Drug-Drug Interactions During Antiviral Therapy For Chronic Hepatitis C

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General Principles Of Drug-Drug Interactions

Pharmacokinetic
- Result in a change in drug concentrations

Pharmacodynamic
- Result in additive, synergistic or antagonistic effects
Pharmacokinetic Drug Interactions

Occur at the level of drug:

• Absorption
• Metabolism
• Distribution
• Elimination
Pharmacokinetic Drug Interactions

• Drugs with a wide therapeutic range have a high tolerance for drug-drug interactions because concentration shifts are unlikely to increase the probability of toxicities or decrease the likelihood of efficacy
Pharmacokinetic Drug Interactions

- Drugs with a narrow therapeutic range, drug-drug interactions can have important clinical implications.
- Drug interactions that increase concentrations (e.g. CYP inhibition) can lead to an increase in concentration dependent toxicity.
- Subtherapeutic concentrations can lead to development of drug resistance which can compromise efficacy of treatment.
Algorithm For Assessing Drug-Drug Interactions Prior To Initiating Antiviral Therapy

Review and record all prescription and over-the-counter medications, recreational drugs and dietary and herbal supplements that the patient uses both regularly and occasionally.

Screen for interactions
www.hep-druginteractions.org
Package inserts

No interactions identified
- Counsel patient before and during treatment on avoidance of drug interactions
- Consult provider on use of new prescriptions and OTC medications and dietary and herbal supplements

Interactions identified
- Hold drug in question
- Adjust dose of drug in question
- Use therapeutic drug monitoring to guide dosing
Major Drug Classes To Be Aware Of

- Immunosuppressants
- Antiviral medications
- Oral contraceptives
- Phosphodiesterase inhibitors
- Corticosteroids
- Opioids and opioid replacement
- Antacids and PPIs
- Foods, dietary and herbal supplements