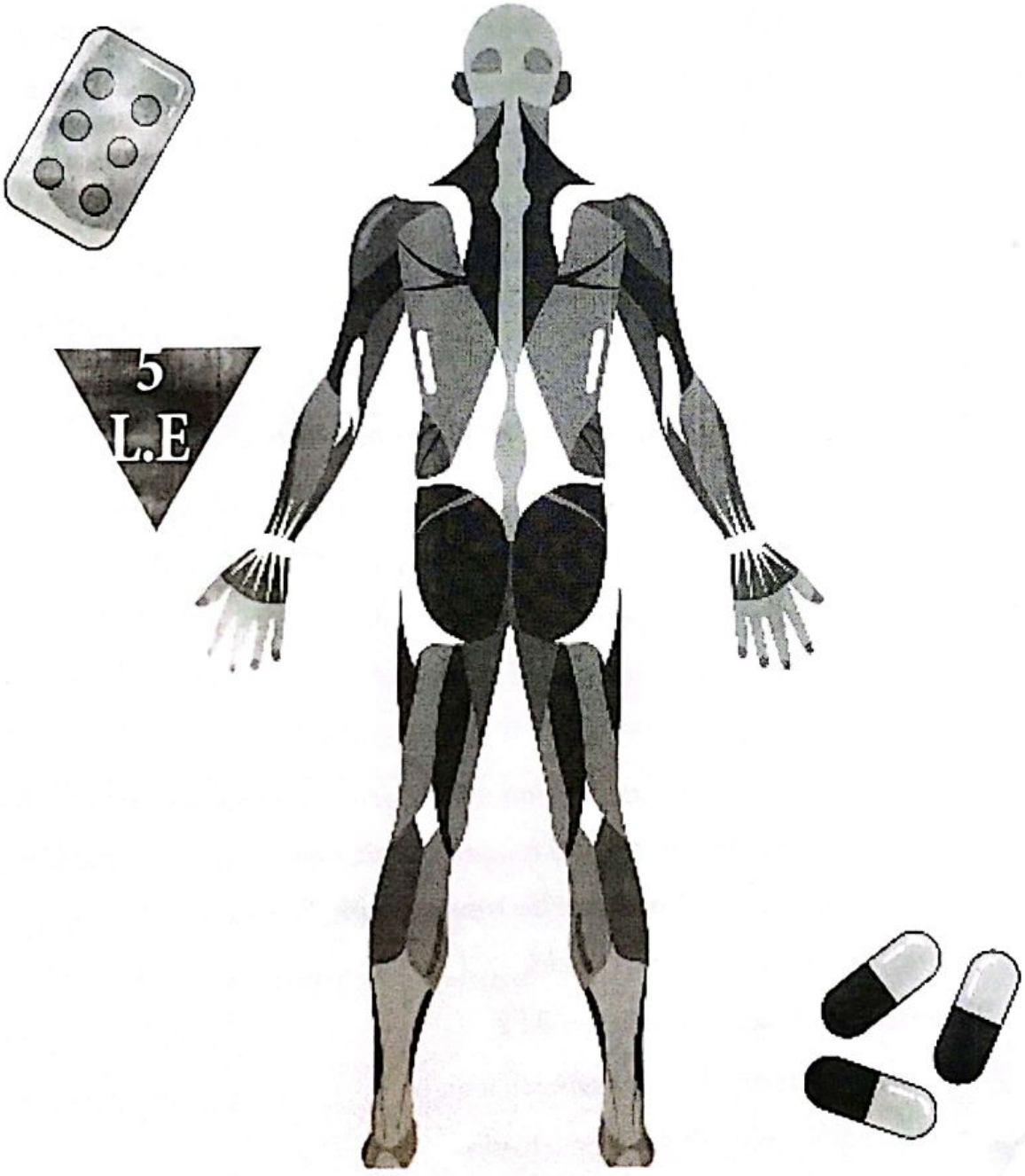
PHARMACOLOGY

His MCQ 1

LEVEL 1 - SEMESTER 2



Dr. M. M.

MCQ Pharma HIS 1

1. Which is an appropriate treatment for a nutritional anemia that presents as a hunger for ice and/or upward curvature of the fingernails? A. Vitamin B12 B. Folic acid C. Vitamin D D. Iron	**D**
2. 81-year-old woman presents to the emergency department with progressive weakness, fatigue, and confusion. Her physical exam was positive for pallor but negative for koilonychias or cracking at the corners of the mouth. Which deficiency would be the highest priority in this patient's workup? A. Vitamin B12 B. Iron C. Folate D. Calcium	**A**
3. The following drug increase absorption of iron from intestine: a) Folic acid b) Cyanocobalamin c) Antacids d) Ascorbic acid e) Tetracycline	**D**
4. A 45-year-old male stomach cancer patient underwent tumor removal surgery. After surgery, he developed megaloblastic anemia. His anemia is caused by a deficiency of X and can be treated with Y. (A) X = intrinsic factor; Y = folic acid. (B) X = intrinsic factor; Y = vitamin B12 (C) X = extrinsic factor; Y = parenteral iron (D) X = extrinsic factor; Y = sargramostim	**B**

5. Which of the following is most likely to be required by a 5-year-old boy with chronic renal insufficiency? *(A) Cyanocobalamin* *(B) Deferoxamine* *(C) Erythropoietin* *(D) Filgrastim (G-CSF)* *(E) Oprelvekin (IL-11)*	**C**
6. A mother brings her 4-year-old son to the emergency department after discovering him eating her iron supplement. Which of the following should be administered to chelate the excess iron in his body? *A) EDTA* *B) Desferoxamine* *C) Dimercaprol* *D) Penicillamine* *E) Succimer*	**B**
7. A 65-year-old man with stage 3 CKD presents to the nephrology office. He has a 7-year history of type 2 diabetes and presents with a foot ulcer. CBC showed Hb 7.4 g/dL, normocytic normochromic anemia, & his serum ferritin level is 98 ng/mL (desired 100 ng/mL). The best initial treatment of this patient's anemia is: *a) Parentral iron therapy* *b) Parentral EPO & oral iron therapy* *c) Parentral EPO & parentral iron therapy* *d) Parentral EPO alone* *e) Parentral vitamin B12*	**C**

9. A 6

8. A 25-year-old patient with a history of a duodenal ulcer came to the clinic. He was complaining of easy fatigability and palpitation. He is noted to have pallor and tachycardia. His hemoglobin level was 10 g/dL. He does not report any visible GI blood loss. Complete blood count (CBC) showed Microcytic hypochromic anemia.

- **The most probable cause of anemia in this patient is:**

  A. Bleeding eosophageal varices

  B. Bleeding peptic ulcer

  C. Bone marrow failure

  D. Low dietary intake of iron

  E. Pernicious anemia

B

- **Which of the following most likely will be seen on laboratory investigation:**

  a) low serum ferritin

  b) normal MCH

  c) normal MCV

  d) normal reticulocytic count

  e) normal total iron binding capacity

A

C

- **The most appropriate treatment for this patient is:**

  A. Blood transfusion

  B. Folic acid

  C. Oral iron therapy

  D. Packed red cell transfusion

  E. Vitamin B12

9. A 63-year-old woman came to the clinic because of tiredness. She has been increasingly fatigued over the past year but in recent weeks she has become breathless on exertion. Her feet have become numb and she has started to become unsteady on her feet.

Her lab investigations showed:

- Haemoglobin 8.2 g/dL (n: 11.7-15.7 g/dL)
- Mean corpuscular volume (MCV) 112 fL (n: 80-99 fL)

- **"Most probable diagnosis is :**

  a. Anemia of chronic dse

  b. Hemolytic anemia

  c. Iron deficiency anemia

  d. Megaloblastic anemia

D

E

- **Neurological manifestation in this patient is due to:**

E

  A. Autonomic neuropathy

  B. Capal tunnel syndrome

  C. Diabetic neuropathy

  D. Peripheral neuritis

  E. Subacute combined degeneration of spinal cord

- **The most appropriate treatment of this patient is:**

  A. Ferrous sulfate orally

  B. Folic acid

  C. Parentral Iron dextran

  D. Pyridoxine

  E. Vitamin B12

10. A 60-year-old patient presented with anorexia, weakness, paresthesia and mental changes. His tongue was red, tendon reflexes were diminished, hemoglobin was 6 g% with large red cells and neutrophils had hypersegmented nuclei. Endoscopy revealed atrophic gastritis. Supplementation of which factor is likely to correct his condition? *a) Folic acid* *b) Vitamin B12* *c) Pyridoxine* *d) Riboflavin* *e) Iron*	**B**
11. A 24-year-old female at 4th week of pregnancy. Which one of the following is the most important supplementation should be administered to her: *a) Oral vitamin C.* *b) Parenteral vitamin K.* *c) Oral folic acid.* *d) Oral vitamin B2.* *e) Oral vitamin A.*	**C**
12. A 60-year-old patient presented with anorexia, weakness, paresthesia and mental changes. His tongue was red, tendon reflexes were diminished, haemoglobin was 6 g% with large red cells and neutrophils had hypersegmented nuclei. Endoscopy revealed atrophic gastritis. Deficiency of which factor is likely to be responsible for his condition: *A. Folic acid* *B. Vitamin B12* *C. Pyridoxine* *D. Riboflavin*	**B**

