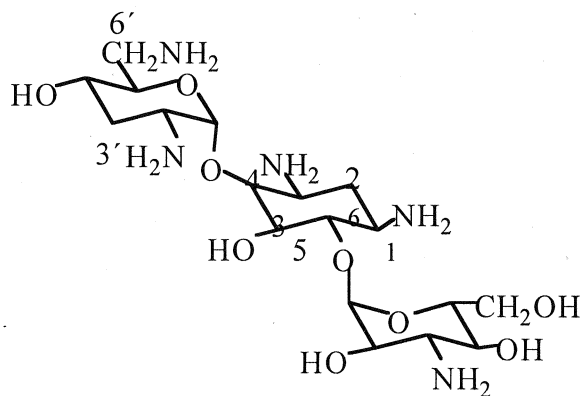
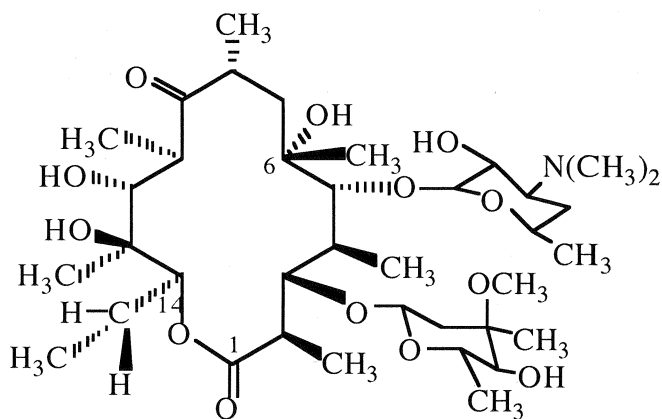


Medch 401/561P Exam 2  
May 2, 2008

(structure A)



(structure B)



1. The above structure A would be predicted to have excellent activity against which of the following pathogens
- Chlamydia pneumoniae
  - Streptococcus pneumoniae
  - Klebsiella pneumoniae
  - All of the above

2. The most commonly expected adverse event with therapy of the above compound A would be
  - a. Renal toxicity
  - b. Hepatitis
  - c. Myasthenia gravis exacerbation
  - d. Blurred vision
  
3. The most common mechanism of pathogen resistance to compound A is
  - a. Esterase activity
  - b. 50S ribosomal methylation
  - c. Demethylation
  - d. Acetylation
  
4. The oral bioavailability of compound A would be predicted to be
  - a. > 90%
  - b. 50-70%
  - c. 20-40%
  - d. <10%
  
5. Structure B would be presumed to have good activity for all **except**
  - a. Streptococcus pyogenes
  - b. Streptococcus pneumoniae
  - c. Klebsiella pneumoniae
  - d. Chlamydia pneumoniae
  
6. Structure B could have what adverse interaction with concurrent astemizole
  - a. Increase astemizole levels to a toxic range
  - b. Decrease astemizole levels to a subtherapeutic range
  - c. Precipitate astemizole
  - d. Decreased structure B levels
  
7. Structure B would be presumed to be safe for use in
  - a. Children
  - b. Adults with renal disease
  - c. Adults with a penicillin allergy
  - d. Safe in all of the above
  
8. Metronidazole has no activity against MRSA because MRSA
  - a. Acetylates the drug
  - b. Lacks nitroreductase
  - c. Has modified its 50S ribosomes
  - d. The statement is false. The drug kills MRSA.

