Ribavirin (Rebetol, Copegus)

What is ribavirin?
Ribavirin is an antiviral medication (nucleoside guanosine analogue) that interferes with the ability of the hepatitis C virus (HCV RNA) to reproduce. Rebetol is the brand name for the Schering ribavirin and Copegus is the brand name for the Roche ribavirin, both are comparable in terms of efficacy.

Hepatitis C
Ribavirin is used in combination with interferon therapy: either recombinant interferon alpha - 2a or alpha 2b or pegylated interferon alfa-2a or b (Peg-Intron or Pegasys). Interferon plus ribavirin was the standard of care for treatment of hepatitisC virus, but combination therapy of pegylated interferon plus ribavirin is the new standard of care for treatment of the hepatitis C virus. Ribavirin has no antiviral effect on HIV if used alone.

How do I take ribavirin?
Ribavirin is an oral medication that comes as 200 mg capsule or tablets taken twice a day (every 12 hours). The standard dose of ribavirin is based on a person's body weight. For example, for individuals who weight is less than 75 kilograms (165 pounds), ribavirin is given at 1,000 mg (5 pills) every 12 hours (twice a day). For individuals whose body weight is more than 75 kilograms, ribavirin is given at 1,200 mg (6 pills twice a day) every 12 hours.

Ribavirin may be taken with or without food. High-fat meal increases ribavirin blood levels in the blood. Ribavirin should be taken consistently. For example, it should be taken at the same time or times each day and with or without food each time. Ribavirin should be refrigerated at 2-8°C (36-46°F).

What are ribavirin side effects?
Ribavirin most common side effects are anemia (low red blood cell count), fatigue, irritability, rash, nose stuffiness and cough. Anemia usually occurs within the first two weeks of treatment, and usually stabilizes by the fourth week. Symptoms of anemia include fatigue, shortness of breath, palpitations, and headache. Other side effects ascribed to ribavirin are reduction in white blood cells (leukopenia), an increased in bilirubin in the blood (hyperbilirubinemia), increased uric acid flushed by the kidneys, and shortness of breath. Other possible side effects that may occur during therapy with ribavirin and interferon are weakness, nausea, weight loss, heartburn, lack of sleep, irritability, difficulty breathing, rash, itching, depression, and alterations in taste perception.

Contraindications
Ribavirin is known to cause sperm and birth defects. Pregnancy should be avoided during treatment and for 6 months after therapy stops, because ribavirin stays in the body a log time. Women who are receiving ribavirin therapy should wait at least six months after ribavirin is stopped before becoming pregnant in order to prevent potential effects of ribavirin on the fetus. Anyone taking ribavirin, whether male or female, should use effective contraception 6 moths after the treatment is completed. In addition, breastfeeding should be discontinued during treatment.

Ribavirin causes premature breakdown of red blood cell (hemolysis) to a variable degree in almost every individuals who uses the drug. In individuals with preexisting hemolysis or anemia (hemoglobin < 11 grams or hematocrit less than 33 percent) may not be able to receive ribavirin. Similarly, for individuals with a history of heart (coronary artery disease) or circulation problems (cerebral vascular disease) ribavirin should be used with careful consideration as the anemia could trigger a lack an insufficient oxygen in a portion of the heart muscle (ischemia). Strokes also have been reported during combination therapy with alpha interferon and ribavirin. In addition, ribavirin is eliminated (excreted) in the urine. The drug should not be used in people with severe kidney problems. Speak to your doctor about these issues.

Side effects management

For patients who develop anemia after starting HCV therapy which includes ribavirin, the doctor may consider reducing the dose of ribavirin to 300 mg twice a day. However, growth cell factor medication called erythropoietin alfa (Procrit) can help to raise red blood cell counts. Studies show that Procrit can increase hemoglobin, reduce related fatigue, and improve quality of life while taking ribavirin. Reducing ribavirin dose during the first months on therapy may have a negative effect on the decrease in HCV viral load (HCV-RNA). Taking a reduced dose of ribavirin or interferon reduces the ability to lower HCV RNA. Rather than reducing ribavirin dose, Procrit therapy may be a preferable approach to dealing with anemia.

Another medication called granulocyte colony - stimulating factor – G-CSF (Filgrastim) can be given to stimulate the production of white blood cell counts (neutrophil). Ask your doctor of the most common and potential side effects of ribavirin and interferon before starting hepatitis C treatment.

Drug interaction

Studies in the laboratory several years ago showed that ribavirin may interact with NRTIs, used for HIV treatment. There is a concern that ribavirin could reduce AZT or d4T levels, but there has been no evidence yet in studies that HIV viral load increases for patients combining ribavirin with NRTIs. Further studies are ongoing. Since AZT may lead to anemia, you should discuss this with your doctor if you are taking AZT.

Ribavirin taken in combination with stavudine – d4T (Zerit) or didanosine (ddI) (Videx) may cause a condition in which lactic acid accumulates in the blood (lactic acidosis) which can lead to medical problems. Ribavirin has been shown to increase exposure to ddI (increases ddI levels). This may increase the risk for ddI toxicities, pancreatitis (inflammation of the pancreas) and lactic acidosis. The Food and Drug Administration suggests avoiding the combination of ddI and ribavirin. If this combination is used close monitoring is recommended. Studies have shown a small percentage of patients receiving ddI or ddI/d4T have developed pancreatitis.

Always inform your doctor of any other type of medications that you are taking including prescription, nonprescription (over-the-counter), or herbal medications.

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