13. Vitamin B12: A. Is normally absorbed in the upper small intestine B. Therapy by mouth is the first choice in pernicious anemia C. Is good trial therapy in undiagnosed anemias D. Its deficiency can lead to anemia and neurological symptoms E. Is the first choice for the treatment of aplastic anemia.	**D**
14. Recombinant human erythropoietin has been used for the treatment of: A. Aplastic anemia B. Anemia associated with renal failure C. Megaloblastic anemia D. Sickle cell anemia E. Thalassemias	**B**
15. The daily dose of elemental iron for maximal haemopoietic response in an anaemic adult is: A. 30 mg B. 100 mg C. 200 mg D. 500 mg	**C**
16. The side effect which primarily limits acceptability of oral iron therapy is: A. Epigastric pain and bowel upset B. Black stools C. Staining of teeth D. Metallic taste	**A**
17. The metabolic reaction requiring vitamin B12 but not folate is: A. Conversion of malonic acid to succinic acid B. Conversion of homocysteine to methionine C. Conversion of serine to glycine D. Thymidylate synthesis	**A**

18. Megaloblastic anaemia developing under the following condition is due entirely to folate deficiency not associated with vitamin B12 deficiency: *A. Malnutrition* *B. Blind loop syndrome* *C. Phenytoin therapy* *D. Pregnancy*	C
19. Folinic acid is specifically indicated for: *A. Prophylaxis of neural tube defect in the offspring of women receiving anticonvulsant medication* *B. Counteracting toxicity of high dose methotrexate* *C. Pernicious anaemia* *D. Anaemia associated with renal failure*	***B***
20. A patient of chronic renal failure maintained on intermittent haemodialysis has anaemia not responding to iron therapy. Which of the following additional drug is indicated: *A. Epoetin* *B. Cyanocobalamin* *C. Folic acid* *D. Pyridoxine*	***A***
21. Forty years old male patient, a diagnosed case of CA small intestine, had hemoglobin of 9.2 gm/dl. He was started on oral iron therapy. After few days, patient complained of some GIT upset (on and off nausea, vomiting & diarrhea). Which one of the following oral iron preparation was responsible for his problem? *A. Iron dextran* *B. Sodium ferric gluconate.* *C. Iron sucrose* *D. Ferrous sulfate*	***D***

22. A mother brought her two years child to emergency in panic, stating that her chocolate flavored iron pills were taken by her son. Toxicity associated with acute iron poisoning usually includes which of the following? A. Dizziness, hypertension, and cerebral hemorrhage B. Hyperthermia, delirium and comal C. Hypotension, cardiac arrhythmias and seizures D. Necrotizing gastroenteritis, shock and metabolic acidosis E. Severe hepatic injury, encephalitis and coma	**D**
23. A 34 years old woman has macrocytic anemia, an increased serum concentration of transferrin, and a normal serum concentration of vitamin B12.The most likely cause of her anemia is deficiency of which of the following? A. Cobalamin B. Erythropoietin C. Folic acid D. Intrinsic factor E. Iron	**C**
24. A 55 years old patient of chronic renal failure presented with severe anemia with Hb - 5gm/dl. Which of the following is specific for production of RBCs in this case? A. Erythropoietin B. Romiplostim C. Granulocyte Stimulating factor D. Interleukin-11 (eleven) E. Granulocyte macrophage CSF	**A**

25. A physician sent an e-mail to the hospital pharmacist to know about the available iron preparations. In reply, the pharmacist enlisted the following drugs. The physician wants to prescribe only oral medicine. Which one of the following was selected by the physician? A. Iron dextran B. Sodium ferric gluconate C. Iron sucrose D. Ferrous gluconate	**D**
26. Following drugs stimulate erythrogenesis EXCEPT: A. Iron dextran B. Vitamine B12 C. Methotrexate D. Folic acid	**C**
27. Pemicious anemia is developed due to deficiency of: A. Erythropoetin B. Vitamin B12 C. Iron D. Vitamin B6	**B**
28. Select the drug used for pernicious anemia: A. Ferrous lactate B. Cyanocobalamin C. Iron dextran D. Ferrous gluconate	**B**
29. An adverse effect of oral iron therapy is: A. Anemia B. Thrombocytopenia C. Headache D. Constipation	**D**

30. Choose the drug which contains cobalt atom: *A. Folic acid* *B. Iron dextran* *C. Cyanocobalamine* *D. Ferrous gluconate*	**C**
31. Tick the drug used in aplastic anaemia: *A. Fercoven* *B. Cyanocobalamine* *C. Epoetin alpha* *D. Folic acid*	**C**
32. The following about absorption of iron in the gut is wrong: *a) Absorption is greater in an anemic than in a normal person* *b) Absorption is enhanced by HCl* *c) Absorption is more efficient if it is in ferric form* *d) Absorption is reduced by formation of phosphate salts* *e) Absorption takes place mostly in upper small intestine*	**C**
33. A 22-year-old woman is pregnant and at 14-week gestation. Her hemoglobin level is 9 g/dL. She has microcytic hypochromic anemia. She asked why she could have iron deficiency when she is no longer menstruating? Which of the following is the best explanation? *A. Occult gastrointestinal blood loss* *B. Expanded blood volume and iron transport to the fetus* *C. Hemolysis* *D. Folate deficiency* *E. Decreased iron absorption.*	**B**

34. A child of 3 years of age has clinical and laboratory signs of moderate iron deficiency anemia. Choose the most efficient method of treatment: a) Parenteral iron preparations b) B12 and folic acid supplements c) Oral iron preparations only until the normal Hb d) Oral iron until the normal Hb is reached and additionally 2-3 months of prophylactic dose e) Only diet changes with food rich in iron.	**D**
35. In the treatment of iron deficiency anemia: A. Therapy with iron should last for 6 months to replenish iron stores B. Parentral iron is usually preferred than oral iron C. The patient is advised to take oral iron on an empty stomach. D. Black stool is a strong indication for discontinuation of oral iron. E. Metabolic alkalosis is the major feature of acute iron toxicity	**A**
36. Which of the following increases the absorption of oral iron supplements? a) Acidity of gastric juice b) Activity of salivary amylase c) Secretory function of the stomach d) Decreased body demands e) The proteolytic activity of human gastric juice	**A**
37. Absorption of iron: A. Is greater in anemic man than in normal one B. Is decreased by ascorbic acid. C. Is more efficient when it is in ferric form D. Takes place mostly in the ileum. E. Is enhanced by co-administration of desferroxamine	**A**

