

Pharm Exam 2 2010

50 questions. Choose the single best answer

1. A 75-year-old woman is diagnosed with megaloblastic anemia. Her physician orders tests to measure serum concentrations of both folic acid and cobalamin. Why did the physician order these tests?

- A) High levels of folic acid can lead to neuronal damage
- B) High levels of Vitamin B12 can lead to neuronal damage
- C) Low levels of folic acid can lead to neuronal damage
- D) Low levels of Vitamin B12 can lead to neuronal damage
- E) Megaloblastic anemia results from simultaneous low levels of both folic acid and Vitamin B12

2. Which one of the following drugs is indicated in a recovering alcoholic to help diminish seeking behavior?

- A) Tolbotamide
- B) Carbidopa
- C) Naltrexolone
- D) Phenobarbital
- E) Aspirin

3. If the concentration of alcohol in the blood is 0.1%, what would be the expected relative amount of alcohol in the central nervous system?

- A) 0.05-0.06%
- B) 0.12-0.13%
- C) 0.09-0.1%
- D) 0.02-0.03%
- E) 0.20-0.21%

$\frac{0.12}{0.10}$

4. Acetazolamide (Diamox) is the prototype of the carbonic anhydrase inhibitors. What is the best clinical indication for this class of drugs?

- A) Glaucoma
- B) Heart failure
- C) Pulmonary edema
- D) Hepatic cirrhosis
- E) Kidney failure

5. Which of the following is not true for the "loop diuretics"?

- A) Rapid absorption
- B) Rapid action
- C) Action on the thick ascending limb (TAL) of the loop of Henle
- D) Increase the reabsorption of Mg^{++} and Ca^{++}
- E) Selective inhibition of NaCl reabsorption

6. A 10-year-old boy is brought in by his mother for evaluation of allergies. Each year in the spring the child develops a runny nose, itchy, watery eyes and sneezing. The boy has been treated in the past with diphenhydramine, but the child's teacher says that the boy is very drowsy during school. Which of the following drugs should you suggest?

- A) Flutamide
- B) Chlorpheniramine
- C) Promethazine
- D) Diphenhydramine
- E) Loratadine

7. Which of the following is true?

- A) Helicobacter pylori causes itch but not peptic ulcer
- B) Fexofenadine has lower potential to induce drowsiness than the first generation H1 blockers
- C) Peptic ulcer is caused by viral infection
- D) Epinephrine is not a physiologic antagonist of histamine
- E) Diphenhydramine can block H2 receptors and treat peptic ulcer

8. Which of the following is an attribute of digoxin when used in the treatment of congestive heart failure:

- A) Decrease in cardiac excitability
- B) Shortening of the PR-interval of the ECG.
- C) Decreased cardiac output
- D) Increased heart rate
- E) Visual disturbances with higher doses

9. A patient presents with an anemia resulting from a malabsorption of iron. Which of the following agents would be most useful in treating the anemia?

- A) Cyanocobalamin
- B) Deferoxamine
- C) Ferrous sulfate
- D) Ferrous gluconate
- E) Iron Dextran

10. Drugs used in treating congestive heart failure include all of the following EXCEPT:

- A) Furosemide
- B) ACE inhibitors
- C) Norepinephrine
- D) Digoxin
- E) Thiazides

11. Adalimumab (Humira) is used for the treatment of severe rheumatoid arthritis. This drug has proven to be very effective as a potent anti-inflammatory agent for many patients, but there are potential adverse reactions with this drug. The desirable or undesirable properties of this drug include which one of the following:

- A) Is a highly selective COX-2 inhibitor.
- B) Is associated with increased incidence of upper respiratory opportunistic infections.
- C) Is frequently associated with myocardial infarction.
- D) Is a humanized monoclonal anti-CTLA-4 antibody.
- E) Is a highly selective COX-1 inhibitor.

