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Ph.D. ENTRANCE EXAMINATION - 2020

Subject : Pharmacology

Date : 06.01.2020

Max Marks: 60

Duration: 01:30 Hrs.

Place : Dehradun

Student Name:

Invigilator Name:

Signature:

Signature:

- O1. The steady-state concentration of a drug can be double by:**
- Doubling the both rate of infusion and concentration of drug.
 - Doubling the rate of infusion only.
 - Doubling the loading dose but maintaining the infusion rate.
 - Tripling the rate of infusion.
- O2. Phase II reactions of a drug biotransformation:**
- Decreases its water solubility.
 - Includes activity of cytochrom P-450.
 - Usually leads to inactivation of the drug.
 - Does not include acetylation.
- O3. Half-life of a drug may be helpful to determine:**
- Dosage schedule of the drug.
 - Level of absorption.
 - Distribution into different body systems.
 - Time to get the steady state.
- O4. A 3 year old child has been admitted to emergency with suspicious of atropine overdose as there are:**
- Abdominal cramps.
 - Increased gastric secretion.
 - Increased cardiac rate.
 - Papillary constriction.
- O5. Epinephrine does not cause increase concentrations of:**
- Glucose in blood.
 - Lactate in blood.
 - Free fatty acids in blood.
 - Triglycerides in fat cells.
- O6. A 50 year old patient is having propranolol due to his cardiac problems but his physician now wants to stop this drug; which of the following is the most important reason for this step?**
- Familial tremor.
 - Partial AV heart block.
 - Mild hypertension.
 - Angina pectoris.
- O7. A young man of 24 years is suffering from Generalized Anxiety Disorder; which drug may be preferred for his problem?**
- Zolpidem.

- b. Buspiron.
 - c. Midazolam.
 - d. Triazolam.
- 08. Which of the following statements best describes the mechanism of action of benzodiazepines?**
- a. Benzodiazepines activate GABA_B-receptors in the spinal cord.
 - b. They inhibit GABA-transaminase leading to increased levels of GABA.
 - c. They block glutamate receptors in hierarchical neuronal pathways in the brain.
 - d. Benzodiazepines increase the frequency of Cl⁻-channels opening which are coupled to GABA_A receptors.
- 09. Which of the following drugs when used for prolonged period in the maintenance treatment of tonic-clonic seizures can lead to increased metabolism of warfarin like drugs?**
- a. Phenobarbital.
 - b. Meprobamate.
 - c. Chlordiazepoxide.
 - d. Triazolam.
- 10. Characteristics of non-depolarizing neuromuscular blockade include which of the following?**
- a. Block of post-tetanic potentiation.
 - b. Histamine blocking action.
 - c. Poorly sustained tetanic tension.
 - d. Significant muscle fasciculations during onset of block.
- 11. Which of the following drugs given preoperatively is used to prevent postoperative pain caused by succinylcholine?**
- a. Dantrolene.
 - b. Tubocurarine.
 - c. Diazepam.
 - d. Lidocaine.
- 12. With prolonged use in seizure states, which of the following drugs can cause coarsening of facial features, hirsutism, gingival hyperplasia and osteomalacia?**
- a. Valproic acid.
 - b. Carbamazepine.
 - c. Ethosuximide.
 - d. Phenytoin.
- 13. Only Aspirin can:**
- a. Reduce fever.
 - b. Irreversibly inhibit its target enzyme.

- c. Prevent episodes of gouty arthritis with long term use.
 - d. Reduce the risk of colorectal cancer.
- 14. Indomethacin is preferred over Colchicine for Acute Attack of Gout because it is:**
- a. Less likely to cause gastrointestinal bleeding.
 - b. **Less likely to cause diarrhea.**
 - c. Less likely to cause acute renal failure.
 - d. More likely to reduce inflammation.
- 15. Which of the following drugs is used in the treatment of rheumatoid arthritis?**
- a. **Naproxen.**
 - b. Allopurinol.
 - c. Colchicine.
 - d. Sulfapyrazone.
- 16. The most dangerous adverse effect by using Fentanyl patches is:**
- a. Diarrhea.
 - b. Relaxation of respiratory muscles.
 - c. Hypertension.
 - d. **Respiratory depression.**
- 17. Morphine should be used with extreme caution in all of the following conditions but not in:**
- a. Biliary tract surgery.
 - b. **Pulmonary edema.**
 - c. Last stage of labor.
 - d. Hypothyroidism.
- 18. A 35 year old patient complaining of severe pain along the right side of the jaw and face; the best choice for this neuralgic pain is:**
- a. Methadone.
 - b. Ibuprofen.
 - c. **Carbamazepine.**
 - d. Lorazepam.
- 19. Which of the following local anesthetics is used exclusively for its good surface activity and low toxic potential:**
- a. Cocaine.
 - b. **Benzocaine.**
 - c. Bupivacaine.
 - d. Procaine.
- 20. Which of the following drugs can cause methemoglobinemia when used in larger doses for regional anesthesia?**
- a. Cocaine.
 - b. Lidocaine.