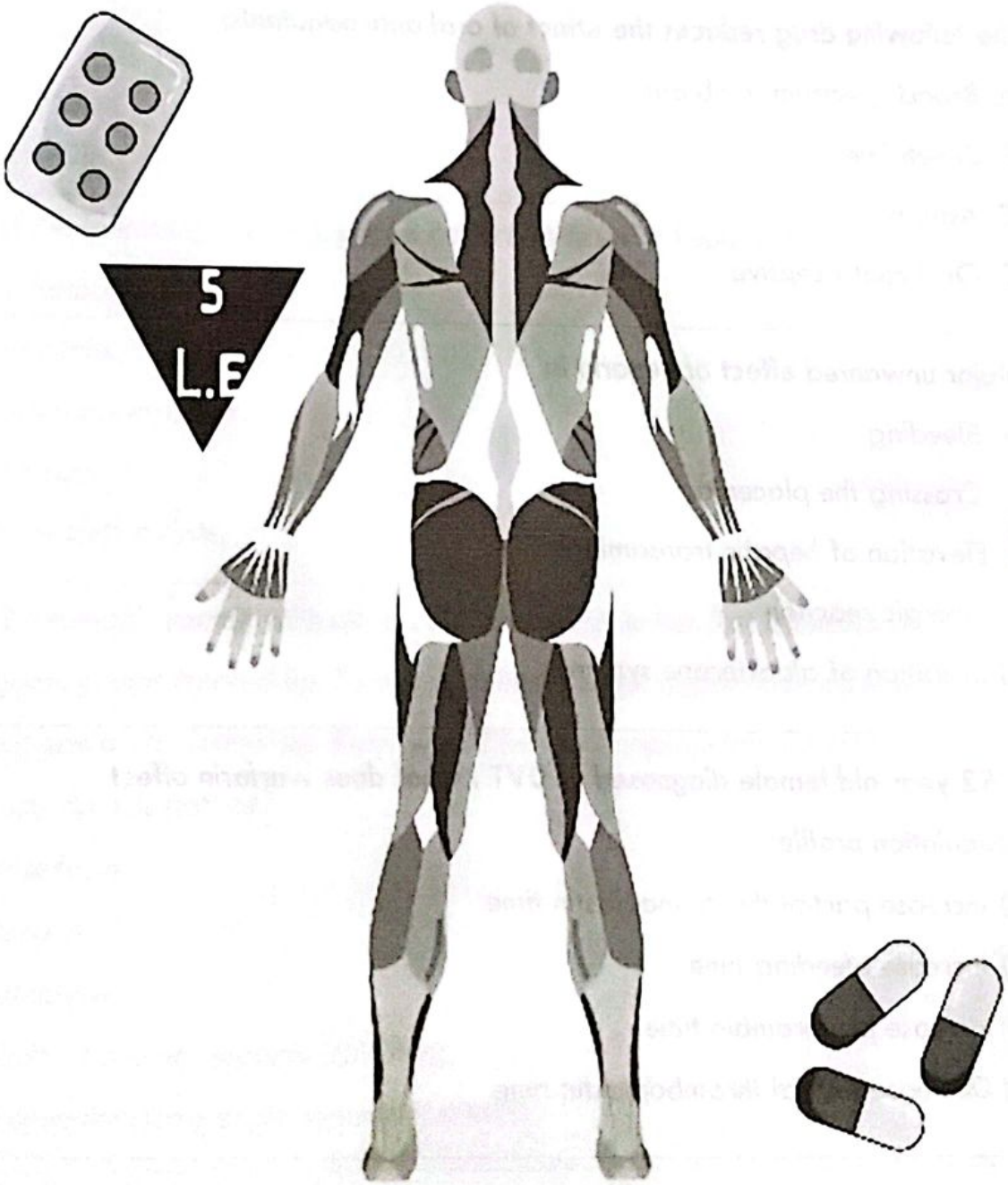
38. Which of the following increases the absorption of oral iron supplements? a) Acidity of gastric juice b) Activity of salivary amylase c) Secretory function of the stomach d) Decreased body demands e) The proteolytic activity of human gastric juice	**A**
39. Absorption of iron: A. Is greater in anemic man than in normal one B. Is decreased by ascorbic acid. C. Is more efficient when it is in ferric form D. Takes place mostly in the ileum. E. Is enhanced by co-administration of desferroxamine	**A**
40. Choose the correct statement about severity of side effects to oral iron medication: A. Ferrous salts are better tolerated than ferric salts B. Complex organic salts of iron are better tolerated than inorganic salts C. Liquid preparations of iron are better tolerated than tablets D. Tolerability depends on the quantity of elemental iron in the medication	**D**
41. A patient of megaloblastic anaemia was treated with oral folic acid 5 mg daily. After 2 weeks he reported back with cognitive deficit, sensory disturbance, depressed knee jerk, while blood picture and haemoglobin level were improved. What could be the most likely explanation: A. Folic acid was not adequately absorbed resulting in partial response B. Folate therapy has precipitated vitamin B12 deficiency in the neural tissue C. Folate therapy has unmasked pyridoxine deficiency D. Patient has folate reductase abnormality in the nervous system	**D**

42. *Megaloblastic anaemia occurs in:* *A. Vitamin B12 but not folic acid deficiency* *B. Folic acid but not Vitamin B12 deficiency* *C. Either Vitamin B12 or folic acid deficiency* *D. Only combined Vitamin B12 + folic acid deficiency*	C

PHARMACOLOGY

His MCQ 2

LEVEL 1 · SEMESTER 2



Dr. M. M.

MCQ pharma HIS 2

1. Low concentrations of heparin selectively interfere with the following coagulation pathway(s): A. Intrinsic pathway B. Extrinsic pathway C. Common pathway D. Both 'A' and 'C'	**D**
2. The following drug reduces the effect of oral anticoagulants: A. Broad spectrum antibiotic B. Cimetidine C. Aspirin D. Oral contraceptive	**D**
3. Major unwanted effect of heparin is: a) Bleeding b) Crossing the placenta c) Elevation of hepatic transaminase d) Allergic reaction e) Inhibition of aldosterone synthesis	**A**
4. A 52-year-old female diagnosed as DVT , what does warfarin affect coagulation profile: a) Increase partial throbomoplastin time b) Increase bleeding time c) Increase prothrombin time d) Decrease partial thromboplastin time	**C**

5. Oral anticaoagulant is: a) Heparin b) Urokinase c) Aspirin d) Vit K e) Warfarin	**E**
6. Antagonize the action of oral anticoagulant is : a) heparin b) urokinase c) aspirin d) vit K e) warfarin	**D**
7. All of the following are recognized adverse effects of heparin EXCEPT: a) Osteoporosis. b) Alopecia. c) Thrombocytopenia. d) Allergy. e) Fetal cleft palate.	**E**
8. A 22-year-old woman with deep vein thrombosis in her first trimester of pregnancy, was treated for 7 days with intravenous unfractionated heparin. Which one of the following drugs would be most appropriate for follow-up therapy for this patient? a) Warfarin. b) Aspirin. c) Alteplase. d) Unfractionated heparin (HMWH). e) Low molecular-weight heparin (LMWH).	**E**

9. Which of the following is direct oral factor Xa inhibitor and inhibit both free Xa and bound Xa to clotting system : a) rivaroxoban b) hirudin c) Argatroban d) fondaprainx e) heparin	**A**
10. Which of the following is indirect factor Xa inhibitor and does not require monitoring : a) rivaroxoban b) hirudin c) Argatroban d) fondaprainx e) heparin	**D**
11. Which must heparin bind to in order to exert its anticoagulant effect? a) GP IIb/IIIa receptor. b) Thrombin. c) Antithrombin III. d) Von Willebrand factor. e) P2Y12 ADP receptor.	**C**
12. The primary advantage of enoxaparin over heparin is that it A. is unlikely to cause bleeding B. more effectively Inhibits the synthesis of clotting factors C. has a more rapid onset D. cause thrombocytopenia E. has a shorter half-life	**A**

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13. The major adverse effect of heparin is: A. bleeding B. crossing the placenta C. elevating the hepatic transaminases D. allergic reactions E. inhibiting the aldosterone synthesis	**A**
14. Which of the following can be used to antagonize the action of heparin in case of heparin overdose? A. Heparin sulfate B. Dextran sulfate C. Protamine sulfate D. Ancrod E. Vitamin K	**C**
15. The following drugs inhibit the metabolism of warfarin: a) Cimetidine. b) Amiodarone. c) Carbamazepine. d) The oral contraceptive.	**A**
16. A 64 year old man brought to emergency department with pulmonary embolism . he is considered for immediate therapy with heparin . which of the following would represent a contraindication for heparin therapy : a) Heart failure b) Drug abuse c) Hypotention d) Immune deficiency state e) Recent eye surgery	**E**

17. The primary advantage of enoxaparin over heparin is : a) More effectively block synthesis of clotting factors b) Has more rapid onset c) Shorter half life d) Does not cause thrombocytopenia	**E**
18. LMWH differ from conventional heparin in: a) metabolized rapidly and shorter duration of action b) more active c) do not significantly prolong clotting time d) selectively inhibit factor 2 e) selectively inhibit factor Xa	**E**
19. Which of the following is direct thrombin inhibitor : a) argatroban b) heparin c) warfarin d) enoxaparin e) fondaprinx	**A**
20. Sudden withdrawal of warfarin leads to which of the following? A) Alopecia B) Hemorrhage C) Osteoporosis D) Tachycardia E) Thrombosis	**E**

1. Which of the following tests would provide accurate information about the coagulation status of a patient taking enoxaparin? a) aPTT b) Factor X test c) INR d) Prothrombin Time e) Clotting Time	**B**
22. A 61-year-old man with hypertension develops atrial fibrillation. His medications include simvastatin and metoprolol. His physician prescribes anti-coagulant for clot prophylaxis which directly inhibits thrombin. Which drug ? a) Aspirin b) Dabigatran c) Heparin d) Ticlopidine e) Warfarin	**B**
23. A patient develops severe thrombocytopenia in response to treatment with unfractionated heparin and still requires parenteral anticoagulant. The patient is most likely to be treated with: a) Aminocaproic acid b) Argatroban c) Vitamin K d) Plasminogen e) Ticlopidine	**B**
24. Drug can enhance anticoagulant activity of oral anticoagulants: a) Oral contraceptive b) Cholestyramine c) Barbiturate d) Rifampicin e) Tetracycline	**E**