12. Absence of intrinsic factor leads to which of the following.

- A) Erythropoietin deficiency
- B) Folic acid deficiency
- C) Iron deficiency
- D) Porphyrria
- E) Vitamin B12 deficiency

13. Celecoxib (Celebrex) is used to treat patients with chronic inflammatory diseases such as rheumatoid arthritis. The characteristics of this drug include:

- A) Is a highly selective COX-1 inhibitor
- B) Is a strong anti-inflammatory drug which prevents the action of TNF.
- C) Is a good therapeutic treatment for prevention of thrombosis.
- D) Associated with myocardial infarction and hypertension.
- E) Exhibits good anti-pyretic activity but poor anti-inflammatory activity for most patients.

14. Abatacept (Orencia) is an effective anti-rheumatic drug that is often used after patients become unresponsive to treatment with other non-steroidal anti-inflammatory agents. Which of the following statements correctly describes the characteristics of this drug?

- A) Can induce bone marrow depression (leukopenia).
- B) Causes a temporary hypergammaglobulinemia in about 20% of patients.
- C) Is activated by xanthine oxidase which prevents its use in patients suffering with hemolytic anemia)
- D) Is commonly associated with the development of anti-abatacept antibody, and hypersensitivity reactions that may result.
- E) Is associated with a lupus-like syndrome.

15 Which of the following drugs may cause renal damage in the fetus if given during pregnancy?

- A) Captopril
- B) Diazoxide
- C) Guanethidine
- D) Hydralazine
- E) Minoxidil

16 Which one of the following drugs is an angiotensin-receptor blocker that will have the same beneficial effects as an ACE inhibitor but will not produce a cough?

- A) Nifedipine
- B) Prazosin
- C) Propranolol
- D) Hydrochlorothiazide
- E) Losartan

17. Which of the following diuretic agents act primarily on the thick ascending limb(TAL) of the loop of Henle?

- A) Furosemide
- B) Acetazolamide
- C) Mannitol
- D) Spironolactone
- E) Hydrochlorothiazide

18. Which of the following drugs is a platelet antagonist that requires liver metabolism for activation

- A) Aspirin
- B) Salicylate
- C) Clopidogrel
- D) Abciximab
- E) Amicar

19. Which of the following drugs causes cutaneous flushing and itching; decreases VLDL by inhibiting its secretion from the liver

- A) Cholestyramine
- B) Gemfibrozil
- C) Lovastatin
- D) Niacin
- E) Neomycin

20. Warfarin acts as an anticoagulant by which of the following mechanisms?

- A) raises the plasma level of factor IX
- B) inhibits thrombin
- C) inhibits the synthesis of Prothrombin
- D) binds the calcium ion cofactor needed
- E), inhibits platelet aggregation

21. All of the following are adverse effects that can result from the administration of an opioid analgesic EXCEPT

- A) Respiratory depression
- B) Nausea and vomiting
- C) Diarrhea
- D) Pruritus
- E) Sedation

22. Which of the following analgesics has agonist properties at kappa opioid receptors and antagonist actions at mu opioid receptors?

- A) Hydrocodone
- B) Morphine
- C) Nalbuphine
- D) Naltrexone
- E) Tramadol

23. A 45-year-old male has been treated post-operatively with morphine. When the nurse checks on him, he is found to be in a stupor, and his respiration is shallow and severely depressed. An overdose of morphine is suspected. Treatment should begin immediately with administration of which of the following agents?

- A) Buprenorphine
- B) Diazepam
- C) Methadone
- D) Naloxone
- E) Naltrexone

24. In which clinical condition are the “loop diuretics” are most indicated?

- A) Cerebral edema
- B) Hypertension
- C) Hyperaldosteronism
- D) Chronic heart failure
- E) Acute pulmonary edema

25. A 55-year-old man in a methadone-maintenance program requires major dental surgery. Of the drugs listed as part of his anesthetic regimen, which one will most likely require a greater dose than usual?

- A) Atropine
- B) Fentanyl
- C) Halothane
- D) Succinylcholine
- E) Thiopental

26. An ambulatory 50-year-old male requires treatment for severe pain following oral surgery. Which of the following would be most appropriate to prescribe for pain relief for this patient?

