



# PENTAMIDINE

## WHAT IS PENTAMIDINE?

Pentamidine (sold as NebuPent®, Pentam®, and Pentacarinat®) is a treatment for pneumocystis pneumonia (PCP). See Fact Sheet 515 for more information on PCP. Pentamidine is normally not the first choice for treatment of PCP. However, it is used for patients who are allergic to sulfa drugs or dapsone. It may also be used when other drugs have not worked.

Pentamidine is a drug that is usually inhaled in an aerosol form to prevent PCP. Pentamidine is also used intravenously (IV) to treat active PCP.

## WHAT IS PCP?

PCP (or pneumocystis pneumonia) is the most common opportunistic infection in people with HIV. Without treatment, over 85% of people with HIV would eventually develop PCP. It has been the major killer of people with HIV. However, PCP is now almost entirely preventable and treatable.

Unfortunately, PCP is still common in people who are infected with HIV for a long time before getting treatment. In fact, 30% to 40% of people with HIV have PCP if they wait to get treatment until their CD4 cell counts (see Fact Sheet 124) are around 50. For more information about PCP, see Fact Sheet 515.

PCP is caused by a fungus. A healthy immune system can control the fungus. However, PCP causes illness in children and in adults with a weakened immune system.

The fungus that causes PCP almost always affects the lungs, causing a form of pneumonia. People with CD4 cell counts under 200 have the highest risk of developing PCP. People with counts under 300 who have already had another opportunistic infection are also at risk. Most people who get PCP become much weaker, lose a lot of weight, and are likely to get PCP again.

The first signs of PCP are difficulty breathing, fever, and a dry cough. Anyone with these symptoms should see a health care provider **immediately**. However, everyone with CD4 counts below 300 should discuss PCP prevention with their health care provider, *before* they experience any symptoms.

Bactrim or Septra (TMP/SMX) is normally the most effective drug against PCP. It is also inexpensive, costing only about \$10 per month. However, the "SMX" part is a sulfa drug, and almost half of the people who take it have an allergic reaction.

Dapsone causes fewer allergic reactions than TMP/SMX. It is also fairly inexpensive - about \$30 per month. It also is taken as a pill and, like Bactrim or Septra, not more than one pill daily.

## HOW IS PENTAMIDINE USED?

For prevention of PCP, pentamidine is administered with a nebulizer, a machine that produces a very fine mist of the drug. Some people must go to a clinic to get nebulizer treatments. Others can have a nebulizer at home. The mist is inhaled directly into the lungs.

The procedure takes about 30 to 45 minutes. You pay for the drug plus the clinic costs, between \$120 and \$250 per month. Patients using aerosol pentamidine get PCP more often than people taking the antibiotic pills.

For treatment of PCP, pentamidine is also available for injection. In this form, it is usually used once a day for 14 days or longer. It may also be used as an intravenous (IV) injection.

## WHAT ARE THE SIDE EFFECTS?

Let your health care provider know right away if you have difficulty breathing, dizziness, chest pain or tightness, cough, headache, or weakness. Other side effects usually don't require

medical attention unless they get serious. These include changes in how things taste, nausea, or vomiting.

When pentamidine is given intravenously, it can cause low levels of white and red blood cells. It can also lower the number of platelets in the blood, which affects blood clotting. Intravenous pentamidine may also cause several serious side effects, including:

- Very high or low blood sugar
- Problems with the pancreas, liver or kidneys
- High levels of potassium in the blood
- Irregular heart rhythm

Report any side effects or changes in your condition to your health care provider immediately to avoid serious conditions.

If you are pregnant, talk to your health care provider before taking any form of pentamidine.

## HOW DOES PENTAMIDINE INTERACT WITH OTHER DRUGS?

You may need to stop taking ddl (see Fact Sheet 413) when you take pentamidine.

## THE BOTTOM LINE

When the first-choice treatments for pneumocystis pneumonia cannot be used, pentamidine can be used. It can be used to prevent new PCP infections or to treat active infections. It comes in various forms. It can interact with many HIV medications, and can also have many serious side effects.

If your CD4 cell count is below 300, talk to your health care provider about taking drugs to prevent PCP. **Everyone** whose CD4 cell count is below 200 should be taking anti-PCP medication.

*Reviewed July 23, 2007*