9. Metronidazole would be predicted to have excellent activity against all of the below pathogens **except** which
- a. Neisseria meningitidis
  - b. Anaerobic streptococci
  - c. Clostridium difficile
  - d. Bacteriodes fragilis
10. Based on the mechanisms of actions of the drugs, which combination of agents would be predicted to have synergy against MRSA
- a. Tigacycline and minocycline
  - b. Metronidazole and clindamycin
  - c. Vancomycin and gentamicin
  - d. azithromycin and clindamycin
11. Which agent is most potent against Enterococcus faecium
- a. Daptomycin
  - b. Vancomycin
  - c. Tigecycline
  - d. Gentamicin
12. The best drug from the list below for a patient at home with community acquired MRSA is
- a. Daptomycin
  - b. Vancomycin
  - c. Trimethoprim-sulfa
  - d. Clarithromycin
13. The best drug from the list below for a patient at home with community acquired MRSA is
- a. Daptomycin
  - b. Vancomycin
  - c. Linazolid
  - d. Levofloxacin
14. Clostridium difficile
- a. Can cause antibiotic-associated diarrhea
  - b. Makes two toxins
  - c. Is resistant to most antibiotics
  - d. All are true
15. The most appropriate first treatment for C. difficile is
- a. Vancomycin IV
  - b. Vancomycin PO
  - c. Metronidazole IV
  - d. Metronidazole PO

16. A probiotic shown to decrease recurrences of *C. difficile* colitis is
- a. *Saccharomyces boulardii*
  - b. *Lactobacillus GG*
  - c. *Lactobacillus reuerii*
  - d. *Bifidobacterium bifidum*
17. Which of the following antimicrobials would be presumed to have the lowest risk for *C. difficile* overgrowth when given IV
- a. Tobramycin
  - b. Clindamycin
  - c. Tigacycline
  - d. Chloramphenicol
18. trimethoprim-sulfamethoxazole is a synergistic combination because
- a. both are competitive inhibitors of PABA
  - b. sulfamethoxazole blocks PABA and trimethoprim inhibits DHFA reductase
  - c. sulfamethoxazole blocks DHFA reductase and trimethoprim inhibits PABA
  - d. both are competitive inhibitors of DHFA reductase
19. An drug most appropriate for a 6 year old child with bronchitis would be
- a. Doxycycline
  - b. Levofloxacin
  - c. Erythromycin
  - d. Clindamycin
20. Rocky Mountain Spotted Fever will often respond to
- a. Doxycycline
  - b. Levofloxacin
  - c. Erythromycin
  - d. Clindamycin
21. Rifampin and erythromycin would not be a logical combination because
- a. They both have the same mechanism of action
  - b. They have additive toxicities
  - c. Rifampin levels would be decreased by the presence of erythro
  - d. Erythro levels would be decreased by the presence of rifampin
22. The best fluoroquinolone for a first time UTI would be
- a. Ciprofloxacin
  - b. Levofloxacin
  - c. Moxifloxacin
  - d. Gemifloxacin

23. amikacin is used for infections resistant to other aminoglycosides because
- it binds more tightly to the 50S ribosome
  - it binds more tightly to the 30S ribosome
  - it is less subject to metabolic efflux
  - it is less subject to metabolic inactivation
24. Mycoplasma pneumoniae
- Is actually a fungus
  - Is a common cause of cellulitis
  - Has no cell wall
  - All are true
25. Which drug would have excellent activity against Bacteriodes fragilis associated peritonitis?
- Clindamycin
  - Gentamicin
  - TMP-SMX
  - Ciprofloxacin
26. The mechanism for clindamycin's effect on bacteria is:
- Killing by binding to the 50S ribosomal subunit
  - Killing by binding to the 30S ribosomal subunit
  - Growth inhibition by binding to the 50S ribosomal subunit
  - Growth inhibition by binding to the 30S ribosomal subunit
27. Which antimicrobial is also a CYP3A4 inhibitor?
- Synercid
  - Moxifloxacin
  - Clindamycin
  - Metronidazole
28. Which antimicrobial is also a CYP2C9 (warfarin, tolbutamide, diclofenac) inhibitor?
- Tetracycline
  - Moxifloxacin
  - Clindamycin
  - Metronidazole
29. Alcohol should not be taken with:
- Amikacin
  - Levofloxacin
  - Tetracycline
  - Metronidazole
- d

