

ANTIMICROBIALS

1. **Gentamicin**
 - a. Can be mixed in the same administration set as penicillin
 - b. Most streptococci are sensitive to gentamicin
 - c. If organisms are resistant to gentamicin they will also be resistant to tobramycin
 - d. Purulent exudates do not affect the activity of topical Abs
 - e. Ototoxicity manifests itself mainly as vestibular dysfunction

2. **Intermediate spectrum (2nd generation) cephalosporins include all of the following except**
 - a. Cefoxitin
 - b. Cephadrine
 - c. Cefaclor
 - d. Cefamandole
 - e. Cefuroxime

3. **Features of 3rd generation cephalosporins include**
 - a. Good efficacy against gram positives
 - b. Reliable activity in cases of P aeruginosa meningitis
 - c. Consistent activity against Haemophilis and Neisseria species
 - d. Reliably high oral bioavailability
 - e. Reversible binding to the 50S subunit of the bacterial ribosome

4. **A man aged 24 is admitted to hospital with fever, a dry cough and an CXR consistent with an atypical pneumonia, which is the appropriate AB**
 - a. Amoxicillin
 - b. Trimethoprim
 - c. Ceftriaxone
 - d. Penicillin
 - e. Doxycycline

5. **Regarding penicillins, which is false**
 - a. Most cross the BBB only when the meninges is inflamed
 - b. They don't require a dose adjustment in renal failure
 - c. Penicillins inhibit cross linkage of peptidoglycans in cell wall
 - d. Piperacillin is a penicillin against pseudomonas
 - e. Only about 5-10% of people with a past history of penicillin allergy have a reaction on re-exposure

6. **Cephalosporins**
 - a. excreted in bile
 - b. excreted via the kidneys in the tubules
 - c. drugs that can undergo hepatic metabolism
 - d. are classified on the basis of their antibacterial ability
 - e. all of the above

7. **Trimethoprim**
 - a. activates dihydrofolic acid reductase
 - b. is a weak base
 - c. has limited activity in the prostate
 - d. does not distribute into the CSF
 - e. is harmless in pregnancy

8. Regarding antibiotic resistance

- a. β -lactamase production is responsible for penicillin resistance in pneumococci
- b. Penicillin's inability to penetrate the organism is more common with gram negative bacteria
- c. Penicillin resistance is mainly because of alteration in the target's PBPs (Penicillin-Binding Proteins)
- d. Methicillin resistance in Staph is due to β -lactamase production
- e. β -lactamase are identical but produced by different bacteria

9. Regarding active immunizations

- a. the measles vaccine is an inactivated virus
- b. the Hep B vaccine is preferably given by subcutaneous injection
- c. booster doses for yellow fever are not required
- d. primary immunization for HiB involves 2 doses given 1/12 apart
- e. the meningococcal vaccine should be given to all asplenic individuals

10. All are cell wall inhibitors except

- a. Vancomycin
- b. Erythromycin
- c. Penicillin
- d. Ceftriaxone
- e. Imipenim

11. Regarding erythromycin

- a. It has a large cross reactivity with penicillin
- b. It is bacteriostatic only
- c. It is ineffective against gram positive organisms
- d. It is inactivated by β -lactamases
- e. It binds the 50S subunit on the bacterial ribosome

12. Metronidazole, which is false

- a. it is useful against trichomonis
- b. it is used to treat gardnerella
- c. causes a metallic taste in the mouth
- d. inhibits alcohol dehydrogenase
- e. it is used to treat giardiasis

13. Which skin antiseptic is commonly used

- a. ethyl alcohol 70%
- b. ethanol 30%
- c. isopropyl alcohol 10%
- d. formaldehyde
- e. boric acid 5%

14. Acyclovir is active against all except

- a. HSV
- b. CMV
- c. Herpes zoster
- d. Varicella
- e. None of the above

15. Ciprofloxacin

- a. is a de-fluorinated analogue of nalidixic acid
- b. inhibits topoisomerase II and III
- c. has no gram positive cover
- d. has a bioavailability of 30%
- e. may cause an arthropathy

16. Resistance to β -lactams

- a. can be due to an efflux pump
- b. is most commonly due to modification of the targets PBPs
- c. does not involve impaired penetration of drug to target PBPs
- d. infers resistance only to penicillins
- e. can involve up to 5 different β -lactamases

17. Ribosomal resistance occurs with

- a. Sulphonamides
- b. Penicillin
- c. Macrolides
- d. Fluroquinolones
- e. Trimethoprim

