قائمة الاسئلة 2025-04-12 08:09

كيمياء دوائية(3) الرابع-علوم صيدلانية كلية الصيدلة- درجة الامتحان (75)

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1) 1- Lumefantrine is a derivative of halofantrine and an effective erythrocytic schizonticide, that has been reported to exhibit antimalarial activity in the treatment of multidrug-resistant Plasmodium falciparum when combined with
   1) - a- Lumefantrine
   2) - b- Amodiaquine
   3) - c- Pamaquine
   4) + d- artemether
2) 2- 4(4-aminophenol metabolism into 4-quinone imine of 4-aminoquinine derivatives may contribute to higher side effects of
   1) - a- Chloroquine
   2) + b- Amodiaquine
   3) - c- Pamaquine
   4) - d- Mefloquine
3) 3- The structural differences of sontoquine from chloroquine making them less active is
   1) - a- a hydroxy moiety on one of the N-ethyl groups.
   2) - b- 7-chloro group
   3) + c- 4-phenol amine derivatives
   4) - d- 3-methyl group
4) 4- Which of the following is a mechanism of resistance developed by Plasmodium falciparum against chloroquine?
   1) - a- Increased drug metabolism
   2) + b- Mutations in the PfCRT transporter protein
   3) - c- Decreased folate synthesis
   4) - d- Increased mitochondrial activity
5) 5- What is the key structural difference between the quinine and quinidine
   1) - a- Presence of a methoxy group
   2) - b- Length of the alkyl chain
   3) + c- Stereochemistry at specific chiral centers
   4) - d- Presence of a hydroxyl group
6) 6- Dihydroartemisinin is the active form of artemisinin so, artesunate is the artemisinin succinate prodrug has
   1) + a- Increase water solubility
   2) - b- Decrease water solubility
   3) - c- Increase lipophilicity
   4) - d- All answer is correct
7) 7- Artesunate antimalarial drug is combined with
   1) - a- Chloroquine
   2) + b- Amodiaquine
   3) - c- Pamaquine
   4) - d- Mefloquine
8) 8- 4(2-pipridino-hydroxymethyl)-quinoline derivative that is structurally related to quinine is
   1) - a- Chloroquine
   2) - b- Amodiaquine
   3) - c- Pamaquine
   4) + d- Mefloquine

9) 9- What structural feature of mefloquine is thought to contribute to its activity against chloroquine-resistant Plasmodium strains?
1) - a- The presence of a methoxy group
2) + b- The presence of trifluoromethyl (CF3) groups
3) - c- A shorter side chain amino alcohol
4) - d- A different heterocyclic ring system

10) 10- It is an effective single agent for prophylaxis and treatment of infections caused by multidrug-resistant forms of P. falciparum
1) - a- Chloroquine
2) - b- Amodiaquine
3) - c- Pamaquine
4) + d- Mefloquine

11) 11- Which triazole antifungal is commonly used for systemic Candida and Cryptococcus infections
1) + a- Fluconazole
2) - b- Caspofungin
3) - c- Itraconazole
4) - d- Micafungin

12) 12- The combination of clindamycin and primaquine is an alternative regimen in the treatment of
1) - a- P. falciparum
2) - b- Amebiasis
3) + c- Pneumocystosis
4) - d- All of the above

13) 13- Which antimalarial drug is contraindicated in patients with glucose-6-phosphate dehydrogenase (G6PD) deficiency due to risk of hemolysis?
1) - a- Amodiaquine
2) + b- primaquine
3) - c- Mefloquine
4) - d- chloroquine

14) 14- Which drug is used to prevent relapse in P. vivax malaria ?
1) - a- Quinine
2) + b- Primaquine
3) - c- Artemisinin
4) - d- Mefloquine

15) 15- Which structural feature of the azole ring is crucial for its interaction with the heme moiety of Cytochrome P-450?
1) - a- N1-substituent
2) - b- Aryl group attachment
3) - c- Halogen substitution
4) + d- N3-atom

16) 16- What is the structural feature of artemisinin derivatives that is crucial for their antimalarial activity?
1) - a- Quinoline ring
2) - b- Methoxy group
3) + c- Endoperoxide bridge
4) - d- Amino alcohol side chain