- c. Bupivacaine.
 - d. Prilocaine.
21. **Epinephrine added to a solution of lidocaine for local anesthesia will:**
- a. Cause cyanosis locally.
 - b. Increase the risk of convulsions.
 - c. **Increase the duration of local anesthesia.**
 - d. Increase the absorption of lidocaine.
22. **Which of the following inhalational anesthetic agents is having fastest onset of action?**
- a. Nitric oxide.
 - b. Isoflurane.
 - c. **Nitrous oxide.**
 - d. Enflurane.
23. **To attempt reduction of a dislocated shoulder joint when Ketamine is used alone it will cause:**
- a. Respiratory depression.
 - b. Skeletal muscle rigidity.
 - c. Hypotension.
 - d. **Analgesia.**
24. **Which of the following drugs produces respiratory depression and so reversed by flumazenil?**
- a. Fentanyl.
 - b. Propofol.
 - c. Ketamine.
 - d. **Midazolam.**
25. **Cephalosporins show their antimicrobial action by:**
- a. Binding to cytoplasmic receptor proteins.
 - b. Inhibition of beta-lactamases.
 - c. **Inhibition of transpeptidation reactions.**
 - d. Interference with the synthesis of ergosterol.
26. **The most appropriate drug regimen for empiric treatment of Gram-negative bacilli in blood is:**
- a. Ampicillin plus sulbactam.
 - b. **Aztreonam.**
 - c. Cefazolin.
 - d. Imipenem plus cilastatin.

27. **A BDS student while answering the question about ciprofloxacin gave various statements; which of the following statements was rejected by the examiner?**
- Clinical antagonism occurs when used with Co-trimoxazole.
 - Post-antibiotic effects are similar to aminoglycosides.
 - It is active against most of the middle-ear infecting organisms.
 - It may be used for urinary tract infection.
28. **The mechanism underlying the resistance of G +ve organisms to macrolides is:**
- Decreased drug permeability of the cytoplasmic membrane.
 - Methylation of binding sites on the 50-S ribosomal subunit.
 - Decreased activity of uptake mechanism.
 - Formation of esterases that hydrolyze the lactone ring.
29. **Doxycycline is:**
- Bactericidal.
 - Not excreted in the feces.
 - Having a short elimination half-life.
 - Not as effective as tetracycline against H.pylori.
30. **Neomycin, an aminoglycoside is:**
- Least nephrotoxic.
 - Metabolized by hepatic enzyme.
 - Used in hepatic coma.
 - A drug of choice in Rocky Mountain Spotted fever.
31. **The toxic effect of amphotericin B which definitely require reduction of dose is:**
- Myelosuppression.
 - Hepatitis.
 - Renal Toxicity.
 - Hypotension.
32. **Which of the followings is useful topically for genital herpes infection?**
- Acyclovir.
 - Amantadine.
 - Ritonavir.
 - Trifluridine.
33. **Acute hemorrhage cystitis is a common toxic effect seen with:**
- Vincristine.
 - Tamoxifen.

- c. Doxorubicin.
 - d. Cyclophosphamide.
34. A young girl of 20 years has taken a suicidal overdose of Digoxin, the drug of choice in her treatment will be:
- a. Lidocaine.
 - b. Phenytoin.
 - c. Digoxin antibodies.
 - d. Potassium chloride.
35. A 45 year old patient developed severe thrombocytopenia due to unfractionated heparin so the best alternative anticoagulant will be:
- a. Lepirudin.
 - b. Abciximab.
 - c. Urokinase.
 - d. Plasminogen.
36. A 30 year old male suffering from cerebral edema will be best treated with:
- a. Furosemide.
 - b. Amiloride.
 - c. Ethacrynic acid.
 - d. Mannitol.
 - e. Acetazolamide.
37. While prescribing a treatment to a young female patient suffering from peptic ulcer associated with H. Pylori the gastroenterologist will neglect:
- a. Tetracycline.
 - b. Vancomycin.
 - c. Amoxicillin.
 - d. Metronidazole.
38. A 35 year old lady who is on anticancer therapy is now suffering from severe nausea and vomiting; which of the following drugs is having most effective antiemetic actions in this case?
- a. Dexamethasone.
 - b. Levodopa.
 - c. Apomorphine.
 - d. Sucrulfate.
39. Which of the following is a prophylactic antiasthmatic agent that stabilizes mast cells:
- a. Ipratropium.
 - b. Prednisone.
 - c. Terbutaline.
 - d. Cromolyn.