18. With regard to penicillin

- a. penicillins inhibit protein synthesis
- b. it inhibits cell membrane function
- c. probenecid is a uricosuric drug that increases penicillin excretion
- d. penicillin G is a semi-synthetic penicillin
- e. penicillamine is a metabolite of penicillin

Comment [S1]: Probenecid increases plasma concentration of Penicillin

Comment [S2]: Penicillin G is one of the natural Penicillins

Comment [S3]: Derivative of Penicillin

19. Aminoglycosides

- a. Have a β -lactam ring
- b. Are DNA gyrase inhibitors
- c. Have good oral absorption but high first pass metabolism
- d. Normally reach high CSF concentrations
- e. Can produce neuromuscular blockade

20. Macrolides

- a. Have enhanced activity at acidic pH
- b. Have little activity against legionella
- c. Have half lives that increase with anuria
- d. Induce cytochrome p450
- e. Are contraindicated in neonates

21. With regard to antivirals

- a. Delvindine is a nucleoside reverse transcriptase inhibitor (NRTI)
- b. Zidovudine (AZT) is a non-nucleoside reverse transcriptase inhibitor (NNRTI)
- c. NRTIs activate HIV-1 reverse transcriptase
- d. NRTIs require intracytoplasmic activation to the triphosphate form
- e. Abacavir is a protease inhibitor

22. Flucloxacillin

- a. Is not effective against Strep
- b. Is active against enterococci and anaerobes
- c. Blocks transpeptidation and inhibits peptidoglycan synthesis
- d. Is poorly absorbed orally
- e. Has excellent penetration into CNS and prostate

23. Cephalosporins

- a. Are less stable than penicillins
- b. Are active against enterococci and *Listeria monocytogenes*
- c. Intrinsic antimicrobial activity is high
- d. 1st generation has better activity against G +ve
- e. Are active against methicillin resistant strains of Staph

24. The following require dosage adjustment in renal failure except

- a. penicillin G
- b. amoxicillin
- c. nafcillin
- d. piperacillin
- e. ticarcillin

25. The IV drug of choice for diverticulitis is

- a. Cefazolin
- b. Cefuroxime
- c. Cefoxitin
- d. Ceftriaxone
- e. Amoxicillin

26. Ceftriaxone is least effective for which infection

- a. penicillin resistant Pneumococcal meningitis
- b. Meningococcal meningitis
- c. *H. influenzae* meningitis
- d. Penicillin resistant gonococcus
- e. *Listeria monocytogenes* meningitis

27. The mechanism of resistance most important with tetracyclines is

- a. Efflux pump
- b. β -lactamases
- c. change in ribosomal proteins
- d. impaired penetration
- e. enzyme inactivation

28. Chlamydia in children is best treated with

- a. Ceftriaxone
- b. Chloramphenicol
- c. Doxycycline
- d. Erythromycin
- e. Tetracycline

29. Drug that is most vestibulotoxic

- a. Tobramycin
- b. Gentamicin
- c. Neomycin
- d. Kanamycin
- e. Amikacin

30. Which is the least appropriate for Rickettsia infection

- a. Chloramphenicol
- b. Tetracycline
- c. Sulphamethoxazole
- d. Erythromycin
- e. Doxycycline

31. The anti TB drug most associated with peripheral neuropathy is

- a. Isoniazid
- b. Rifampicin
- c. Ethambutol
- d. Pyrazinamide
- e. Streptomycin

32. The drug of choice in cryptococcal meningitis in immunocompromised pt is

- a. Flucytosine
- b. Itraconazole
- c. Fluconazole
- d. Ketoconazole
- e. Amphotericin B

33. Clearance of the liver forms of malaria is best achieved by

- a. chloroquine
- b. quinine
- c. quinidine
- d. doxycycline
- e. primaquine

34. The drug of choice in Hydatid disease is

- a. albendazole
- b. mebendazole
- c. praziquantal
- d. ivermectin
- e. metronidazole

35. The following is bacteriostatic

- a. Penicillin
- b. Gentamicin
- c. Isoniazid
- d. Tetracycline
- e. Metronidazole

36. Which of the following is a 2nd generation cephalosporin

- a. Cephalothin
- b. Cephradine
- c. Cephalexin
- d. Cephapirin
- e. Cefamandole