25. Urgent reversal of warfarin therapy can be done by administration of: a) Cryoprecipitates b) Platelet concentrates c) Fresh frozen plasma d) Packed red blood cells e) Protamine sulphate	C
26. As regard Warfarin the following is NOT correct: a) Prevents the hepatic synthesis of the Vitamin K dependent coagulation factors II, VII, IX and X b) Is structurally closely related to vitamin K c) Should initially be given as subcutaneous loading dose d) During life-threatening, bleeding can be reversed by vitamin K and factor IX concentrate e) Anticoagulant effect monitored by the prothrombin time & INR	C
27. The following is relative contraindication of warfarin therapy: a) First trimester of pregnancy b) Prosthetic heart valves c) Coronary thrombosis d) Concurrent digoxin therapy e) Venous thrombosis	A
28. Relative to unfractionated heparin, enoxaparin: a) Can be used without monitoring the patient's aPTT b) Has a shorter duration of action c) Is less likely to have a teratogenic effect d) Is more likely to be given intravenously e) Is more likely to cause thrombosis and thrombocytopenia	A

29. A woman who has a mechanical heart valve and who is taking warfarin informs you that she hopes to get pregnant in the near future. What advice should she receive regarding her antithrombotic medication during the anticipated pregnancy? a) *Warfarin should be continued until the third trimester.* b) *Warfarin should be replaced with aspirin at analgesic doses.* c) *All medications that affect the blood should be discontinued.* d) *Warfarin should be replaced with heparin.* e) *Warfarin should be discontinued, and supplementary vitamin K taken throughout the pregnancy.*	**D**
30. The patient was started on warfarin and her enoxaparin was discontinued. Two months later, she returned after a severe nosebleed. Laboratory analysis revealed an INR (international normalized ratio) of 7.0 (INR value in such a warfarin-treated patient should be 2.0–3.0). To prevent severe hemorrhage, the warfarin should be discontinued and this patient should be treated immediately with which of the following? a) *Aminocaproic acid* b) *Desmopressin* c) *Factor VIII* d) *Protamine* e) *Vitamin K1*	**E**
31. Low molecular weight heparins have the following advantages over unfractionated heparin except: a) *Higher efficacy in arterial thrombosis* b) *Less frequent dosing* c) *Higher and more consistent subcutaneous bioavailability* d) *Laboratory monitoring of response not required*	**A**

32. A 61-year-old female is hospitalized for COPD exacerbation. She is obese and not able to ambulate very far on her own. Upon discharge, the physician wants to send her home on heparin to reduce the risk of deep vein thrombosis. Why would the physician choose a low- molecular- weight heparin (LMWH) instead of unfractionated heparin (UFH)? a) LMWH is a better inhibitor of thrombin b) LMWH carries no risk of bleeding c) LMWH does not cause HIT d) LMWH is easier to manage for outpatients e) LMWH is more easily reversible	**D**
33. The patient was treated with a bolus of heparin, and a heparin drip was started. One hour later, he was bleeding profusely from the intravenous site. The heparin therapy was suspended, but the bleeding continued. Protamine sulfate was administered intravenously that works in which of the following ways? a) Activates the coagulation cascade b) Activates tissue plasminogen activator c) Degrades the heparin d) Inactivates antithrombin e) Ionically combines with heparin	**E**
34. The primary mechanism by which heparin prevents coagulation of blood is: a) Direct inhibition of prothrombin to thrombin Conversion b) Facilitation of antithrombin III mediated inhibition of factor Xa and thrombin c) Activation of antithrombin III to inhibit factors IX and XI d) Inhibition of factors XIIa and XIIIa	**B**

35. The following statements are true of oral anticoagulants except: a) They interfere with release of clotting factors b) Irrespective of the dose administered, their anticoagulant effect has a latency of onset of 1-3 days c) Their dose is adjusted by repeated measurement of prothrombin time d) They are contraindicated during pregnancy	**A**
36. The following drug reduces the effect of oral anticoagulants: a) Broad spectrum antibiotic b) Cimetidine c) Aspirin d) Oral contraceptive	**D**
37. Correct statements about heparin include all of the following EXCEPT: a. It is a mucopolysaccharide b. It crosses the placenta c. It is not absorbed from the GIT d. It is found in mast cells e. It prolongs clotting time of blood both in vivo and in vitro	**B**
38. Heparin therapy is monitored by: a. Sedimentation rate b. Level of α-2 antiplasmin c. Partial thromboplastin time d. Prothrombin tine e. Plasma fibrinogen concentration	**C**
39. Which of the following sentence is true with regard to warfarin? A. Is a vitamin K antagonist B. Is a thrombin inhibitor C. Activates fibrinolysis D. Binds to antithrombin III	**A**

40. Adverse effects of heparin include all of the following EXCEPT: a. Hemorrhage b. Fetal malformations c. Thrombocytopenia d. Alopecia e. Osteoporosis	**B**
41. Excessive anticoagulant effect and bleeding from warfarin can be reversed by: a. Vitamin B6 b. Vitamin B12 c. Vitamin C d. Vitamin K1 e. Protamine sulphate	**D**
42. The long duration of action of oral anticoagulants is due to: a. Slow rate of absorption b. Slow renal excretion c. Binding to plasma proteins d. Inhibition of hepatic enzymes e. Till reactivation of vit-K and resynthesis of coagulation factors	**E**
43. Regarding heparin, the following statement is WRONG: a- It is effective orally b- It has an anticoagulant effect both in vivo and in vitro c- It increases the activity of antithrombin III d- Its dose is controlled by partial thromboplastin time e- Protamine sulphate is its antidote	**A**

44. Warfarin has the following actions EXCEPT: a- It inhibits vitamin K-epoxide reductase b- It inhibits carboxylation of vitamin K-dependent factors c- Anticoagulant effect is observed after 8-12 hours d- Its antidote is protamine sulfate e- It prolongs prothrombin time	**D**
45. If a patient developed severe thrombocytopaenia, an appropriate injectable substitute to heparin is: a- Enoxaparin b- Dicumarol c- Delteparin d- Hirudin e- Phenindione	**D**
46. Effect of oral warfarin can be increased by the following except: a- Aspirin b- Sulphonamide c- Clofibrate d- Cimetidine e- Phenobarbitone	**E**
47. Which of the following is a low-molecular weight heparin: a- Desmopressin b- Foscasnet c- Entacapone d- Enoxaparin e- Hirudin	**D**

48. Vitamin that should be avoided during oral anticoagulant therapy: a- Vitamin A b- Vitamin B c- Vitamin C d- Vitamin D e- Vitamin K	**E**
49. Warfarin is an anticoagulant. Its proposed mechanism of action is that it: a- Inhibits platelet synthesis b- Block prostaglandin synthesis c- Prohibits absorption of vitamin K d- Binds to fibrinogen e- Inhibits synthesis of vitamin K-dependent clotting factors	**E**
50. Which of the following statements about anticoagulant therapy is correct? a. Heparin produces its effect by inhibiting antithrombin III. b. Heparin is effective orally. c. Warfarin is effective in vivo only d. Warfarin is antagonized by protamine sulfate. e. Low molecular weight heparin has shorter duration of action:	C
51. A patient develops severe thrombocytopenia in response to treatment with unfractionated heparin and still requires parenteral anticoagulation. The patient is most likely to be treated with: a- Abciximab. b- Aprotonin. c- Lepirudin. d- Plasminogen. e- Vitamin K-2.	C

52. Time taken for observable anticoagulant effect of warfarin is: A. 6-12 hours B. 24-36 hours C. 2-7 days D. 8-10 days.	C
53. Which of the following is used for reversal of anticoagulant effect of warfarin in case of life-threatening bleeding? A. Platelets B. Protamine C. Vitamin K or Vitamin K dependant coagulation factors D. Any of the above	C
54. Which of the following drugs can cause alopecia? a. Warfarin b. Heparin c. Verapamil d. Ticlodipine e. Digoxin	B
55. Low molecular weight heparins: a. Have a higher affinity for antithrombin than high molecular weight heparin b. Are less effective in preventing the development of deep venous thrombosis. c. Have a higher bioavailability from the subcutaneous site of injection than normal heparin d. Require more frequent dosing than normal heparin e. Level monitoring may be required in liver failure - renal and pregnancy	C

56. Regarding heparin: a. Does reduction is necessary in the elderly b. LMW fractions have more effect on thrombin than HMW c. It may cause alopecia d. It inhibits antithrombin III e. Protamine is a competitive antagonist of heparin	C

Case Scenario

Prophylaxis against DVT

- ***A 65-year-old obese man underwent a motor car accident that resulted in fracture pelvis and the shaft of his right femur. In the ER, the orthopedic specialist recommended external fixation with a whole pelvis and LL cast.***
- ***After hospital discharge, the physician recommended at least 8 weeks in the cast and thus, the patient will be bed-ridden for this period.***

A. *Is this patient is indicated to receive anticoagulation?*

✓ ***YES**, the patient is obese and will be bed-ridden for 8 weeks. He will receive prophylaxis anticoagulation.*