40. A senior dental surgeon is very much concerned about the systemic effect of the topically -used drugs for plaque prevention; which of the following drugs will least be considered by him due to the same reason?
- Vancomycin.
 - Bacitracin.
 - Polymyxin – B.
 - Clarithromycin.
41. Peppermint is least useful in:
- Gingivitis.
 - Periodontitis.
 - Young children.
 - Dental gum.
42. Clove oil:
- Can not be used as temporary filling material.
 - Has no anti-inflammatory effect.
 - Can not increase bleeding when applied.
 - Has antifungal activity also.
43. Eugenol when sealed in a root canal preparation leads to severe tissue damage:
- Without pain as it has analgesic effect.
 - Without pain as it has local anesthetic effect.
 - Because it has corrosive effect.
 - With local bleeding also.
44. Which of the following statements is least related to Chlorhexidine (0.2%)?
- It is useful in reducing plaque formation.
 - It can cause staining of the teeth.
 - There is increased formation of calculi.
 - It is not effective in gingivitis.
45. Which of the following statements is rarely seen with Azadirachta Indica (Neem):
- Can be used in toothpaste.
 - Shows antimicrobial activity.
 - Has mild abrasive effects.
 - Can not inhibit plaque formation.
46. Most potent fluoroquinolone against Mycobacterium leprae is?
- Levofloxacin

- b. Ofloxacin
 - c. Moxifloxacin
 - d. Ciprofloxacin
47. **The antiretroviral drug combination to be avoided is?**
- a. Zidovudine + Stavudine
 - b. Zidovudine + Lamivudine
 - c. Didanosine + Abacavir
 - d. Didanosine + Zidovudine
48. **Shortest acting non benzodiazepine hypnotic is?**
- a. Zaleplon
 - b. Zolpidem
 - c. Zopiclone
 - d. Eszopiclone
49. **Which of the following is true regarding Drotaverine?**
- a. M3 selective muscarinic antagonist
 - b. Causes smooth muscle contraction
 - c. Causes anticholinergic side effects
 - d. Inhibits phosphodiesterase-4
50. **Which is associated with vaginal carcinoma in female offspring?**
- a. Diethylstilbestrol
 - b. Phenytoin
 - c. ACE inhibitors
 - d. Indomethacin
51. **Which of the following is not an action of muscarinic antagonists?**
- a. Reduce respiratory secretions
 - b. Reduce gastric secretions
 - c. Contraction of radial muscles of iris
 - d. Increase rate of conduction in the heart
52. **Which of the following is not a long acting muscarinic antagonist?**
- a. Glycopyrronium
 - b. Aclidinium
 - c. Indacaterol
 - d. Umeclidinium
53. **Most potent fluoroquinolone against Mycobacterium leprae is?**
- a. Levofloxacin
 - b. Ofloxacin
 - c. Moxifloxacin
 - d. Ciprofloxacin
54. **Which of the following is not related to a drug toxicity of Atenolol?**
- a. CHF
 - b. Tachycardia

- c. AV block
- d. Sedative appearance

55. Which of the following is the antidote for the toxin Benzodiazepines?

- a. Flumazenil
- b. Methylene blue
- c. Deferoxamine
- d. Alkalinize urine

56. Which of the following is considered a class IA Sodium Channel blocker?

- a. Mexiletine
- b. Aminodarone
- c. Quinidine
- d. Procainamide

57. Which of the following is not directly related to a drug toxicity of Ibuprofen?

- a. Nausea
- b. Renal dysfunction
- c. Anemia
- d. Muscle wasting

58. Which of the following is the primary site of activity for the drug Warfarin?

- a. Kidney
- b. Liver
- c. Blood
- d. Heart

59. Which of the following is not directly related to a drug toxicity of Nitroglycerin?

- a. Headaches
- b. Tachycardia
- c. Dizziness
- d. Projectile vomiting

60. A drug ending in the suffix (navir) is considered a _____.

- a. Antidepressant
- b. Protease inhibitor
- c. Beta antagonist
- d. H₂ antagonist
