

Drug interactions

dr. shbair

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Drug Interactions
Final Exam 2015/2016

Al-Azhar university-Gaza-Palestine
College of Pharmacy
Dept. of pharmacology and applied sciences

Fifth year students
Date: 22/06/2016
Time: 120 minutes
Total marks: /100

Students Name:

Answer the following questions:

Part 1: Place True (T) in front of the correct statement and place False (F) in front of the wrong statement. Correct the Wrong statement.

1. Most of the important drug interactions with NSAIDs are pharmacodynamic interactions.
2. Some epidemiological studies have shown that all NSAIDs reduce the cardioprotective effects of low-dose aspirin.
3. If the combination of an SSRI and NSAID cannot be avoided, reduction of the dose of the NSAID should be considered.
4. Pharmacokinetic mechanisms are particularly well-established and important for coumarin anticoagulant drug interactions.

5. An inhibitor of CYP2C19 is likely to increase the concentration of the S-warfarin enantiomer and enhance the anticoagulant effect.

6. The interaction between warfarin and cimetidine is selective because cimetidine exhibits a degree of specificity for CYP1A2 and CYP2C9.

7. Rosuvastatin shows a dose-related increase in warfarin effects which is due to an increase in R- or S- warfarin effect.

8. No clinically important drug interaction occurs between digoxin and ACEIs in patients with normal renal function.

9. P-glycoprotein inhibition by carvedilol enhances the intestinal absorption by digoxin but doesn't affect its renal function.

10. Macrolide antibacterials exert their effects on CYP1A2, whereas many quinolones inhibit CYP3A4.

Part 2: Answer the following questions:

1. "It is difficult to get a thoroughly reliable indication of how multiple antibacterial drugs will behave together in clinical practice". Explain?

2. Give the risk factors for the interaction of quinolones and NSAIDs?

3. "When patients taking low-dose aspirin for cardioprotection require long-term NSAIDs for inflammatory conditions, the use of a coxib was suggested". Give your opinion about this statement?

4. "It is particularly difficult to attribute a change in INR specifically to a drug interaction in a single case report, and single case reports or few isolated reports for widely used drugs, do not prove that an interaction occurs". Explain?

5. How could you explain the age and gender differences seen in the interaction of digoxin with carvedilol?

Part 3: Give the clinical evidence (outcome), mechanism and management of the following drug interactions:

1. Cefpodoxime proxetil and antacids.

2. Ciprofloxacin and ranitidine.

3. Azithromycin capsules and food.

4. Warfarin and grapefruit juice.

5. Digoxin and St. John's Wort.

8. Levofloxacin and nitrofurantoin.

9. Gentamicin and ibuprofen.

6. Cefdinir and iron.

7. Digoxin and nifedipine.

10. Cefuroxime axetil and furosemide.

Part 4: Discuss the management of the following drug interactions. Explain your answer.

1. Clarithromycin + Co-amoxiclav + Aluminium/magnesium hydroxide antacid.

2. Digoxin + valsartan + omeprazole.

3. Warfarin + chlorothiazide + atorvastatin.

4. Co-trimoxazole + Azithromycin + Fluconazole.

5. Diclofenac + Oral hormonal contraceptives + Ranitidine.