

Lesson (4): Chemotherapy

1- The selection of antibiotic resistant mutants is enhanced by the following EXCEPT:

- a) Wrong choice of antibiotic
- b) Interrupted course of antibiotics
- c) Use high doses of antibiotics
- d) Use of antibiotics in infections, for which they are not indicated

2- Resistance of mycoplasma to penicillin is due to:

- a) Absence of cell wall
- b) Production of enzymes that inactivates the drug
- c) Metabolic inactivity of the organism
- d) All of the above

3- Polymyxin and amphotericin B interfere with:

- a) Cell wall synthesis
- b) Cell membrane function
- c) DNA function
- d) Protein synthesis

4- Aminoglycosides interfere with:

- a) Cell wall synthesis
- b) Cell membrane function
- c) DNA function
- d) Protein synthesis

5- Which of the following compounds act as metabolic antagonists?

- a) Sulphonamides
- b) Trimethoprim
- c) Both of the above
- d) None of the above

6- Inhibition of bacterial DNA synthesis occurs by:

- a) Penicillin
- b) Polymyxin
- c) Quinolones
- d) Chloramphenicol
- e) Cephalosporins

7- The minimal inhibitory concentration (MIC) is:

- a) The highest concentration of the drug preventing bacterial growth
- b) The concentration of the drug achieved in serum with optimal dose
- c) The lowest concentration of the drug preventing bacterial growth
- d) The lowest concentration of the drug allowing growth of the organism

8- Selective toxicity of an antibiotic:

- a) Depends on presence of a receptor for the drug in hosts not in organisms
- b) Depends on inhibition of a biochemical event not essential for the organism
- c) Is the ability of the drug to harm the organism without harming the host
- d) Is one of the complications of antibiotic therapy

9- Complications of chemotherapy include the following EXCEPT:

- a) Selective toxicity
- b) Emergence of resistant mutant strains
- c) Allergy
- d) Superinfection

10- The tetracycline has the same mechanism of action of:

- a) Sulfonamides
- b) Penicillin
- c) Rifampin
- d) Chloramphenicol

11- The ideal antimicrobial agent is characterized by the following EXCEPT:

- a) Has selective toxicity
- b) Not affected by tissue fluids
- c) Has many side effects
- d) Has broad spectrum activity

12- A bacterial enzyme that inactivates penicillin is:

- a) Coagulase
- b) B-lactamase
- c) Catalase
- d) Protease

13- In bacteria penicillin acts on:

- a) DNA synthesis
- b) RNA synthesis
- c) The cell wall
- d) Cell membrane

14- Penicillin is lethal to bacteria and non toxic for mammalian cells because:

- a) Target site is unique in bacteria
- b) Mammalian cells inactivate penicillin
- c) Mammalian cell is impermeable to penicillin
- d) None of the above

15- Which of the following statements concerning sulfonamide is TRUE?

- a) Inhibits protein synthesis
- b) Act as competitive inhibitors for the conversion of PABA to folic acid
- c) Inhibits cell wall synthesis
- d) Interferes with cytoplasmic membrane function

16- The aminoglycosides antibiotics:

- a) Inhibit protein synthesis
- b) Act on bacterial ribosome
- c) May cause aplastic anemia
- d) All of the above

17- Which of the following antibiotics does NOT interfere with synthesis of protein in M.Os?

- a) Tetracyclines
- b) Chloramphenicol
- c) Aminoglycosides
- d) Cephalosporins
- e) Erythromycin

18- Sulfonamides are:

- a) Naturally produced by bacteria
- b) Chemically synthesized compound
- c) Semi synthetic antibiotic
- d) None of the above

19- One of the following antibiotics inhibit bacterial cell membrane function

- a) Amphotericin B
- b) Polymyxins
- c) Nystatin
- d) All of the above

20- The lowest amount of antibiotic that results in vitro killing of the organism is defined as:

- a) Minimal bacteriostatic concentration
- b) Serum bactericidal concentration
- c) Serum peak level
- d) Minimal bactericidal concentration

21- Which of the following statements is TRUE concerning penicillin G?

- a) It has wide antimicrobial spectrum
- b) It is resistant to bacterial β -lactamase
- c) It rarely elicits allergic response
- d) It acts on the cell wall

22- Which of the following antimicrobial drug acts by inhibition of bacterial DNA synthesis?

- a) Quinolones
- b) Penicillin
- c) Rifampicin
- d) Streptomycin

23- The following are antifungal drugs EXCEPT:

- a) Nystatin
- b) Imidazoles
- c) Gentamicin
- d) Amphotericin B

24- Nystatin acts on fungi by inhibition of:

- a) RNA synthesis
- b) Cell membrane function
- c) Protein synthesis
- d) Cell wall synthesis

25- Match the suitable antibiotic that is used as prophylaxis in the following diseases:

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| 1- Rheumatic fever | a- Tetracyclines |
| 2- Cholera | b- Rifampin |
| 3- Meningococcal meningitis | c- Penicillin G |

26- Match the complication that most commonly associated with each of the following antimicrobial agent:

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| 1- Anaphylactic shock | a- Tetracycline |
| 2- Bone marrow depression | b- Streptomycin |
| 3- Nephrotoxic | c- Aminoglycosides |
| 4- Deafness | d- Chloramphenicol |
| 5- Permanent staining of the teeth | e- Penicillin G |

27- Match the appropriate mechanism of action for each antimicrobial agent:

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| 1- Inhibit bacterial cell wall synthesis | a- Polymyxin B |
| 2- Inhibit protein synthesis | b- Tetracycline |
| 3- Inhibit nucleic acid synthesis | c- Rifampicin |
| 4- Inhibit cell membrane function | d- Cephalosporins |

28- Match the appropriate mechanism of action for each antimicrobial agent

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| 1- Interferes with cell membrane function | a- Chloramphenicol |
| 2- Inhibits cell wall synthesis | b- Penicillin |
| 3- Inhibits protein synthesis | c- Nystatin |
| 4- Inhibits DNA synthesis | d- Nalidixic acid |
| 5- Inhibits folic acid synthesis | e- Trimethoprim |