B. *If yes, which type of anticoagulant would be preferred for him & why?*

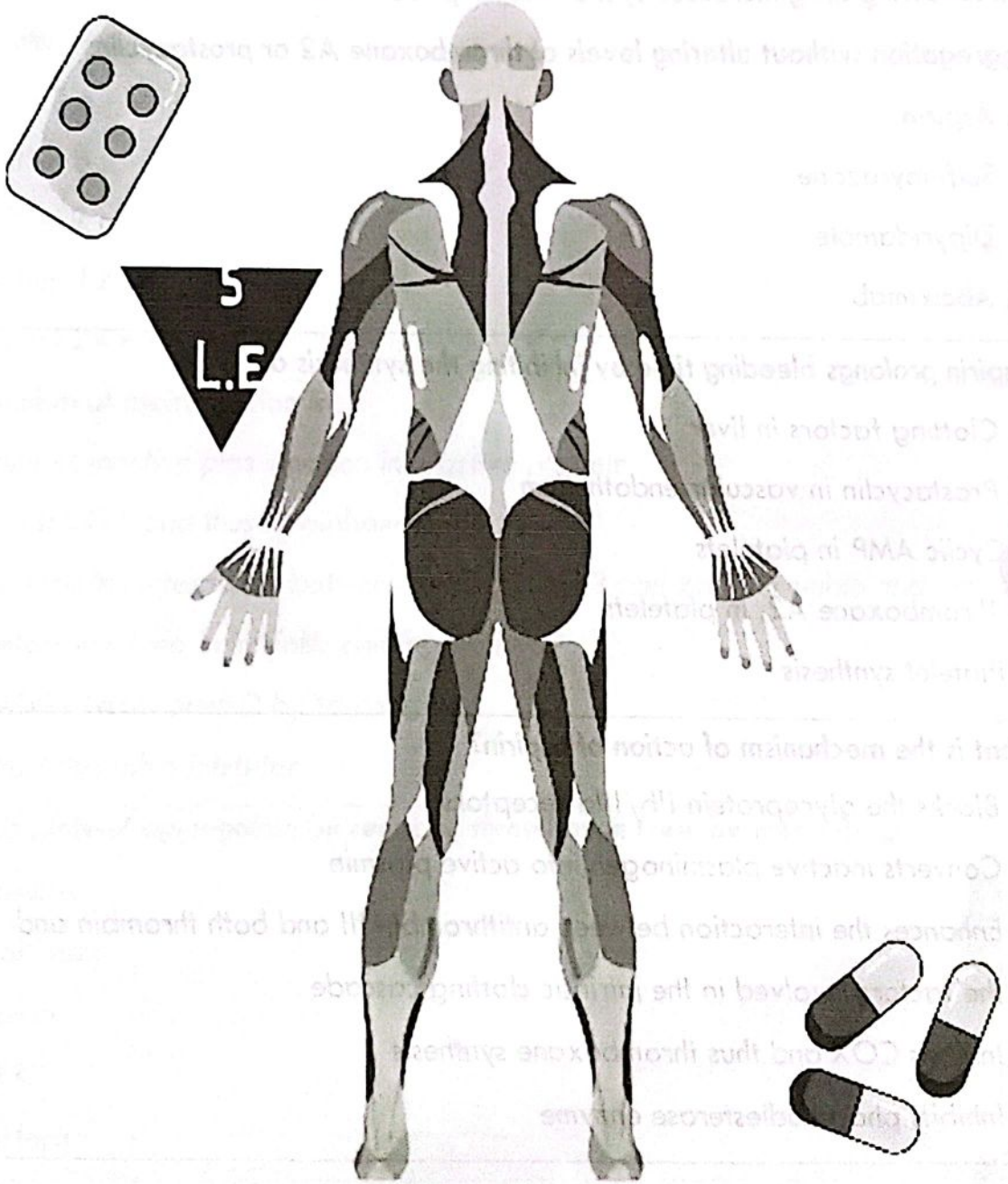
✓ *LMWHs are more effective than low-dose UFH for preventing DVT and PE, e.g., dalteparin 5000 units SC once/day for 5 days. Warfarin could be started simultaneously, using a* **target INR of 2.0 to 3.0.**

✓ ***Alternatively**: Direct oral anticoagulants (rivaroxaban) are at least as effective and safe as LMWH for preventing DVT and PE but are more* **expensive** *than warfarin*

PHARMACOLOGY

His MCQ 3

LEVEL 1 · SEMESTER 2



Dr. M. M.

MCQ Pharma HIS 3

1. The preferred route of administration of streptokinase in acute myocardial infarction is: A. Intravenous B. Subcutaneous C. Intracoronary D. Intracardiac	**A**
2. The following drug increases cyclic-AMP in platelets and inhibits their aggregation without altering levels of thromboxane A2 or prostacyclin: A. Aspirin B. Sulfinpyrazone C. Dipyridamole D. Abciximab	**C**
3. Aspirin prolongs bleeding time by inhibiting the synthesis of: a. Clotting factors in liver b. Prostacyclin in vascular endothelium c. Cyclic AMP in platelets d. Thromboxane A2, in platelets e. Platelet synthesis	**D**
4. What is the mechanism of action of aspirin? a. Blocks the glycoprotein IIb/IIIa receptors b. Converts inactive plasminogen into active plasmin c. Enhances the interaction between antithrombin III and both thrombin and the factors involved in the intrinsic clotting cascade d. Inhibits COX and thus thromboxane synthesis e. Inhibits phosphodiesterase enzyme	**D**

5. The ..... drug inhibits platelets aggregation by binding to integrin receptor GPIIb/IIIA and inhibit the interaction of fibrinogen and Von Willebrand factor to the integrin receptor A. Aspirin B. Abciximab C. Clopidogrel D. Warfarin	**B**
6. Alteplase is first line agent administrated for maximum treatment rate following stroke, this agent must be administrated in which of the following intervals: a) With 3 h b) Within 6 h c) Within 9 h d) Within 12 h e) Within 24 h	**A**
7. Mechanism of aspirin action is : a) Convert inactive plasminogen into active plasmin b) Inhibit COX and thus thromboxane synthesis c) Enhance the interaction between antithrombin 3 and both thrombin and the factors involved in intrinsic clotting pathway d) Inhibit glycoprotein 2 b/3a complex e) Direct thrombin inhibitor	**B**
8. Reduce platelet aggregation by reducing thromboxan level by which drug: a) Heparin b) Urokinase c) Aspirin d) Vit K e) warfarin	**C**

9. 57 year old woman present to emergency department with crushing chest pain . the doctor administrate fibrinolytic drugs . her symptoms resolve but later she begin to vomit blood . which would be appropriate medication to be given now : a) Abciximab b) Aminocaproic c) Anistreplase d) Clpodigrel e) Urokinase	**B**
10. The following statements about platelet activity are correct EXCEPT: a) Intact vascular endothelium does not attract platelets because it synthesizes PGI2. b) TXA2 is synthesized mainly by platelets. c) Injured vascular endothelium attract platelets by activating receptors of collagen on the platelet. d) Clopidogrel blocks platelet ADP receptors. e) Aspirin is a reversible inhibitor of TXA2.	**E**
11. Which of the following statements is true regarding the parenteral administration of alteplase? a) It increases the formation of plasminogen. b) It is less effective than streptokinase when given after a myocardial infarction. c) It causes a high incidence of thrombocytopenia. d) It may cause bleeding reversible by aminocaproic acid. e) It activates free plasminogen.	**D**

12. Thromobolytic agent synthesized by kidney is : a) heparin b) urokinase c) aspirin d) vit K e) warfarin	**B**
13. Which of the following compounds is most likely to block ADP receptors and prevent platelet aggregation? a) Clopidogrel b) Aspirin c) Prostacyclin d) Abciximab e) Montelukast	**A**
14. Which of the following bind P2Y21 ADP receptor irreversibly antagonizing this receptor? a) Clopidogrel. b) Absiximab. c) Asprine. d) Enoxaparin e) Dalterparin.	**A**
15. Which is considered "fibrin selective" because it rapidly activates plasminogen that is bound to fibrin? a) Alteplase. b) Fondaparinux. c) Streptokinase. d) Urokinase.	**A**

16. Which drug belong to fibrinolytic inhibitors : a) *Aminocaproic acid* b) *Ticlopedine* c) *Streptokinase* d) *Vit K* e) *Alteplase*	**A**
Match : a) *Warfarin* b) *Heparin* c) *Vit K* d) *Urokinase* e) *Aspirin* **17. Anticoagulant in vivo and vitro** **18. Antagonize the action of oral anticaoagulant** **19. Anticoagulant in vivo** **20. Reduce platelet aggregation by decreasing thromboxane synthesis** **21. Thromolytic agent synthesized in kidney**	**17-b** **18-c** **19-a** **20-e** **21-d**
22. She is given an intravenous dose of alteplase. Characteristics of this agent include which of the following? a. *High antigenicity* b. *Acts on free plasminogen* c. *Success at clot resolution* d. *Low fibrin specificity* e. *Long half-life*	**C**
23. Which of the following is used to degrade an established thrombus? A) *Aspirin* B) *Clopidogrel* C) *Ticlopidine* D) *Tranexamic acid* E) *Urokinase*	**E**

