Ritonavir - Use | In pregnancy | Effects

Ritonavir is a drug belonging to the group of medicines called HIV protease inhibitors and is used in the treatment of HIV infection (usually in combination with other medicaments). Inhibition of HIV protease leads to the creation of AIDS virus which is not matured enough to start a new cycle of infection.

Precautions and Interactions

Ritonavir can cause acute liver damage and patients with liver cirrhosis and other liver diseases should not use this drug. Preferably, the liver enzymes (aspartate aminotransferase and alanine aminotransferase) should be regularly monitored while on Ritonavir therapy. If your doctor notices an increase in liver enzymes, which is five times higher than normal, he/she may decide that you should stop the treatment with this drug and probably recommend that you should take other antiretroviral medicines.

Ritonavir is a potent inhibitor of two enzymes involved in the metabolism of a large number of drugs (CYP3A4 and CYP2D6). This means that Ritonavir strongly increases the effects of drugs that are metabolized by these enzymes and therefore should not be administered concurrently with that drugs.

Ritonavir should not be used simultaneously with the following medicines:

- Alpha blockers, such as:
  - doxazosin
  - terazosin
  - alfuzosin
Ritonavir may increase the effect of these drugs and cause serious hypotension.

- **Opioid painkillers**, such as:
  - oxycodone
  - hydrocodone
  - fentanyl
  - pethidine
  - alfentanil

Concomitant administration with these drugs increases the risk of serious adverse effects (including respiratory depression, coma, and death).

- **Loperamide** (*a drug used for the treatment of diarrhea*). Ritonavir may increase the concentration of loperamide in the blood, which may cause serious arrhythmias which can be fatal.

- **Leflunomide** (*a drug used for the treatment of rheumatoid arthritis*). Co-administration of this drug with Ritonavir increases the risk of liver damage.

- **Antiarrhythmics**, such as:
  - flecainide
  - quinidine
  - amiodarone

- **Antibiotics** (*fusidic acid*).
- **Antifungals** (*voriconazole, miconazole, ketoconazole and fluconazole*).
- **Statins** (*cholesterol-lowering drugs*), such as:
  - atorvastatin
  - simvastatin
  - fluvastatin
  - pravastatin
  - rosuvastatin and others

Concomitant administration with these drugs increases the risk of acute liver injury.

- **Antihistamines** (*astemizole and terfenadine*) which are used for the treatment of allergic reactions.

- **Drugs used to treat erectile dysfunction** (*sildenafil, vardenafil, tadalafil and avanafil*). Concomitant use with these drugs increases the risk of vision loss.

- **Corticosteroids**, such as:
  - triamcinolone
  - budesonide
  - fluticasone
  - dexamethasone
  - prednisolone and others

Concomitant administration with these drugs increases the risks of side effects.

- **Antipsychotics** (*e.g. clozapine and olanzapine*). Concomitant use with these drugs increases the risk of hematological side effects.

- **Disulfiram** (*medication for treating alcohol dependence*). Interaction is only valid for Ritonavir solution because it contains alcohol.

- **Dihydroergotamine** (*drug used for the treatment of migraine*). Concomitant administration with this medication can cause acute ergot toxicity.

- **Prokinetics** (*e.g. cisapride*) used for the treatment of non-ulcer dyspepsia. Co-administration with this drug increases the risk of serious cardiac arrhythmias.

- **Benzodiazepines** (*Bromazepam, lorazepam, nitrazepam, triazolam, and midazolam*). Concomitant use with these drugs increases the risk of excessive sedation.

According to the Patient Information Leaflet, Ritonavir should be administered with caution in the following conditions:
• In patients suffering from hemophilia, because there are reported cases of increased bleeding in patients taking Ritonavir.
• In patients with diabetes, because there are reported cases of worsening symptoms and hyperglycemia in patients taking Ritonavir.
• In patients with pancreatic disease because there are reported cases of Ritonavir-induced pancreatitis. If you notice symptoms, such as: abdominal pain, nausea and vomiting, you should contact your doctor.

**Ritonavir, pregnancy and lactation**

Ritonavir was applied to a very small number of pregnant women and an increase in the incidence of defects in newborns was not observed. Women who suffer from AIDS should avoid getting pregnant because of the risk of mother-to-child HIV transmission.

Because of the potential HIV transmission through the breast milk, breastfeeding should be avoided.

**How to use**

Ritonavir is administered orally, with food. Following combinations are most frequently used:

- Combination with atazanavir (300 mg) in the dose of 100 mg once a day
- Combination with amprenavir (600 mg) in the dose of 100 mg once a day
- Combination with fosempranavir (700 mg) in the dose of 100 mg once a day
- Combination with lopinavir (400 mg) in the dose of 100 mg once a day
- Combination with lopinavir (800 mg) in the dose of 200 mg once a day
- Combination with darunavir (600 mg) in the dose of 100 mg twice a day
- Combination with tipranavir (500 mg) in the dose of 100 mg twice a day

Ritonavir can be used in children above the age of 2.

Take your pill regularly, every day.

**Side effects**

According to the Patient Information Leaflet, Ritonavir can cause the following side effects:

<table>
<thead>
<tr>
<th>Very common</th>
<th>Common</th>
<th>Occasional</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vomiting</td>
<td>Difficulty breathing</td>
<td>Diabetes</td>
<td>Hyperglycemia</td>
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<tr>
<td>Nausea</td>
<td>Cough</td>
<td>Jaundice</td>
<td>Stevens-Johnson syndrome</td>
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<tr>
<td>Headache</td>
<td>Bloating</td>
<td>Muscle ache</td>
<td>Anaphylactic reaction</td>
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<tr>
<td>Stomach upset</td>
<td>Heartburn</td>
<td>Acute liver injury</td>
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<tr>
<td>Paresthesia</td>
<td>Insomnia</td>
<td>Increased thirst</td>
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<tr>
<td>Malaise</td>
<td>Anxiety</td>
<td>Dehydration</td>
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<td>Unpleasant taste in the mouth</td>
<td>Dry mouth</td>
<td>Changes in laboratory tests</td>
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