Macitentan (Opsumit)
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Macitentan treats pulmonary arterial hypertension (PAH), also known as Group 1 pulmonary hypertension. This therapy is designed to slow progression of the disease and reduce hospitalization.

Macitentan works by blocking endothelin, a substance made by the body that causes blood vessels in the arteries of the lungs to constrict. Endothelin causes abnormal growth of the muscular layer in the vessel wall, which narrows the lumen, or space inside the blood vessel.

This narrowing causes the pressure to increase, making it harder for the right side of the heart to push the blood through the lungs to get oxygen. By blocking the action of endothelin, ambrisentan helps relax the blood vessels so the lung blood pressure goes down. Lower lung pressures reduce stress on the right heart so heart function improves. Improved heart function generally results in the ability to be more active. Research studies have verified this improvement.

**Dosing**

- Macitentan is a once-daily oral 10 mg tablet (round and white with a “10” on both sides.)
- Tablets should be swallowed whole. Do not split, crush or chew tablet.
- May be taken with or without food.
- Macitentan can be taken alone or with PDE-5 inhibitors or inhaled prostanoids, which are types of PAH medicines. Talk to your doctor about how this therapy can be part of your treatment plan.

**Obtaining macitentan**

Because of the risk of serious birth defects, macitentan is available to women only through a restricted distribution program under an FDA-required special program called Risk Evaluation and Mitigation Strategy (REMS) for Opsumit. All women, regardless of reproductive potential, must enroll in the Opsumit REMS program before starting therapy. Women of reproductive potential must comply with monthly pregnancy testing and contraception requirements. Men can receive macitentan without taking part in the REMS program.

Insurance approval might be required before starting therapy. Opsumit REMS will forward the request to an authorized specialty pharmacy.

Health care providers must be enrolled in the Opsumit REMS program to prescribe this therapy. Macitentan has limited distribution, which means you can’t fill the prescription at a local pharmacy. A specialty pharmacy specified by your insurance plan will deliver the medicine to you by mail. Those specialty pharmacies include Accredo, Aetna, Alliance Rx Walgreens Prime, Axium, BriovaRx, Cigna, CVS specialty, Humana and Kaiser Permanente.

**Insurance coverage**

https://phassociation.org/patients/treatments/macitentan/
Most health insurance plans will pay part of the cost of this medication. However, some plans still leave patients with a high out-of-pocket responsibility. Ask your insurance company for more accurate information about copays or out-of-pocket costs. Depending on your insurance plan, you might be eligible for assistance from the company that manufactures the drug or copay assistance from a non-profit charitable organization. See the list or call 301-565-3004.

**Common side effects**
Macitentan is generally well tolerated. The most frequent side effects are:

- Nasal inflammation (stuffy nose).
- Headache.
- Anemia.
- Bronchitis (irritation of the airways).
- Urinary tract infection.
- Flu-like illness.

**Other side effects**

- Macitentan can cause serious birth defects if taken during pregnancy.
- Liver problems can occur with endothelin receptor antagonists like macitentan.
- Low red blood cell levels can occur in the first weeks after starting therapy. In some cases, a blood transfusion may be needed, but this isn’t common.
- Sperm production may change, as observed in animal studies. Men should discuss this with their healthcare providers.
- Fluid retention is a known side effect of endothelin receptor antagonists. You might need to reduce salt and fluid in your diet, as well take a diuretic. The diuretic will help move fluid through the kidneys, causing frequent urination. It is important to notify your physician if you experience swelling or other side effects.

**Monitoring side effects**
Because of the potential harm to the fetus, women of childbearing potential must have pregnancy tests before starting therapy and every month as long as they take macitentan.

Liver problems can occur with endothelin receptor antagonists like macitentan. Although monthly blood tests to measure your liver enzymes (liver function tests) aren’t required while taking macitentan, your doctor will test your liver function before you start treatment and periodically afterward.

Your doctor will guide you in managing elevated liver enzymes if you also signs and symptoms of abnormal liver function or injury or your total bilirubin has increased to twice the normal level (as shown on another blood test for liver function). If some cases, the doctors will stop the medication.
Your doctor also will check your red blood cell count before you start macitentan therapy and periodically thereafter.

Considerations for special populations

Pregnancy and breastfeeding: Macitentan shouldn’t be used during pregnancy. Macitentan has been shown to be harmful to the fetus in research studies of rats and rabbits.

Patients shouldn’t become pregnant while taking macitentan. Women must use two acceptable methods of contraception when taking macitentan to prevent pregnancy, such as tubal ligation or a copper T380A or LNG 20 intrauterine device.

If you become pregnant while taking macitentan, immediately notify your health care provider and stop the medication.

It isn’t known whether macitentan passes into breast milk; therefore, nursing mothers shouldn’t take macitentan. Please refer to the package insert for additional information.

Pediatric patients: There hasn’t been research to determine whether macitentan is safe or effective for children.

Liver and kidney disease: Macitentan isn’t recommended for people with significant liver disease. People with significant kidney disease don’t need changes to their macitentan dosage.

Allergies
It’s possible but not likely for patients to develop allergies to macitentan.

Drug interactions (see package insert for full details)
Macitentan blood levels could increase if your take ketoconazole for fungal infections. Your doctor should adjust your macitentan dosage.

Ritonavir or ritonavir-containing combination drugs to treat HIV/AIDS haven’t been studied but are likely to increase blood levels of macitentan, similar to ketoconazole. Your doctor should adjust your macitentan dosage.

While drug levels in the blood can change with combined use of sildenafil and macitentan, the differences don’t appear to be clinically important.

Macitentan doesn’t appear to alter the effect of warfarin (Coumadin).

Patients should discuss the medications they take (including over the counter and herbal preparations) they are currently with their physician to avoid potential or known drug interactions.

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