24. The most important complication of streptokinase therapy is: *a. Hypotension* *b. Bleeding* *c. Fever* *d. Anaphylaxis* *e. Tinnitus*	**B**
25. What is the drug belonging to fibrinolytic inhibitors? *a. Aminocapronic acid.* *b. Ticlopidine* *c. Streptokinase* *d. Vitamin K* *e. Alteplase*	**A**
26. Which of the following pharmacological agents alter plasminogen after binding to fibrin? *a) Streptokinase* *b) Urokinase* *c) Alteplase (tPA)* *d) Antiplasmin* *e) Aminocaproic acid*	**C**
27. One of the following drugs is an inhibitor of platelet glycoprotein IIb/IIIa receptors: *a) Aspirin* *b) Clopidogrel* *c) Ticlopidine* *d) Abciximab* *e) Dipyridamole*	**D**

28. He is given a prescription for a drug that binds platelet ADP receptors to prevent their aggregation. Which drug is this? a) Clopidogrel b) Enoxaparin c) Eptifibatide d) Tirofiban e) t-PA	**A**
29. What is the mechanism of action of alteplase? a) Binds to glycoprotein receptor IIb/IIIa b) Blocks ADP receptors c) Converts plasminogen to plasmin d) Inhibits COX-1 & COX-2 e) Inhibits thrombin	**C**
30. Which of the following drugs accelerates the conversion of plasminogen to plasmin? a) Aminocaproic acid b) Heparin c) Argatroban d) Reteplase e) Warfarin	**D**
31. Which of the following is a common side effect of ticlopidine? a) Gastric ulcers b) Neutropenia c) Osteoporosis d) Seizures e) Tinnitus	**B**

32. Which fibrinolytic agent(s) selectively activate(s) fibrin bound plasminogen rather than circulating plasminogen: a) Urokinase b) Streptokinase c) Alteplase d) Both A and C	C
33. A 20-year-old woman presents to her primary care physician with heavy menstrual bleeding. An endometrial biopsy revealed no cellular atypia. Her physician prescribes tranexamic acid. What is tranexamic acid's mechanism of action? a) Activates plasminogen b) Activates platelets c) Blocks cyclooxygenase d) Inhibits plasmin e) Suppresses LH surge	D
34. doctor administers a fibrinolytic drug. Her symptoms resolve, but later she begins to vomit up blood. Which would be an appropriate medication to give now? a) Abciximab b) Clopidogrel c) Aminocaproic acid d) Urokinase e) Anistreplase	C
35. Tranexaemic acid is a specific antidote of: a) Fibrinolytic drugs b) Organophosphates c) Barbiturates d) Heparin	A

36. The following drug increases cyclic-GMP in platelets and inhibits their aggregation without altering levels of thromboxane A2 or prostacyclin: a) Aspirin b) Sulfinpyrazone c) Dipyridamole d) Abciximab	**C**
37. Choose the correct statement about ticlopidine: a) It blocks GP IIb/IIIa receptors on platelet membrane b) It prevents ADP mediated platelet receptors c) It inhibits thromboxane A2 synthesis in platelets d) It has less incidence of side effects than clopidogrel	**B**
38. Which of the following statements about antiplatelet drugs is false? a- Abciximab is a monoclonal antibody that binds to the glycoprotein IIb/IIIa receptor b- Decreased formation of thromboxane underlies the antiplatelet action of aspirin c- Ticlopidine is a thrombin antagonist d- Dipyridamole inhibits phosphodiesterase enzyme e- Clopidogrel decreases binding to ADP receptors on platelets	**C**
39. A cardiac patient was replaced clopidogrel for aspirin due to development of allergy to aspirin. Which of the following is the mechanism of action of the newly prescribed drug? a- It binds to the active site of cyclo-oxygenase by acetylation b- It blocks binding of plasminogen to fibrin c- It hinders the production of TXA2 d- It antagonizes action of platelet ADP, thus preventing fibrinogen binding to platelets e- None of the above	**D**

40. The following statements about alteplase are correct EXCEPT: *a- It rapidly activates plasminogen bound to a thrombus* *b- It is superior in dissolving old clots* *c- It is fibrin selective* *d- It has minimal allergic reaction* *f- It is used orally*	***E***
41. Which of the following is a thrombolytic agent: *a- Alteplase* *b- Abciximab* *c- Enoxaparin* *d- Carvedilol* *e- Baclofen*	***A***
42. Anti-platelet drugs include which of the following: *a- Nimodipine* *b- Clopidogrel* *c- Neostigmine* *d- Pirenzepine* *e- Nicardipine*	***B***
43. A 58-year-old businessman is brought to the emergency room 2 hours after the onset of severe chest pain. ECG changes confirm the diagnosis of myocardial infarction. Th following fibrinolytic drug is used to open his occluded coronary: *a- Aminocaproic acid.* *b- Heparin.* *c- Lepirudin.* *d- Reteplase.* *e- Warfarin.*	***D***

44. Streptokinase is used to: a- *Dissolve recent blood clots (<6 hours)* b- *Treat digestive disorders* c- *Treat muscle injuries* d- *Replace pepsin* e- *Promote carbohydrate degradation*	**A**
45. Mechanism of eptifibatide is : a- *Activate antithrombin III.* b- *Inhibit vitamin K epoxide reductase enzyme.* c- *Inhibit thromboxane A-2 synthesis.* d- *Block irreversibly platelet ADP receptors.* e- *Block reversibly platelet glycoprotein IIb/IIIa receptors.*	**E**
46. A 65-year-old man with history of cerebral thrombosis. To prevent recurrence of this disease, the patient is most likely to be treated indefinitely with following antiplatelet drug: a- *Aminocaproic acid.* b- *Aspirin* c- *Enoxparin.* d- *Lepirudin.* e- *Warfarin.*	**B**
47. A patient is unable to tolerate aspirin as an antiplatelet drug; he may be treated with clopidogrel. Clopidogrel acts through: a- *Inhibition of synthesis of TXA-2.* b- *Blocking of platelet ADP receptors.* c- *Blocking of GP IIb/IIIa platelet receptors.* d- *Inhibition of phosphodiesterase enzyme.* e- *Blocking of platelet 5-HT receptors.*	**B**

48. Regarding fibrinolytics: a. *All thrombolytics act to convert free plasminogen to plasmin - tPA works on bound* b. *Urokinase is a human product* c. *tPA and APSAC lack the streptococcal antigen* d. *Reactions to tPA and anistreplase are preparation related* e. *tPA does not occur naturally*	**B**
49. Which of the antiplatelet drug is a prodrug: *A. clopidogrel* *B. Dypyramidole* *C. Tirofiban* *D. Aspirin*	**A**
50. All of the following are gpiib/iila antagonist, except: *A. Abciximab* *B. Clopidogrel* *C. Tirofiban* *D. Epitifibatide*	**B**

Case Scenario

- ***A 62-year-old obese man presents to the ER with crushing, central chest pain which began three hours ago at rest . he has had minor chest pain in the past.***
- ***His ECG showed ST segment elevation (arrow) & the diagnosis of acute coronary syndrome (STEMI) was established.***

A. <u>What is the immediate antiplatelet drug should be given & its dose?</u>

✓ *Aspirin 300 mg chewable tablets.*

B. <u>Is this patient is indicated to receive Thrombolytic drugs? Explain in detail.</u>

✓ *Yes, as the patient within the time limit of thrombolytics since the onset of symptoms (<6 hours). The patient will need thrombolysis with Reteplase*

Important Notes & MCQ on Pharmacology (HIS)

MCQ Notes Pharma HIS 1

1) Acidity of stomach help absorption of non heme iron
2) HCL and vit C (acorbic acid) help absorption of non heme iron as it convert ferric to ferrous
3) Iron is stored in form of ferrtin and transported in blood in form of transferrin
4) There is no physiological excretory mechanism of iron
5) Iron regulation occurs at level of absorption , so when iron stores decrease , its absorption will increase
6) 150-180 mg/day of oral elemental iron is administrated in divided doses in iron deficiency anemia
7) Examples of oral iron : ferrous sulfate , ferrous fumarate , ferrous gluconate , polysaccharide iron , carbonyle iron
8) Examples of parentral iron : iron dextran , iron sucrose , iron carboxymaltose
9) Duration of giving of oral iron is 3-6 monthes to replenish iron stores
10) Side effect of oral iron : gastric upset , constipation
11) Side effect of parentral iron is pain and tissue staining and hypersensitivity
12) Polysaccharide and carbonyle iron contain 100% elemental iron , dosed once
13) Acute iron toxcicity occurs accidentely in children and causing necrotizing gastroenteritis (hematemesis , bloody diarhea , metabolic acidosis)
14) Desferoxamine is ntidote of iron , iron chelator
15) Iron deficiency anemia is microcytic hypochromic anemia caused mainly by chronic blood loss associated with koilychyia (spoon nail) and eating ice
16) Megaloblastic (macrocytic) anemia caused by vit B12 and or folic acid deficiency
17) Prencious anemia caused by decreased vit B12 absorption due to antibodies against intrinsic factor , treated by parentral vit B12