37. The disinfectant active against Prions is

- a. Alcohol
- b. Iodine
- c. Chlorhexidine
- d. Hypochlorite
- e. Aldehyde

38. All of the following inhibit nucleic acid synthesis except

- a. Norfloxacin
- b. Trimethoprim
- c. Rifampicin
- d. Sulfasalazine
- e. Chloramphenicol

39. Which is a 2nd generation cephalosporin

- a. Cefaclor
- b. Ceftazidime
- c. Cephalexin
- d. Cefotaxime
- e. Cephalothin

40. Which is a live virus vaccine

- a. Typhoid
- b. Tetanus
- c. Hepatitis B
- d. Rabies
- e. Measles

41. Amantadine

- a. Is an antiviral drug
- b. Produces insomnia not sedation
- c. Causes acute psychosis
- d. Potentiates DAergic function
- e. All of the above

42. A patient with impetigo is most likely going to respond to

- a. Phenoxymethylpenicillin
- b. Streptomycin
- c. Cephalexin
- d. Kanamycin
- e. Metronidazole

- 43. The antiviral drug that acts on reverse transcriptase is**
- Acyclovir
 - Zidovudine
 - Gancyclovir
 - Vidarubine
 - All of the above
- 44. The β -lactam ring is present in all of the following classes of antibiotics except**
- Penicillins
 - Monobactams
 - Fluoroquinolones
 - Carbapenems
 - Cephalosporins
- 45. The cephalosporin with the highest activity against Gram +ve is**
- Cefuroxime
 - Cefotaxime
 - Cefaclor
 - Cefepime
 - Cephalothin
- 46. Macrolide antibiotics**
- are usually active against *Neisseria* spp
 - are bacteristatic but not bactericidal
 - bind at the 30S ribosomal subunit
 - are unaffected by plasmid mediated resistance
 - enhance metabolism by cytochrome P450 pathways
- 47. Erythromycin**
- Is effective against *Campylobacter jejuni*
- 48. Metronidazole**
- inhibits alcohol dehydrogenase
 - is effective for vaginal trichomoniasis
 - does not cause a metallic taste in the mouth
 - turns urine green
- 49. Penicillin reach high concentrations in**
- Vitreous humour
 - CSF with normal meninges
 - Proximal tubular fluid of the kidney
- 50. Zidovudine (AZT)**
- Has a short half life
 - Inhibits viral thymidine kinase
 - Has no activity against retroviruses

51. Acyclovir

- a. is commonly given in doses of 10-20mg tds
- b. is used to treat CMV
- c. is a guanosine analogue
- d. acts to inhibit viral entry into cells
- e. is only available IV

52. Doxycycline

- a. acts to inhibit nucleic acid synthesis
- b. may cause photosensitivity

53. All of the following inhibit nucleic acid synthesis except

- a. norfloxacin
- b. trimethoprim
- c. rifampicin
- d. sulfasalazine
- e. chloramphenicol

54. Gentamicin (2 CORRECT)

- a. is not nephrotoxic
- b. increases the effect of neuromuscular junction blocking drugs
- c. may be given orally
- d. enters cells by an oxygen dependent influx
- e. has a large therapeutic index

55. Regarding trimethoprim, which is false

- a. It is useful in the treatment of UTI
- b. It is bactericidal
- c. It is an antifolate, anti-metabolite drug

56. Which can cause hypoprothrombinaemia

- a. Cefuroxime
- b. Cefotetan
- c. Cefazolin
- d. Cefaclor
- e. Ceftriaxone

57. Which tetracycline requires dose adjustment in renal failure

- a. Minocycline
- b. Doxycycline
- c. Tetracycline
- d. Methacycline
- e. All of the above

ANSWERS

- | | | |
|--------|-------|-----------|
| 1. E | 20. C | 39. A |
| 2. B | 21. D | 40. E |
| 3. C | 22. C | 41. E |
| 4. E | 23. B | 42. C |
| 5. B | 24. C | 43. E |
| 6. E | 25. D | 44. C |
| 7. B | 26. E | 45. E |
| 8. B | 27. A | 46. A |
| 9. E | 28. D | 47. - |
| 10. B | 29. B | 48. B |
| 11. E | 30. C | 49. C |
| 12. D | 31. A | 50. A |
| 13. A | 32. E | 51. C |
| 14. ?B | 33. E | 52. B |
| 15. E | 34. A | 53. E |
| 16. A | 35. D | 54. B + D |
| 17. C | 36. E | 55. B |
| 18. E | 37. D | 56. B |
| 19. E | 38. E | 57. ? |