What is rifabutin?

Rifabutin is an oral antibiotic sold under the brand name Mycobutin. It’s used to prevent and treat Mycobacterium avium complex (MAC). Clinical trials are currently studying the use of rifabutin in treating tuberculosis.

The bacteria that cause MAC multiply inside tissue and blood cells. Because they are inside cells, these bacteria can hide from the body’s defence system and are very hard to get rid of. Rifabutin can enter these infected cells and destroy the bacteria by penetrating the bacterial cell wall and interfering with the action of a bacterial enzyme.

Rifabutin can penetrate both tissue cells and blood cells. This makes it a useful drug in treating MAC, because the bacteria are found in organs as well as in blood.

Prevention

HIV-positive people with CD4+ counts of 75 or below are at risk of developing MAC. Any treatment taken to prevent an illness is called prophylaxis. As prophylaxis, 300 mg of rifabutin are taken daily, with or without food.

Treatment

Rifabutin is used in combination with other drugs to treat MAC. The combinations may include rifabutin, with either azithromycin (Zithromax) or clarithromycin (Biaxin), and either ethambutol (Myambutol), ciprofloxacin (Cipro), or amikacin (Amikin).

Side effects

At a dose of 300 mg daily, rifabutin is well-tolerated by many people. Of 566 people who received rifabutin in clinical trials, 11% reported rash, 6% nausea, 4% abdominal pain, 3% nausea with vomiting, 3% headache, 3% diarrhea, 3% heartburn, 2% muscle aches, and 2% fever. However, the most common side effect of rifabutin, reported by 30% of trial participants, is brown-orange coloured urine. Stools, saliva, perspiration, and tears may also become a brown-orange colour, and contact lenses may be permanently discoloured.

Rifabutin can also cause an uncomfortable, often painful, inflammation of the inside of the eye called uveitis. This side effect seems to be dose-related, that is, the higher the dose, the greater the chance of developing uveitis. At a dose of 300 mg daily, uveitis is fairly rare. It is treated with eye drops containing an anti-inflammatory drug (corticosteroid) and by stopping rifabutin. Once the inflammation has cleared up, rifabutin may be restarted.

The most serious side effect of rifabutin is neutropenia — a drop in the number of white blood cells called neutrophils. These cells help to fight bacterial infections, and a decrease in “neuts” could leave the body more vulnerable to disease. Regular blood tests can monitor neutrophil levels and help avoid neutropenia.

To date there have been no reports of side effects unique to women.
Resistance

The bacteria that cause MAC can quickly become resistant to the effects of antibiotics, particularly azithromycin and clarithromycin. In test tube studies, however, resistance to rifabutin appeared very rarely.

Drug interactions

Rifabutin is metabolized (broken down) in the liver through the actions of the p450 cytochrome enzymes. This series of enzymes breaks down many drugs so that they can be used by the body. Taking rifabutin with other drugs which are metabolized the same way may increase or decrease the effects of those other drugs.

Rifabutin interacts with all available protease inhibitors. It should not be taken with ritonavir. If rifabutin is used while taking indinavir, the rifabutin dosage should be reduced by one half. If it is used with rifabutin, the daily dose of saquinavir must be increased.

Rifabutin can reduce the effectiveness of birth control pills.

Rifabutin reduces the effects of narcotics, including methadone, to the extent of producing symptoms of withdrawal.

Rifabutin may reduce the effectiveness of analgesics (painkillers), anti-coagulants (blood thinners, like warfarin), barbiturates, diazepam (Valium), disopyramide (Rythmodan, Norpace), mexiletine (Mexitil), and verapamil.

Rifabutin may decrease blood levels of the following drugs, which may or may not reduce their effectiveness: clarithromycin (Biaxin), corticosteroids (like prednisone), cyclosporin, dapsone, delavirdine (Rescriptor), itraconazole (Sporanox), ketoconazole (Nizoral), and theophylline.

Credits

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References


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