18) **Megalobstic anemia due to methotrexate** which inhibit dihydrofolate reductase , treated by folinic acid

19) **Vit B12 deficiency** causes megaloblastic anemia , neurological manifestation (ataxia , ms weakness , confusion , parathesia , numbness)

20) **Lab result in vit B12 deficiency** : increased both homocysteine , methyle malonic acid

21) **Lab results of folic acid deficiency** : decreased homocysteine but normal methyle malonic acid

22) **Vit B12 deficiency which is treated by folic acid** : anemia will partially improve but neurological manifestation will worsen

23) **Oral folic acid** is recommended during 1st trimester of pregnancy to prevent neural tube defect

24) Patient with anemia due to chronic renal failure or aplastic anemia will be treated by **parentral erythropiotin (EPO) and parentral** iron

25) **Anemia due to CRF treated by** : Erythropiotin = EPO = epoetin

26) **SE of EPO** is iron deficiency , thrombosis , hypertension , seizures , flu like symptoms , red cell aplasia

27) **Target of HB** is patient treated by EPO is 10-12 gm/dl

MCQ Pharma HIS 1

1. Which is an appropriate treatment for a nutritional anemia that presents as a hunger for ice and/or upward curvature of the fingernails? A. Vitamin B12 B. Folic acid C. Vitamin D D. Iron	**D**
2. 81-year-old woman presents to the emergency department with progressive weakness, fatigue, and confusion. Her physical exam was positive for pallor but negative for koilonychias or cracking at the corners of the mouth. Which deficiency would be the highest priority in this patient's workup? A. Vitamin B12 B. Iron C. Folate D. Calcium	**A**
3. The following drug increase absorption of iron from intestine: a) Folic acid b) Cyanocobalamin c) Antacids d) Ascorbic acid e) Tetracycline	**D**
4. A 65-year-old man with stage 3 CKD presents to the nephrology office. He has a 7-year history of type 2 diabetes and presents with a foot ulcer. CBC showed Hb 7.4 g/dL, normocytic normochromic anemia, & his serum ferritin level is 98 ng/mL (desired 100 ng/mL). The best initial treatment of this patient's anemia is: a) Parentral iron therapy b) Parentral EPO & oral iron therapy c) Parentral EPO & parentral iron therapy d) Parentral EPO alone e) Parentral vitamin B12	**C**

5. A 45-year-old male stomach cancer patient underwent tumor removal surgery. After surgery, he developed megaloblastic anemia. His anemia is caused by a deficiency of X and can be treated with Y. (A) X = intrinsic factor; Y = folic acid. (B) X = intrinsic factor; Y = vitamin B12 (C) X = extrinsic factor; Y = parenteral iron (D) X = extrinsic factor; Y = sargramostim	B
6. Which of the following is most likely to be required by a 5-year-old boy with chronic renal insufficiency? (A) Cyanocobalamin (B) Deferoxamine (C) Erythropoietin (D) Filgrastim (G-CSF) (E) Oprelvekin (IL-11)	C
7. A mother brings her 4-year-old son to the emergency department after discovering him eating her iron supplement. Which of the following should be administered to chelate the excess iron in his body? A) EDTA B) Desferoxamine C) Dimercaprol D) Penicillamine E) Succimer	B
8. A 60-year-old patient presented with anorexia, weakness, paresthesia and mental changes. His tongue was red, tendon reflexes were diminished, hemoglobin was 6 g% with large red cells and neutrophils had hypersegmented nuclei. Endoscopy revealed atrophic gastritis. Supplementation of which factor is likely to correct his condition? a) Folic acid b) Vitamin B12 c) Pyridoxine d) Riboflavin e) Iron	B

9. A 24-year-old female at 4th week of pregnancy. Which one of the following is the most important supplementation should be administered to her: a) Oral vitamin C. b) Parenteral vitamin K. c) Oral folic acid. d) Oral vitamin B2. e) Oral vitamin A.	**C**
10. Recombinant human erythropoietin has been used for the treatment of: A. Aplastic anemia B. Anemia associated with renal failure C. Megaloblastic anemia D. Sickle cell anemia E. Thalassemias	**B**
11. The daily dose of elemental iron for maximal haemopoietic response in an anaemic adult is: A. 30 mg B. 100 mg C. 200 mg D. 500 mg	**C**
12. The side effect which primarily limits acceptability of oral iron therapy is: A. Epigastric pain and bowel upset B. Black stools C. Staining of teeth D. Metallic taste	**A**
13. Forty years old male patient, a diagnosed case of CA small intestine, had hemoglobin of 9.2 gm/dl. He was started on oral iron therapy. After few days, patient complained of some GIT upset (on and off nausea, vomiting & diarrhea). Which one of the following oral iron preparation was responsible for his problem? A. Iron dextran B. Sodium ferric gluconate. C. Iron sucrose D. Ferrous sulfate	**D**

14. Folinic acid is specifically indicated for: A. Prophylaxis of neural tube defect in the offspring of women receiving anticonvulsant medication B. Counteracting toxicity of high dose methotrexate C. Pernicious anaemia D. Anaemia associated with renal failure	B
15. A patient of chronic renal failure maintained on intermittent haemodialysis has anaemia not responding to iron therapy. Which of the following additional drug is indicated: A. Epoetin B. Cyanocobalamin C. Folic acid D. Pyridoxine	A
16. A mother brought her two years child to emergency in panic, stating that her chocolate flavored iron pills were taken by her son. Toxicity associated with acute iron poisoning usually includes which of the following? A. Dizziness, hypertension, and cerebral hemorrhage B. Hyperthermia, delirium and comal C. Hypotension, cardiac arrhythmias and seizures D. Necrotizing gastroenteritis, shock and metabolic acidosis E. Severe hepatic injury, encephalitis and coma	D
17. A 34 years old woman has macrocytic anemia, an increased serum concentration of transferrin, and a normal serum concentration of vitamin B12.The most likely cause of her anemia is deficiency of which of the following? A. Cobalamin B. Erythropoietin C. Folic acid D. Intrinsic factor E. Iron	C

18. A physician sent an e-mail to the hospital pharmacist to know about the available iron preparations. In reply, the pharmacist enlisted the following drugs. The physician wants to prescribe only oral medicine. Which one of the following was selected by the physician? A. Iron dextran B. Sodium ferric gluconate C. Iron sucrose D. Ferrous gluconate	**D**
19. An adverse effect of oral iron therapy is: A. Anemia B. Thrombocytopenia C. Headache D. Constipation	**D**
20. The following about absorption of iron in the gut is wrong: a) Absorption is greater in an anemic than in a normal person b) Absorption is enhanced by HCl c) Absorption is more efficient if it is in ferric form d) Absorption is reduced by formation of phosphate salts e) Absorption takes place mostly in upper small intestine	**C**
21. A child of 3 years of age has clinical and laboratory signs of moderate iron deficiency anemia. Choose the most efficient method of treatment: a) Parenteral iron preparations b) B12 and folic acid supplements c) Oral iron preparations only until the normal Hb d) Oral iron until the normal Hb is reached and additionally 2-3 months of prophylactic dose e) Only diet changes with food rich in iron.	**D**
22. Which of the following increases the absorption of oral iron supplements? a) Acidity of gastric juice b) Activity of salivary amylase c) Secretory function of the stomach d) Decreased body demands e) The proteolytic activity of human gastric juice	**A**

23. A patient of megaloblastic anaemia was treated with oral folic acid 5 mg daily. After 2 weeks he reported back with cognitive deficit, sensory disturbance, depressed knee jerk, while blood picture and haemoglobin level were improved. What could be the most likely explanation: A. Folic acid was not adequately absorbed resulting in partial response B. Folate therapy has precipitated vitamin B12 deficiency in the neural tissue C. Folate therapy has unmasked pyridoxine deficiency D. Patient has folate reductase abnormality in the nervous system	B

MCQ Notes Pharma HIS 2

1- **Heparin is** not absorped orally , absorped SC or IV , **While warfarin (coumarin)** is absorped orally

2- **S- warfarin** is more potent than R warfarin and metabolized by CYP 2C9

3- **Heparin** activate antithromib 3 which inhibit factor 10,2

4- **Warfarin** inhibit vit K dependant clotiing factor synthesis 1972

5- **Heparin** act in vivo and in vitro while warfarin in vivo only

6- **Heparin** is monitored by APTT , while warfarin by PT or INR

7- **Heparin** used to prevent micro thrombin in lung in COVID pnumoia مهم جدا جدا

