ADEFOVIR DIPIVOXIL (Preveon)

WHAT IS ADEFOVIR DIPIVOXIL?

Adefovir dipivoxil, also called Preveon® or bis-POM PMEA, is a drug used for antiviral therapy. It is manufactured by Gilead Sciences. **Adefovir has not yet been approved by the FDA for use against HIV. In November 1999, an expert panel advised the FDA not to approve the drug. The panel was mainly concerned about possible kidney damage.**

Adefovir is a nucleotide analog reverse transcriptase inhibitor, or nuke. These drugs stop HIV from multiplying by preventing the reverse transcriptase enzyme from working. This enzyme changes HIV's genetic material (RNA) into the form of DNA. This step has to occur before HIV's genetic code gets inserted into an infected cell's genetic codes.

In addition to fighting HIV, adefovir helps control Hepatitis B and cytomegalovirus (CMV).

WHO SHOULD TAKE ADEFOVIR?

Most doctors start antiviral therapy when a person has some symptoms of HIV disease, has a T-cell count ($CD4^+$ cells) below 500, or has a viral load (a measure of the amount of virus in the blood) over 30,000.

There are no absolute rules about when to start antiviral drugs. Some people want to "hit HIV hard and early", starting with the strongest drugs to preserve the immune system. Others want to save the strongest drugs until they are needed, later in the course of HIV disease. You and your doctor should consider your T-cell count, your viral load, any symptoms you are having, and your attitude about taking HIV medications.

WHAT ABOUT DRUG RESISTANCE?

The HIV virus is sloppy when it makes copies of its genetic code (RNA). Many new copies of HIV are mutations: they are slightly different from the original virus. Some mutations can continue to multiply even when you are taking an antiviral drug. When this happens, the drug will stop working. This is called "developing resistance" to the drug.

Resistance to adefovir takes a long time to develop. With combination therapy (taking more than one antiviral drug at the same time), HIV mutates much more slowly and it takes much longer for resistance to develop.

A benefit of adefovir is that it works against several strains of HIV that are already resistant to AZT, ddC, or ddI.

Sometimes, if you develop resistance to one drug, you will also have resistance to other antiviral drugs. This is called "cross-resistance". However, adefovir seems to have very little cross resistance with other antiviral drugs. In fact, the mutation that makes HIV resistant to the drug 3TC actually makes adefovir work better.

HOW IS ADEFOVIR TAKEN?

The normal adult dose of adefovir has not yet been decided. At first, people were taking 120 mg, once daily. However, because of kidney abnormalities, the manufacturer is now focusing on a dosage of 60 mg, once daily.

Adefovir reduces the amount of the amino acid carnitine in your body. People taking adefovir need to take a daily supplement of 500 mg of carnitine.

Adefovir can be taken with or without food.

WHAT ARE THE SIDE EFFECTS?

With the start of any anti-viral treatment there may be temporary side effects such as headaches, high blood pressure, or a general sense of feeling ill. These side effects are likely to get better or even disappear over time.

The most common side effects of Adefovir are nausea, vomiting and loss of appetite. The carnitine supplements that are taken with adefovir can also cause some stomach upset.

Almost 40% of people taking adefovir for more than 6 months have abnormal laboratory values for kidney tests. You might not know when these problems start, so your doctor should do lab work every month while you are taking adefovir.

HOW DOES ADEFOVIR REACT WITH OTHER DRUGS?

Adefovir causes a 50% drop in the blood level of delavirdine. Other drug interaction studies are still going on.

Adefovir is intended to be used as part of combination antiviral therapy against HIV. It should normally be used along with a nucleoside analog reverse transcriptase inhibitor (nuke) plus a non-nucleoside reverse transcriptase inhibitor (NNRTI) or a protease inhibitor.

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