- A) Codeine and Acetaminophen
- B) Propoxyphene
- C) Fentanyl
- D) Nalbuphine
- E) Oxycodone and Acetaminophen

27 Which of the following is characteristic of captopril

- A) Competitively blocks angiotensin II at its receptor
- B) Inhibits angiotensin converting enzyme activity
- C) Decreases renin concentration in the blood
- D) Increases sodium and decrease potassium in the blood
- E) Decreases sodium and increase potassium in the urine

28. Which one of the following statements is true with regard to cocaine?

- A) Cocaine is dopamine receptor antagonist.
- B) Cocaine's onset of action is the same following intranasal and intravenous administration.
- C) A cocaine overdose can result in fatal cardiac arrhythmias
- D) A cocaine overdose can be effectively treated with methadone
- E) Cocaine does not produce physical dependence

29. A 20-year-old female is brought to the emergency room because she experienced a seizure. Examination shows hyperthermia, pupillary dilation, and tachycardia. The patient is talkative and agitated. Her symptoms are consistent with use of high doses of which one of the following drugs?

- A) Amphetamine
- B) Flunitrazepam
- C) Heroin
- D) Lysergic acid diethylamide
- E) Nitrous oxide

30. Flumazenil can be used for the treatment of an overdose of which of the following drugs?

- A) Alcohol
- B) Alprazolam
- C) Cocaine
- D) Ketamine
- E) Morphine

31. Which of the following is the main mechanism by which gemfibrozil lowers plasma triglycerol levels ?

- A) Binds bile acids in the gastrointestinal tract preventing reabsorption.
- B) Inhibits lipolysis in adipose tissue
- C) Increases synthesis of lipoprotein lipase
- D) Increases the number of LDL receptors on liver cells.
- E) Inhibits lipoprotein lipase activity

32. A patient presents with wheezing and difficulty breathing. Examination reveals bronchoconstriction and inflammatory cell infiltration of the bronchi. Select the most appropriate drug to treat the condition.

- A) A COX-1 inhibitor
- B) A COX-2 inhibitor
- C) A leukotriene
- D) A leukotriene receptor antagonist
- E) An NSAID

33. Which of the following classes of drug would be most effective, with the fewest side-effects, as a bronchodilator?

- A) Beta 1 adrenergic receptor antagonist
- B) Beta 2 receptor antagonist
- C) Alpha adrenergic receptor agonist
- D) Beta 1 receptor agonist
- E) Beta 2 receptor agonist

34. Which of the following drugs is only useful prophylactically in treatment of asthma?

- A) Albuterol
- B) Beclomethasone
- C) Cromolyn sodium
- D) Ipratropium bromide
- E) Theophylline

35. A young woman is brought to the emergency room having taken 50 maximum strength acetaminophen tablets 4 hours earlier. She has no immediate symptoms.

The most serious concern would be development of

- A) Hemolytic anemia
- B) Renal failure
- C) Metabolic acidosis
- D) Delayed hepatic necrosis
- E) Methemoglobinemia

36. The drug overdose (in question 35) is best managed by continued administration of

- A) N-acetylcysteine
- B) Sodium bicarbonate
- C) Methylene blue
- D) Vitamin C
- E) Castor oil

37. After receiving an inferior alveolar nerve block with an injection of lidocaine, a patient begins to complain of lightheadedness and a metallic taste in his mouth. A small tremor develops into a grand mal seizure. What medication can be used to control this seizure activity?

- A) Phenytoin
- B) Valium
- C) Naloxone
- D) Acetaminophen
- E) Bupivocaine

38. The mechanism of the anticoagulant effect of low molecular weight heparin is

- A Degradation of activated coagulation factors
- B Inhibition of coagulation factors synthesis
- C Stimulating the production of anticoagulant proteins
- D Inhibition of a vital enzyme in the coagulation factor activation
- E Forming a complex with antithrombin III

39. An 80-year-old female has undergone a surgical procedure. She has diabetes and reduced renal function. Which of the following agents would be best to treat her severe post-op pain?

