AIDS InfoNet www.aidsinfonet.org **Fact Sheet Number 406**

TREATMENT INTERRUPTIONS

WHAT ARE TREATMENT INTERRUPTIONS?

Researchers have studied interruptions of antiretroviral therapy (ART) for various reasons. These treatment interruptions are usually called structured or strategic treatment interruptions (STIs), or structured intermittent therapy (SIT).

During most treatment breaks, the viral load climbs very quickly and CD4 counts drop. Some people get the same symptoms as if they were newly infected with HIV. Fact Sheet 103 has more information on acute HIV infection.

When people start medications again after taking a break, they might experience more side effects, like when they first started taking antiretroviral drugs (ARVs). They might also have difficulty with adherence (see fact sheet 405), taking all of their doses correctly.

There were several reasons why treatment interruptions were studied:

1. It was thought that people who started treatment as soon as they got infected might eradicate the virus. The hope was that in these rare cases, patients could stop taking medications.

Unfortunately this approach does not seem to work. There are several reasons. First, most people aren't aware that they have just been infected with HIV. Once HIV infection has continued for a few months, it's too late for this approach. Also, researchers cannot predict which patients might be able to stop their therapy. But most important, newer research shows that the immune response in these patients does not continue to protect them against HIV disease.

2. Some people started therapy even though they didn't meet treatment guidelines. The target CD4 cell count when treatment should be started keeps changing. In the past few years, this target level has been rising. See Fact Sheet 404 for more information on treatment guidelines for HIV.

Some people started treatment with higher CD4 counts than the then-current guidelines. In some cases, their providers recommended that they stop taking medications. They checked their CD4 counts and their viral loads regularly. Most providers put these patients back on therapy when they met the current guidelines.

3. Maybe using "intermittent therapy" could reduce side effects and costs. Providers have studied "cycling" people on and off of ART. Their goal was to give patients more time off of therapy, and reduce side effects, while still controlling HIV. Two major clinical studies of this type of treatment interruption were stopped. There were more cases of AIDS disease progression and death among people who stopped treatment. In 2011, a report was published on people who had interrupted their treatment. It found a higher risk of AIDS-related diseases, less recovery of CD4 counts, and higher rates of death as long as eight years after the treatment interruption.

Two types of "cycling" were studied. The first type put patients on a fixed schedule. They would start and stop therapy for a certain number of days or weeks. The second type of cycling used CD4 counts and/or viral loads to decide when to end a treatment break and start medications again. Neither of these approaches seems to work.

4. Treatment was stopped to deal with drug side effects. Some patients get very serious side effects. In some cases they can switch medications. However, if they have already used most antiretroviral drugs (ARVs,) they might need to take a break from treatment to recover from the side effects before getting back on treatment.

5. Some doctors stopped treatment while waiting for a new drug to be approved. This was used by providers when there wasn't any treatment regimen that could control their patient's virus. Maybe HIV had developed resistance to all of the available ARVs. Fact Sheet 126 has more information on resistance.

During a treatment interruption, the "wild type" virus becomes more common. At first, researchers thought this was a good thing, because the wild type virus can be controlled by medications. However, the wild type virus does not replace all existing resistant strains. Resistance can come back quickly when drugs are re-started. Most patients do better if they keep taking medications, even if HIV is not totally controlled. A study in 2008 showed that patients who continued a "failing" regimen developed fewer AIDS-related medical problems than those who stopped their medications.

Do not stop your ART without careful discussion with your health care provider. Viral load and CD4 cell levels should be carefully monitored. Do not stop taking medications to prevent or treat opportunistic infections (see fact sheet 500).

WHAT ARE THE RISKS?

The biggest risk of an STI is that you will develop an AIDS-related infection. Also, the viral load will probably climb and the CD4 count will drop. These risks are greatest for people who have a low CD4 count. If you have only 50 CD4 cells, losing another 10 might have serious consequences. Stopping medications to prevent opportunistic infections can allow them to develop. People who stop treatment have a much higher chance of developing an opportunistic infection. People infected with hepatitis B who stopped ART were much more likely to experience a "flare" of their hepatitis than those who continued treatment.

Stopping and re-starting medications could make it easier for the virus to develop resistance to medications. This has happened to some patients in STI studies.

People ending a treatment interruption might have a hard time re-starting medications. This can be due to side effects, or due to psychological difficulties in getting back on treatment.

THE BOTTOM LINE

HIV patients stop ART for various reasons. If we can learn how to use treatment interruptions safely, patients might be able to take periods of time off of ARVs. However, we will have to learn how to avoid HIV disease progression, and minimize drug resistance and transmission of HIV. So far, large research studies have not shown any benefits to discontinuing therapy.

Reviewed February 24, 2014

A Project of the International Association of Providers of AIDS Care and the New Mexico AIDS Education and Training Center. Partially funded by the National Library of Medicine. Fact Sheets can be downloaded from the Internet at http://www.aidsinfonet.org