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Drugs and the Liver

Monday, Feb 6, 2012
10:10 a.m.-11:00 a.m.

Learning Objectives:

At the end of this lecture the students should be able to:

1. Describe the barrier function of the liver (and gut) with respect to drugs and xenobiotics.
2. Describe the hepatic pathways for handling and disposing of drugs and xenobiotics.
3. Describe the pathophysiologic basis for drug-drug interactions at the level of cytochrome P450 (CYP) enzymes.
4. Predict drug-drug interactions based on knowledge of relevant P450 enzymes and inhibitors/inducers.
5. Describe the principals of drug-induced liver disease and be able to give some representative examples.
6. Describe how alcohol consumption and/or poor nutritional status may enhance susceptibility to acetaminophen-induced liver injury.
7. Describe an approach to drug-induced liver disease.
8. Describe the potential consequences of liver disease on drug metabolism and the clinical effect of medications.

Key words: Drug metabolism, cytochrome P450, conjugation enzymes, drug-induced liver disease, alcohol, acetaminophen

Required Reading:

1. Review the material on Drug Metabolism I and II from your M1 GI Physiology Sequence
2. Cecil's Essentials of Medicine, 8th edition, 2010: pp 472-473.
(7th edition, 2007: pp 447-448)
3. Craig and Stitzel, Modern Pharmacology 6th edition, 2004, pp 34-44 or similar material in other pharmacology textbooks (liver handling of drugs).