimens were Epivir (3TC) plus either Retrovir, Viread (tenofovir), or Zerit.

**Rates of lipoatrophy in Sustiva-based regimens were higher than in similar Kaletra-based regimens.**

As part of this study, the researchers tracked rates of lipoatrophy in the different treatment groups for nearly two years. As expected, the choice of nukes made a significant difference in the rates of lipoatrophy. Among all persons using nukes, lipoatrophy was seen in 42% or those taking Zerit, 27% of those taking Retrovir, and only 9% of those taking Viread.

However, the researchers were surprised to learn that the use of Kaletra versus Sustiva also affected the rates of lipoatrophy. The highest rate of lipoatrophy (51%) was seen in people combining Sustiva and Zerit, compared to 33% among those combining Kaletra and Zerit. The lowest rate of lipoatrophy (6%) was seen in people combining Kaletra and Viread, compared to 12% among those receiving Sustiva and Viread. The rates of lipoatrophy were consistently higher in Sustiva-containing regimens than in similar Kaletra-containing regimens – although that difference was only 6% in regimens that also contained Viread.

**Question:** Were there any differences in fat gain or blood fat levels in the groups?

**CC:** There were some increases in trunk (central body) fat in all three treatment groups, but there were no significant differences among the three groups. All three types of regimens were found to increase the levels of blood fats (cholesterol and triglycerides). Based on earlier studies, the researchers had expected that the regimens combining the protease inhibitor Kaletra + 2 nukes would raise blood fats more than regimens combining Sustiva + 2 nukes.

To their surprise, however, they found similar cholesterol increases in the Kaletra/nukes and Sustiva/nukes groups. As originally expected, the triglyceride increase was greater in the Kaletra/nukes group than in the Sustiva/nukes group.

**Question:** What are the take-home messages of this research?

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CC: There are a few points to consider. First, the study confirmed, as expected, that the nukes Zerit and Retrovir can be major factors in the development of lipoatrophy. In addition, all of the regimens studied showed some gain in trunk body fat and blood fat levels. To me, the most surprising result was that Sustiva, when combined with two nukes in the regimens studied, also appeared to contribute to lipoatrophy, though less than either Zerit or Retrovir. It was also surprising to see that the cholesterol increases in the Kaletra/nukes regimens were no greater than those seen in the Sustiva/nukes regimens.

However, the results of this study do not mean that everyone on a Sustiva/nukes regimen should now switch to Kaletra. The body and blood fat changes seen in this study are just two of many factors that doctors and patients may consider when choosing a regimen.

Question: Were there any other conference highlights on lipodystrophy?

CC: Yes. One study described the use of an experimental drug called TH9507 for the fat gain form of lipodystrophy. TH9507 is an experimental drug that promotes the body’s own production of growth hormone. After 26 weeks, people who received daily injections of TH9507 had significant reductions in visceral fat (fat within the belly) compared to those who received placebo (dummy) injections.

It is also worth noting that the people in the study did not experience lipoatrophy – unwanted fat loss from their arms or legs. An added benefit was that the blood triglyceride and cholesterol numbers improved in those treated with TH9507. Most people also tolerated the treatment well. If these promising findings are confirmed in future studies, TH9507 might be a useful treatment for some persons with fat-gain lipodystrophy.

Podcasts with Highlights from the 2007 Retrovirus Conference

Several web sites – including thebody.com and aidsmeds.com – provided extensive news about this year’s Conference on Retroviruses and Opportunistic Infections. As part of their news coverage, these web sites produced audio podcasts featuring interviews with HIV experts. These podcasts range from about 2 to 20 minutes long, and focus on the highlights of the conference. Topics include: advances in HIV prevention, testing, and treatment; new drugs in the pipeline; side effects; and access to treatment in different regions and among different groups. If you’re interested in listening to these podcasts, please contact the Library at 617-450-1432. We can give you links to the podcasts or make copies for you.

