Mycobacterium Kansasii

Mycobacterium kansasii is a bacterial infection that can cause life-threatening symptoms in people with weakened immune systems. People with healthy immune systems may also be infected with M. kansasii, but those symptoms are not usually life-threatening and are limited to lung problems. In people with AIDS, M. kansasii usually involves the lungs and can spread to other organs, including the liver, spleen, and bone marrow.

These bacteria can be found virtually anywhere in the environment although the main contact for infection is believed to be tap water. M. kansasii lives in water, soil, foods, and a variety of animals. People living with HIV with weakened immune systems who live in midwestern and southwestern parts of the United States are at a higher risk of developing disease.

What are the symptoms, and how is it diagnosed?

Breathing problems and fever are two common symptoms of M. kansasii disease, along with night sweats, chills, weight loss, muscle wasting, abdominal pain, fatigue (often caused by anemia), and diarrhea. M. kansasii can also enlarge the liver, spleen, and lymph nodes.

To diagnose the infection, X-rays usually show disease in the lungs. CT scans can also be done to take a closer look if the X-ray does not show typical signs of infection. If either shows signs of infection, sputum samples (phlegm) are collected and analyzed by a laboratory. Blood tests may also be done to see if the infection has spread into the bloodstream or to other organs in the body. A biopsy may also need to be done to detect the infection in bone marrow.

How is it treated?

M. kansasii is treated using a combination of antibiotics to maintain control over the infection. After starting treatment, it can take 2–8 weeks for a person to start feeling better. Because of this, treatment is often done in a hospital, where resources are readily available to help manage symptoms, such as weight loss, fever, and dehydration.

Almost always, treatment includes at least two of these drugs, taken for two months:

- Rifampin (Rifamate) or rifabutin (Mycobutin): Rifampin is the preferred choice. However, it has
significant interactions with some HIV meds, including protease inhibitors and non-nucleoside reverse transcriptase inhibitors. If you are being treated for both M. kansasii and HIV, a better option is rifabutin. However, the dose of rifabutin may still need to be adjusted, depending on which HIV meds you are taking.

- **Ethambutol (Myambutol):** This antibiotic is active against M. kansasii, but not powerful enough to be used alone. It is almost always taken with either rifampin or rifabutin.
- **Clarithromycin (Biaxin) or azithromycin (Zithromax):** Both drugs are considered to be alternatives if either of the above options are not possible. Test tube studies suggest that both are effective against M. kansasii; however, there is limited information from clinical studies to prove this.

After two months of treatment, the medications are usually switched to the antibiotic isoniazid (Nydrazid), along with pyridoxine (vitamin B6). Pyridoxine is used to help prevent peripheral neuropathy, a possible side effect of isoniazid. Both are taken daily for at least 18 months. If a person is diagnosed with M. kansasii, he or she may need to take both meds for life.

In some cases of M. kansasii disease, starting or maximizing HIV treatment can increase the CD4 count to improve the health of the immune system. If this occurs then stopping isoniazid/pyridoxine treatment may be possible.

**How is it prevented?**

It is very difficult to prevent coming into contact with M. kansasii. However, taking potent HIV treatment and keeping CD4 counts at least above 100 can help prevent the disease.

People with other lung conditions such as smoking, prior TB infection and COPD are at higher risk for M. kansasii disease. So, stopping smoking and addressing other lung conditions may help prevent M. kansasii.

For those at highest risk for the disease—people with HIV with CD4 counts below 50—all should be taking preventive medicine for *Mycobacterium avium complex (MAC).* The drugs used to prevent MAC also likely lower the risk for M. kansasii. Therefore, preventive treatment should be started before the CD4 count falls below 75.

**Are there any experimental treatments?**

If you would like to find out if you are eligible for any clinical trials that include new therapies for the treatment or prevention of M. kansasii, visit ClinicalTrials.gov, a site run by the U.S. National
Institutes of Health. The site has information about all HIV-related clinical studies in the United States. For more info, you can call their toll-free number at 1-800-HIV-0440 (1-800-448-0440) or email contactus@aidsinfo.nih.gov.

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