17) 17- According to the SAR of 4-aminoquinolines, what is the general requirement for maximum activity?
1) - a- Any substitution on the quinoline ring increases activity
2) - b- A single basic nitrogen atom in the side chain
3) - c- absence of side chain with 2-5 carbon atoms and two basic nitrogen atoms
4) + d- The presence of a chlorine atom at the 7th position

18) 18- Which drug is commonly used in combination with Quinine to shorten the duration of treatment and limit toxicity?
1) - a- Chloroquine
2) + b- Doxycycline
3) - c- Primaquine
4) - d- Mefloquine

19) 19- Which antifungal is a pyrimidine analog that requires conversion to active form
1) - a- Nystatin
2) - b- Terbinafine
3) + c- flucytosine
4) - d- Posaconazole

20) 20- Which of the following is allylamine antifungal agents?
1) - a- Nystatin
2) + b- Terbinafine
3) - c- flucytosine
4) - d- Posaconazole

21) 21) The macrolides are group of macrocyclic antibioticscotain:
1) - a) Large planar strainless lacton ring.
2) + b) Large non-planar strainless lacton ring.
3) - c) Large planar strain lacton ring.
4) - d) None of the above.

22) 22) Erythromycin stearate is:
1) - a) A prodrug.
2) + b) A salt.
3) - c) An ester.
4) - d) None of the above.

23) 23) Methylation of 6-hydroxyl group of erythromycin creates:
1) - a) Azithromycin.
2) + b) Clarithromycin.
3) - c) Oleandomycin.
4) - d) None of the above.

24) 24) 1-N-(γ-amino-α-hydroxybutyryl)kanamycinA,is:
1) - a) Netilimycin.
2) - b) Parommomycin.
3) + c) Amikacin.
4) - d) None of the above.

25) 25) The commercial available kanamycin is:
1) - a) Kanamycin B
2) - b) Kanamycin C
3) + c) Kanamycin A
4) - d) None of the above.

26) 26) Kanamycin and penicillin salts should not be combined in the same solution because is:
1) - a) Chemically compatible.
2) + b) Chemically incompatible.
3) - c) Physicochemical incompatible.
4) - d) None of the above.

27) 27) Gentamycin with penicillin is incompatible due to:
1) - a) N-acylation on C-2 of gentamycin.
2) - b) N-methylation on C-1 of gentamycin.

3) + c) N-acylation on C-1 of gentamycin.
4) - d) None of the above.

28) 28) Bacterial resistance to aminoglycosides can be understood, in large measure, by using;
1) - a) One principle.
2) - b) More one principle.
3) + c) Two principles only.
4) - d) None of the above.

29) 29) AAC, APH and ANT are:
1) - a) Nonspecific inactivating enzymes.
2) - b) More specific inactivating enzymes.
3) + c) Specific inactivating enzymes.
4) - d) None of the above.

30) 30) When patient use aminoglycosides he must check the following:
1) - a) Only electrolyte profile.
2) - b) Only kidney functions.
3) + c) An electrolyte profile and kidney functions.
4) - d) None of the above.

31) 31) The drug –drug interaction of macrolides with astemizole and terfenadine can lead to ;
1) - a) Serious cardiovascular effects.
2) - b) Not serious cardiovascular effects.
3) + c) Very serious cardiovascular effects.
4) - d) None of the above.

32) 32) One of macrolides is inserted in guidelines control for treatment of coronavirus:
1) - a) Clarithromycin.
2) - b) Roxythromycin.
3) + c) azithromycin.
4) - d) All of the above.

33) 33) Only one of four diastereomers of chloramphenicol is significantly active :
1) + a) 1R, 2R D-threo.
2) - b) 1 R, 2R L-threo.
3) - c) 1R, 2R D-erythro.
4) - d) 1R, 2R L-erythro.

34) 34) Deamidation product and reduction metabolites of chloramphenicol are:
1) - a) Main and minor metabolites.
2) + b) Secondary and minor metabolites.
3) - c) Main and major metabolites.
4) - d) Secondary and major metabolites.