30. Tigecycline is a newly approved antimicrobial. What is **false** about tigecycline?
- a. It is an unusual fused 5-ringed molecule
  - b. It is relatively resistant to drug efflux
  - c. It is approved for MRSA skin infections
  - d. It has an isobutylglycine substituent on position 9
31. An antibiotic that would be most risky when given during pregnancy:
- a. clindamycin
  - b. tobramycin
  - c. clarithromycin
  - d. azithromycin
32. Which two drugs have been stockpiled for use in an Anthrax exposure?
- a. Ciprofloxacin and erythromycin
  - b. Ciprofloxacin and doxycycline
  - c. Levofloxacin and minocycline
  - d. Moxifloxacin and doxycycline
33. The following is true about tobramycin except
- a. Is more potent than gentamicin against *Pseudomonas aeruginosa*
  - b. Has a significant risk for vestibular toxicity
  - c. Has a significant risk for renal toxicity
  - d. Has excellent ability to get into the CNS in the case of meningitis.
34. Risk factors for *Clostridium difficile* infection include:
- a. Proton pump inhibitors
  - b. Daptomycin use
  - c. Ciprofloxacin use
  - d. All of the above
35. An effective drug for MRSA in the hospital would be
- a. Tigecycline
  - b. Vancomycin
  - c. Linazolid
  - d. Any of the above would work
36. The feared adverse event with chloramphenicol therapy is
- a. Bone marrow toxicity
  - b. Renal toxicity
  - c. Liver toxicity
  - d. Pulmonary toxicity

37. *Borrelia burgdorferi* can cause
- a. Lyme disease
  - b. Rocky Mountain Spotted Fever
  - c. Toxoplasmosis
  - d. Q-fever
38. telithromycin (Ketek)
- a. is contraindicated in Myasthenia gravis
  - b. can cause liver toxicity
  - c. is not available PO
  - d. all are true
39. The pathogen molecular target for moxifloxacin is
- a. Topoisomerase II
  - b. Topoisomerase IV
  - c. Topoisomerase II and IV
  - d. DNA dependent RNA polymerase
40. Success with extended interval dosing of a specific antimicrobial is dependent on the drug having
- a. Concentration dependent killing properties
  - b. Time dependent killing properties
  - c. a low MIC
  - d. a pediatric indication
41. High level resistance to vancomycin is coded by the van A gene and results in
- a. Modifications to 30S ribosome
  - b. Narrowed porin channels
  - c. Acetylation of vancomycin
  - d. Modification to the d-ala-d-ala terminus of the peptidoglycan monomer
42. GISA strains of *Staph. aureus*
- a. Would include all VISA strains
  - b. Would include all VRSA strains
  - c. Would include all MRSA strains
  - d. Would include all VRE strains
43. Tigecycline is new and has the advantage over the other tetracyclines of
- a. Being active against *E. faecium*
  - b. Not staining teeth in children
  - c. Not as subject to efflux pump action
  - d. Being better absorbed orally

44. A new finding relative to clindamycin is surprisingly good results treating
- MRSA skin infections
  - E. faecalis* urinary tract infection
  - Pseudomonas pneumonia*
  - Strep. pyogenes necrotizing fasciitis
45. All of the following are agents that bind to the 50S ribosomal subunit to inhibit protein synthesis **except**
- daptomycin
  - chloramphenicol
  - azithromycin
  - clindamycin
46. An abdominal gunshot wound peritonitis would logically be treated with
- Levofloxacin
  - Clindamycin
  - Amikacin
  - Azithromycin
47. What is **false** about azithromycin?
- It is active against *Mycoplasma pneumoniae*
  - It inhibits CYP2C9 in vivo
  - Tissue levels are higher than plasma levels on day 2
  - It is available for IV use
48. An antimicrobial that acts by creating pores in the cytoplasmic membrane of Gram positive bacteria is:
- Tigecycline
  - Synercid
  - Linazolid
  - Daptomycin
49. The local (UW) pattern of resistance to vancomycin by the enterococci can be best characterized by
- E. faecalis* is more sensitive and *E. faecium* is more resistant
  - E. faecium* is more sensitive and *E. faecalis* is more resistant
  - Both *E. faecalis* and *E. faecium* are mostly sensitive
  - Both *E. faecalis* and *E. faecium* are mostly resistant
50. The antimicrobial spectrum of clindamycin is best described as:
- Gram positive and anaerobes
  - Gram negative and anaerobes
  - Broad spectrum
  - Anaerobic only