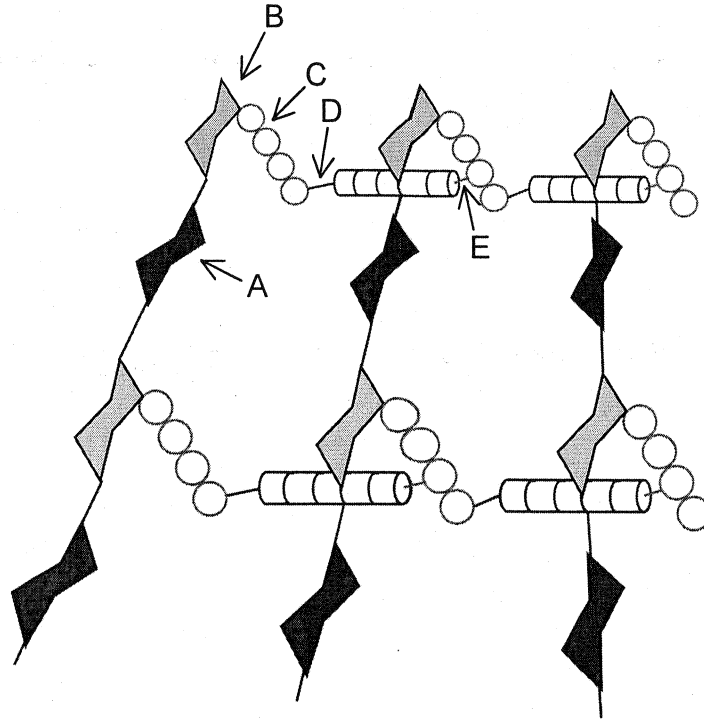


Medchem 561 First Exam (continued) Multiple Choice Questions 80 points



- In the above diagram of the peptidoglycan layer of Staph aureus the N-acetylglucosamine (NAG) is depicted by:
 - A
 - B
 - C
 - D
 - E
- In the above diagram of the peptidoglycan layer of Staph aureus the N-acetylmuramic (NAM) is depicted by:
 - A
 - B
 - C
 - D
 - E
- In the above diagram of the peptidoglycan layer of Staph aureus the bond that would not be formed in the presence of amoxicillin is depicted by:
 - A
 - B
 - C
 - D
 - E

4. A pathogen that lacks autolytic enzyme activities upon penicillin treatment would have:
 - a. $MBC = MIC$
 - b. No MBC
 - c. $MBC < MIC$
 - d. No MIC or MIC

5. 6-APA is known for:
 - a. a precursor for the semisynthetic penicillins
 - b. high resistance to beta lactamases
 - c. low MIC values for *E. coli*
 - d. low MIC values for *Strep pyogenes*

6. A patient experiencing airway closure after receiving penicillin G IV could cautiously be treated with:
 - a. Cefazolin
 - b. Imipenem
 - c. Ertapenem
 - d. Aztreonam

7. Gram positive beta lactamases
 - a. Are located in the periplasmic space
 - b. Are usually constitutive
 - c. Are excreted
 - d. All of the above

8. The precursor for NAM formation is:
 - a. NAG
 - b. d-ala-d-ala
 - c. cycloserine
 - d. UDP

9. One of the drugs below is often given as a first treatment for community acquired MRSA (CA-MRSA). Select which one.
 - a. Penicillin V
 - b. Trimethoprim-sulfa
 - c. Cepodoxime
 - d. Dicloxacillin

10. Prokaryotes and eukaryote mitochondria contain ribosomes that:
 - a. Are larger than eukaryote ribosomes
 - b. Have 40S and 60S subunits
 - c. Bind penicillin
 - d. Have 30S and 50S subunits

11. Hospital acquired MRSA can usually be successfully treated with:

- a. Vancomycin
- b. Ceftazidime
- c. Piperacillin/tazobactam
- d. Aztreonam

12. Inhibition of PBP2 is:

- a. bacteriocidal for pathogens
- b. Blocked by clavulanic acid
- c. Bacteriostatic for pathogens
- d. All of the above

13. A drug whose pathogen kill is dependant on Cmax/MIC would be:

- a. Penicillin V
- b. Cefoxitin
- c. Imipenam
- d. Ciprofloxacin

14. About 5-10% of patients treated with ampicillin develop:

- a. ~~Intermediate~~ allergic reaction
- b. Accelerated allergic reaction
- c. Late allergic reaction
- d. Renal toxicity

error (typo); I gave credit for a) or b)

15. An example of a Gram negative pathogen that can be successfully treated with penicillin G IV is:

- a. Neisseria meningitidis
- b. Neisseria gonorrhoeae
- c. Klebsiella pneumoniae
- d. Proteus mirabilis

16. Today, the best oral antibiotic for a one dose treatment of gonorrhea in a STD clinic is:

- a. Penicillin G plus probenecid
- b. High dose amoxicillin
- c. Ceftazidime
- d. Cefpodoxime