FOR MORE INFORMATION

The Community Research Initiative (CRI) has many studies for persons living with HIV. For more information about these studies, please call (617)-778-5454 or visit the CRI web site at: www.crine.org

The HIV Health Library has collected information about many other HIV studies at research centers, clinics, and hospitals across the state. For more information about these studies, call 617-450-1432 or 866-799-0079, or e-mail: health@aac.org

INFORMATION PACKETS ON HIV AND HEALTH

We have many information packets about HIV and other health topics. Each month we will list some of our most popular topics. You can check off the packets you want and send us the list. If you don’t see the topic you want, please call, send us an e-mail, or drop in. We’ll do our best to find the information you need.

Getting Started

- Basic treatment information
- HIV drugs (basic fact sheets)
- Opportunistic illnesses (basics)
- Sticking with your HIV therapy
- T-cell tests and other tests
- Viral load tests
- Early HIV infection

HIV Drug Treatment

- Starting treatment
- Changing treatment
- Treatment interruptions
- PEP treatment
- HIV drug groups
- Immune-based therapies
- Vaccines
- Viral resistance
- Drug interactions

Complementary Approaches

- Health and wellness basics
- Nutrition
- Herbal supplements
- Acupuncture and Chinese medicine

Symptoms and Side Effects

- Side effect management
- Body fat gain or change
- Bone problems
- Cholesterol and heart disease
- Diarrhea & digestive system problems
- Facial Wasting
- Mitochondrial toxicity
- Neuropathy (nerve damage)
- Pain management
- Wasting (unwanted weight loss)
New “Whole Health” Monthly Forum

This Spring, the AIDS Action Committee launched its new “Beyond the Numbers: Whole Health Forum.” The forum is a free monthly dinner and talk by an HIV expert on an important HIV health topic. The talks are short and easy to understand. There’s also plenty of time for questions and discussion, so it’s a great opportunity to learn. Everyone who attends receives a special packet with fact sheets, articles, and lots of other useful information.

The dinners are held on the fourth Wednesday of the month from 5:30 to 7:30 pm at AIDS Action. The address is 294 Washington Street, Fifth Floor, in the Downtown Crossing area of Boston (readily accessible by mass transit). Here are the topics and speakers for the next two events:

• Kidney Health and HIV (May 23) – Dr. Lynda Szezch from Duke University
• Lipodystrophy (June 27) – nurse practitioner Sara Dolan from Mass General

For more information about the Whole Health Forum, please contact Heidi Bright at 617-450-1204. If you aren’t able to attend, you can still get copies of the packets for these new forums. You can also get packets from earlier forums on treatment success and diabetes. Just contact the Library at 617-450-1432.

New Information Packet on Sexually Transmitted Diseases (STDs)

The HIV Health Library has created a new information packet on sexually transmitted diseases (STDs). The packet is available both in English and in Spanish (with the title “Enfermedades de Transmisión Sexual”). The English-language version of the packet describes the connections between STDs and HIV infection, with information about how the most common STDs are transmitted, their symptoms, possible complications, and treatment.

In addition, the packet has easy-to-read fact sheets about chlamydia, genital herpes, genital warts (HPV infection), gonorrhea, hepatitis A and B, lymphogranuloma veneraeum, scabies and pubic lice (crabs), syphilis, trichomoniasis, and yeast infection (yeast vaginitis).

If you’d like a copy of the new packet in English, Spanish, or both, please contact the Library (see box below).

DO YOU HAVE A HEALTH QUESTION?

If you have a health question, we can help you find the information you need. You can reach us in three different ways:

Call: 617-450-1432 or 866-799-0079 (toll-free)

E-mail: health@aac.org

Write or stop by: AIDS Action HIV Health Library
294 Washington Street, Fifth Floor, Boston, MA 02108

Web site: You can also find information on more than 150 health topics at our web site: www.aac.org/health