- A) Acetaminophen Plus Codeine
- B) Hydromorphone
- C) Propoxyphene
- D) Meperidine
- E) Morphine

40. Which of the following drugs should be included on the emergency tray when the patient has a history of angina pectoris?

- A. Diltiazem
- B. Nitroglycerin
- C. Propranolol
- D. Nifedipine
- E. Metoprolol

41. Antiarrhythmic drugs are divided in four major classes. A major problem that is common to all four of the major classes is:

- A) They are all active as pro-arrhythmic agents.
- B) They all prolong the QT interval leading to torsade de pointes
- C) They all have anti-muscarinic activity.
- D) They all have a negative inotropic effect on the heart.
- E) They all broaden the QRS complex.

42. Infliximab is an effective immunosuppressive drug which can be used to treat rheumatoid arthritis. Which of the following statements regarding this drug is correct?

- A) Is composed of a soluble form of CTLA-4.
- B) Binds with high affinity to human TNF α
- C) Is a fusion protein composed of TNF receptor linked to the immunoglobulin Fc chain.
- D) Promotes IL-2 receptor activation.
- E) Acts as an antagonist for the IL-2 receptor.

43. The antianginal effect of propranolol may be attributed to:

- A. Increased heart rate
- B. Increased cardiac contractility
- C. Venodilation
- D. Decreased heart rate and contractility
- E. Dilation of coronary arteries

44. Which of the following antianginal drugs can induce gingival hyperplasia, in long-term therapy?

- A. Isosorbide dinitrate
- B. Atenolol
- C. Verapamil
- D. Isosorbide mononitrate
- E. Nadolol

45. Which of the following statements regarding antiarrhythmic drugs is correct

- A) Most antiarrhythmic are positive inotropic
- B) Lidocaine is mainly used to treat atrial arrhythmias
- C) Quinidine must be given parenterally
- D) Procainamide is associated with a reversible lupus-like phenomenon
- E) Propranolol increases the rate of phase 4 depolarization

46. The 50-year-old female patient is currently on Cholestyramine. The patient is taking warfarin oral anticoagulation for deep vein thrombosis. The patient subsequently developed an episode of hematuria 5 days later. The cause of the bleeding in the presence of Warfarin anticoagulation can be attributed to:

- A Cholestyramine accelerating the degradation of Warfarin by stimulating hepatic microsomal oxidase
- B Cholestyramine inhibiting reductases necessary for activation of vitamin-K dependent coagulation factors
- C Cholestyramine inhibiting the intestinal absorption of vitamin K
- D Cholestyramine drug inhibiting hepatic synthesis of proteins
- E Cholestyramine decreasing the availability of vitamin K for absorption

47. A 56-year-old female, presents to the ER with a swollen cyanotic left foot and calf. Doppler ultrasound shows reduced flow in the left deep Saphenous vein. The patient was started on intravenous enoxaparin. The mechanism of the anticoagulant enoxaparin entails:

- A Degradation of activated coagulation factors
- B Inhibition of coagulation factors synthesis
- C Stimulating the production of anticoagulant proteins
- D Inhibition of a vital enzyme in the coagulation factor activation
- E Forming a complex with antithrombin III

48. A 72-year-old male receives a new prescription for ticlopidine. As the pharmacist dispensing this prescription, you counsel him on the importance of monitoring for which adverse event?

- A Hepatotoxicity
- B Neutropenia
- C Tinnitus
- D Angina
- E Bronchospasm

49. The major advantage of aspirin in prevention of thrombosis over other NSAIDs is:

- A) It interferes with uric acid excretion.
- B) It is a better inhibitor of COX2 than other NSAIDs
- C) Its half life in plasma is much longer than other NSAIDs.
- D) It is an irreversible inhibitor of COX
- E) It is an inhibitor of thromboxane synthase.

50 The main mechanism by which gemfibrozil lowers plasma triglyceride levels is it:

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- B) Inhibits lipolysis in adipose tissue
- C) Stimulates synthesis of lipoprotein lipase
- D) Increases the number of LDL receptors on liver cells.
- E) Inhibits lipoprotein lipase activity