17. No beta lactam drug will successfully treat:

- a. Enterococcus faecium
- b. Enterococcus faecalis
- c. Pseudomonas aeruginosa
- d. E. coli

18. The most common bacterial cause of otitis media is:
- a. Streptococcus pneumoniae
 - b. Haemophilis influenzae
 - c. Moraxella catarrhalis
 - d. E. coli
19. Penicillin V is mainly:
- a. Metabolized and excreted via the kidney
 - b. Excreted intact in the bile and feces
 - c. Excreted intact via the kidney
 - d. Metabolized and excreted in the bile and feces
20. For amoxicillin, co-treatment with Probenecid inhibits
- a. Metabolism
 - b. Renal excretion
 - c. Biliary excretion
 - d. Beta lactamases
21. A logical treatment for a methicillin sensitive Staphylococcus aureus would be:
- a. Amoxicillin
 - b. Penicillin G IV
 - c. Dicloxacillin
 - d. None of the above
22. MPC stands for:
- a. Maximum permissive concentration
 - b. Minimum permissive concentration
 - c. Mutant permissive concentration
 - d. Mutant polycidal concentration
23. Pseudomonas species are resistant to many beta lactam antibiotics because:
- a. They have narrow porin channels
 - b. They elaborate group 1 beta lactamases
 - c. They have a thick capsule
 - d. All of the above
24. An excellent example of a pathogen that is resistant to antibiotics by enzymatic destruction of the drugs is:
- a. MRSA
 - b. PRSP
 - c. Strep. Pyogenes
 - d. E. coli

25. A group of beta lactamases that are resistant to inactivation by tazobactam are:
- a. Group 3
 - b. Group 2
 - c. Penicillinases
 - d. TEM beta lactamases
26. Arguably the best drug of those below for a pseudomonas sepsis in a hospitalized patient would be:
- a. Cefazidime
 - b. Ceftriaxone
 - c. Ampicillin
 - d. Ertapenem
27. Arguably the best drug of those below for a pseudomonas sepsis in a hospitalized patient would be:
- a. Cefazolin
 - b. Cefotaxime
 - c. Aztreonam
 - d. Cefepime
28. What best describes the action of penicillin on transpeptidase
- a. Chelation of enzyme needed zinc
 - b. Incorporation into the peptidoglycan polymer
 - c. Inhibition of autolysin
 - d. Covalent binding to the enzyme
29. What is true about MBC?
- a. It is usually higher than the MIC
 - b. It is usually equal to the MIC
 - c. It is usually lower than the MIC
 - d. None of the above.
30. What is **false** about conjugation as a means of acquiring resistance?
- a. It is very common with Gram positive pathogens
 - b. It is very common with Gram negative pathogens
 - c. It can occur between species
 - d. It can occur between genera
31. Cephalosporins are bacteriocidal not bacteriostatic because
- a. They activate transpeptidase
 - b. They block translocation
 - c. They inhibit binding to PBPs
 - d. They trigger autolysin activities

32. The following penicillin would provide blood levels over 0.01ug/ml for 7 days following a single dose.
- Benzathine penicillin G
 - Procaine penicillin G
 - Piperacillin
 - nafcillin
33. Ampicillin PO would be a better than amoxicillin PO for
- Salmonella typhimurium enterocolitis
 - E. coli urinary tract infection
 - Strep throat
 - Klebsiella pneumoniae pneumonia
34. The following is usually true about Group 2 (molecular class A) beta lactamases
- Are commonly produced by Streptococcus species
 - Are inhibited by sulbactam
 - Hydrolyze third generation cephalosporins
 - Are mainly chromosomally coded and inducible
35. A carbapenem antimicrobial with and indication for bacterial meningitis of unknown origin is
- Aztreonam
 - Imipenem
 - Ertapenem
 - Meropenem
36. Yesterday a Redmond man died of necrotizing fasciitis. The causative pathogen is often:
- Streptococcus pneumoniae
 - Streptococcus mutans
 - Streptococcus pyogenes
 - Propionibacterium acnes
37. The Redmond man was admitted to Harborview Hospital. A likely beta lactam antibiotic administered would be
- Penicillin V
 - Amoxicillin
 - Penicillin G
 - Benzathine Penicillin G
38. The most logical oral cephalosporin for a "Strep throat" infection for a penicillin allergic adult patient (rash) is
- Cephalexin
 - Cefpodoxime
 - Cefdinir
 - None of the above

39. Penicillin G IV should be effective against all of the following pathogens except

- a. *Clostridium difficile*
- b. *Clostridium tetani*
- c. *Streptococcus pyogenes*
- d. Anaerobic Streptococci

40. The best oral cephalosporin for a *Moraxella catarrhalis* sinusitis infection would be

- a. Cephalexin
- b. Cefodoxime
- c. Cefepime
- d. cefotaxime