35) 35) Blood dyscrasias as main side effect of chloramphenicol is due to:
1) - a) Deamidation of C2 in the structure of chloramphenicol.
2) - b) Esterification of C3 in the structure of chloramphenicol.
3) + c) Reduction of p-nitro group in the structure of chloramphenicol.
4) - d) Deamidation and reduction in the structure of chloramphenicol.

36) 36) Chloramphenicol palmitate is a prodrug which is used in pediatric oral suspension due to:
1) - a) Improve solubility.
2) - b) Reduce toxicity.
3) - c) Decrease acidinstability.
4) + d) Improve the taste

37) 37) Changes in the α-thiolincosamide pertion of the molecule seem to:
1) - a) Enhance activity.

2) - b) Retain activity.
3) + c) Decrease activity.
4) - d) Neglect activity.

38) 38) Sructural modifications at C-7 and of the C-4 alkyl groups of the hygric acid moiety:
1) + a) Influence of congeners more effect on the partition coefficient of the molecule than through a stereospecific binding role.
2) - b) Influence of congeners less effect on the partition coefficient of the molecule than through a stereospecific binding role.
3) - c) Influence of congeners equal effect on the partition coefficient of the molecule than through a stereospecific binding role.
4) - d) Influence of congeners some effect on the partition coefficient of the molecule than through a stereospecific binding role.

39) 39) One of semisymthetic derivatives of lincomycines is:
1) - a) Clindamycin palmitate hydrochloride.
2) - b) Lincomycin hydrochloride.
3) - c) Clindamycin phosphate.
4) + d) Clindamycin hydrochloride.

40) 40) Demethyl-6-deoxy-7-dimethylaminotetracycline Is clinically successful because:
1) - A) It is less lipid-soluble
2) + B) It is active against tetracycline-resistant strains
3) - C) It has a lower partition coefficient
4) - D) It undergoes beta-ketone cleava

41) 41) Deoxytetracyclines have chemical and Pharmacokinetic advantages because they:
1) - A) Can form anhydrotetracyclines under acidic Conditions
2) - B) Are less stable in base
3) + C) Cannot dehydrate at C-5a and C-6
4) - D) Undergo beta-ketone cleavage

42) 42) Compared to 6-oxytetracycline, 6-deoxy ,Compounds like doxycycline and minocycline:
1) - A) Have lower plasma protein binding
2) - B) Are absorbed less completely following oral Administration
3) + C) Have higher volumes of distribution and lower renal Clearance rates
4) - D) Are excreted In higher concentration in the urine

43) 43) Polar substituents at C-5 and C-6 affect the lipid Solubility of tetracyclines by:
1) - A) Increasing it
2) + B) Decreasing it
3) - C) Having no effect
4) - D) Varying it unpredictably

44) 44) Which tetracycline has the highest partition Coefficient due to non-polar substituents?
1) - A) Tetracycline
2) - B) Oxytetracycline
3) - C) Doxycycline
4) + D) Minocycline

45) 45) The more polar tetracyclines are characterized by:
1) - A) Lower renal clearance rates
2) - B) Higher fractions of plasma protein binding
3) + C) Higher concentration excretion in the urine
4) - D) More prolonged duration of action

46) 46) Doxycycline and minocycline have a more Prolonged duration of action compared to other Tetracyclines due to:

1) - A) Higher lipid solubility
2) + B) Significant passive renal tubular reabsorption
3) - C) Lower fractions of plasma protein binding
4) - D) Higher renal clearance rates

47) 47) What is the consequence of epimerization at the C 4- position in tetracyclines?
1) - A) Increased potency
2) - B) No change In activity
3) + C) Formation of inactive 4-epitetracycline
4) - D) Enhanced absorption

48) 48) At what pH is the epimerization process of Tetracyclines most rapid?
1) - A) pH 1
2) + B) pH 4
3) - C) pH 7
4) - D) pH 10

49) 49) Why are tetracycline capsules overfilled during manufacture?
1) - A) To Increase bioavailability
2) + B) To compensate for natural degradation over time
3) - C) To enhance the flavor
4) - D) To prevent allergic reactions

50) 50) What effect do strong acids have on tetracyclines?
1) - A) They increase solubility
2) + B) They cause dehydration and loss of activity
3) - C) They stabilize the tricarbonyl system
4) - D) They prevent epimerization