Rifampin for Mycobacterial Infection

Antibiotic Class: Rifamycin

Antimicrobial Spectrum: Most slow growing mycobacteria are inhibited.

Mechanism of Action: Rifamycins bind to and inhibit DNA-dependant RNA polymerase

Pharmacodynamics: Concentration dependent killing (peak/MIC and AUC/MIC)

Pharmacokinetics:
Cmax: 8-24mg/L; Tmax: 1.5-2 hours; Bioavailability: 68%; Protein binding: 85%; Table 3

Adverse Effects:
Hepatic: hepatotoxicity, jaundice, hepatitis
Hematologic: Thrombocytopenia, hemolytic anemia
Kidneys: Acute renal failure, interstitial nephritis,
Other: shock, flu-like syndrome, body fluid discoloration (tears, sweat may be orange colored)

Dosage:
PO: 150mg, 300mg capsules
IV: 600mg as a 30 minute infusion

Dosing in adults:
Usual dose 600 mg once daily. Higher doses indicated in patients shown to malabsorb rifampin based on serum concentrations.

Table 6

Disease state based dosing:
Hepatic failures: No specific recommendations, however, half-life is prolonged in patients with hepatic insufficiency
Renal failures: No adjustment necessary.

Contraindications/Warnings/Precautions: Precautions: Hepatic impairment

Drug Interactions:
Due to its known induction of P450 liver isoenzymes, caution should be exercised when administering this agent with other drugs metabolized in the liver. Please see the “Drug Interactions” section in the text/website for a complete list of relevant interactions. Heparin may negate the action of rifampin.

Pregnancy: Category C: Risk unknown. Human studies inadequate

Monitoring Requirements:
Toxic: baseline liver function tests, bilirubin, serum creatinine, complete blood count and platelet count.

Therapeutic drug monitoring in selected cases, especially patients slow to respond.

Brand names/Manufacturer:
Rifampin (Various manufacturers worldwide)
Rifadin - Hoechst Marion Roussel
Rimycin - Alphapharm
Rofact - Valeant Pharmaceuticals