8- **Antidote of heparin** is protamine sulfate (physical antagonism) , **while antidote of warfarin** is vit K 1 (phylloquinone) and fresh frozen plasma

9- **Most common side effect of** both heparin and warfarin is bleeding

10- **Heparin** can be used as anticoagulant in pregnancy while warfarin is teratogenic (bone abnormalites and CNS hemorhage)

11- **Heparin induced thrombocytopenia (HIT)** need to stop heparin and replace it by direct thrombin inhibitor as argatroban and lepirudin

12- **IM heparin** causes hematoma

13- **Heparin may** cause alopecia and osteoporosis on long term

14- **Warfarin causes** thrombosis on sudden withdrwal

15- **Drugs that enhance warfarin action** : cimetidine , ciprofloxacin , antibiotic ,aspirin

16- **Drugs that diminish warfarin action** : rifampcin , phenotoin , OCP , vit K

17- **<u>LMWH (enxaprin and deltaprin) characterized by :</u>**

- More specific against Xa
- Less bleeding and thrombocytopenia
- No need monitoring , if monitored by Xa
- Long half life , once SC daily , large bioavailability

18- **Fondaparix is** indirect Xa inhibitor with no activity at all against thrombin

19- **Anticaogaulant** is contraindicated against recent eye or brain surgery

20- **Examples of direct thrombin inhibitor** : argatroban , rudin , dabigatran , monitored by APTT as heparin

21- **Examples of oral direct Xa inhibitor** is rivaroxoban , apixaban m **characterized by** rapid onset than warfarin , no monitoring .

MCQ Pharma HIS 2

1. Low concentrations of heparin selectively interfere with the following coagulation pathway(s): A. Intrinsic pathway B. Extrinsic pathway C. Common pathway D. Both 'A' and 'C'	A
2. The following drug reduces the effect of oral anticoagulants: A. Broad spectrum antibiotic B. Cimetidine C. Aspirin D. Oral contraceptive	D
3. Major unwanted effect of heparin is: a) Bleeding b) Crossing the placenta c) Elevation of hepatic transaminase d) Allergic reaction e) Inhibition of aldosterone synthesis	A
4. A 52-year-old female diagnosed as DVT , what does warfarin affect coagulation profile: a) Increase partial throbomoplastin time b) Increase bleeding time c) Increase prothrombin time d) Decrease partial thromboplastin time	C
5. Oral anticaoagulant is: a) Heparin b) Urokinase c) Aspirin d) Vit K e) Warfarin	E

6. Antagonize the action of oral anticoagulant is : a) heparin b) urokinase c) aspirin d) vit K e) warfarin	**D**
7. All of the following are recognized adverse effects of heparin EXCEPT: a) Osteoporosis. b) Alopecia. c) Thrombocytopenia. d) Allergy. e) Fetal cleft palate.	**E**
8. A 22-year-old woman with deep vein thrombosis in her first trimester of pregnancy, was treated for 7 days with intravenous unfractionated heparin. Which one of the following drugs would be most appropriate for follow-up therapy for this patient? a) Warfarin. b) Aspirin. c) Alteplase. d) Unfractionated heparin (HMWH). e) Low molecular-weight heparin (LMWH).	**E**
9. Which of the following is direct oral factor Xa inhibitor and inhibit both free Xa and bound Xa to clotting system : a) rivaroxoban b) hirudin c) Argatroban d) fondaprainx e) heparin	**A**
10. Which of the following is indirect factor Xa inhibitor and does not require monitoring : a) rivaroxoban b) hirudin c) Argatroban d) fondaprainx e) heparin	**D**

11. Which must heparin bind to in order to exert its anticoagulant effect? a) GP IIb/IIIa receptor. b) Thrombin. c) Antithrombin III. d) Von Willebrand factor. e) P2Y12 ADP receptor.	C
12. The primary advantage of enoxaparin over heparin is that it A. is unlikely to cause bleeding B. more effectively Inhibits the synthesis of clotting factors C. has a more rapid onset D. cause thrombocytopenia E. has a shorter half-life	A
13. Which of the following can be used to antagonize the action of heparin in case of heparin overdose? A. Heparin sulfate B. Dextran sulfate C. Protamine sulfate D. Ancrod E. Vitamin K	C
14. The following drugs inhibit the metabolism of warfarin: a) Cimetidine. b) Amiodarone. c) Carbamazepine. d) The oral contraceptive.	A
15. A 64 year old man brought to emergency department with pulmonary embolism . he is considered for immediate therapy with heparin . which of the following would represent a contraindication for heparin therapy : a) Heart failure b) Drug abuse c) Hypotention d) Immune deficiency state e) Recent eye surgery	E

16. The primary advantage of enoxaparin over heparin is : a) More effectively block synthesis of clotting factors b) Has more rapid onset c) Shorter half life d) Does not cause thrombocytopenia	**D**
17. LMWH differ from conventional heparin in: a) metabolized rapidly and shorter duration of action b) more active c) do not significantly prolong clotting time d) selectively inhibit factor 2 e) selectively inhibit factor Xa	**E**
18. Which of the following is direct thrombin inhibitor : a) argatroban b) heparin c) warfarin d) enoxaparin e) fondaprinx	**A**
19. Sudden withdrawal of warfarin leads to which of the following? A) Alopecia B) Hemorrhage C) Osteoporosis D) Tachycardia E) Thrombosis	**E**
20. Which of the following tests would provide accurate information about the coagulation status of a patient taking enoxaparin? a) aPTT b) Factor X test c) INR d) Prothrombin Time e) Clotting Time	**B**

21. A 61-year-old man with hypertension develops atrial fibrillation. His medications include simvastatin and metoprolol. His physician prescribes anti-coagulant for clot prophylaxis which directly inhibits thrombin. Which drug ? a) Aspirin b) Dabigatran c) Heparin d) Ticlopidine e) Warfarin	**B**
22. A patient develops severe thrombocytopenia in response to treatment with unfractionated heparin and still requires parenteral anticoagulant. The patient is most likely to be treated with: a) Aminocaproic acid b) Argatroban c) Vitamin K d) Plasminogen e) Ticlopidine	**B**
23. Drug can enhance anticoagulant activity of oral anticoagulants: a) Oral contraceptive b) Cholestyramine c) Barbiturate d) Rifampicin e) Tetracycline	**E**
24. Urgent reversal of warfarin therapy can be done by administration of: a) Cryoprecipitates b) Platelet concentrates c) Fresh frozen plasma d) Packed red blood cells e) Protamine sulphate	**C**
25. The primary mechanism by which heparin prevents coagulation of blood is: a) Direct inhibition of prothrombin to thrombin Conversion b) Facilitation of antithrombin III mediated inhibition of factor Xa and thrombin c) Activation of antithrombin III to inhibit factors IX and XI d) Inhibition of factors XIIa and XIIIa	**B**

26. Adverse effects of heparin include all of the following EXCEPT: a. Hemorrhage b. Fetal malformations c. Thrombocytopenia d. Alopecia e. Osteoporosis	**B**
27. Excessive anticoagulant effect and bleeding from warfarin can be reversed by: a. Vitamin B6 b. Vitamin B12 c. Vitamin C d. Vitamin K1 e. Protamine sulphate	**D**
28. Regarding heparin, the following statement is WRONG: a- It is effective orally b- It has an anticoagulant effect both in vivo and in vitro c- It increases the activity of antithrombin III d- Its dose is controlled by partial thromboplastin time e- Protamine sulphate is its antidote	**A**
29. Warfarin has the following actions EXCEPT: a- It inhibits vitamin K-epoxide reductase b- It inhibits carboxylation of vitamin K-dependent factors c- Anticoagulant effect is observed after 8-12 hours d- Its antidote is protamine sulfate e- It prolongs prothrombin time	**D**
30. If a patient developed severe thrombocytopaenia, an appropriate injectable substitute to heparin is: a- Enoxaparin b- Dicumarol c- Delteparin d- Hirudin e- Phenindione	**D**

31. Which of the following is a low-molecular weight heparin: a- Desmopressin b- Foscasnet c- Entacapone d- Enoxaparin e- Hirudin	**D**
32. Warfarin is an anticoagulant. Its proposed mechanism of action is that it: a- Inhibits platelet synthesis b- Block prostaglandin synthesis c- Prohibits absorption of vitamin K d- Binds to fibrinogen e- Inhibits synthesis of vitamin K-dependent clotting factors	**E**
33. Which of the following drugs can cause alopecia? a. Warfarin b. Heparin c. Verapamil d. Ticlodipine e. Digoxin	**B**

MCQ Notes Pharma HIS 3

1) **Examples of fibrinolytic drugs are** streptokinase , urokinase , tissue plasminogen activator (T-PA) as alteplase , reteplase , tenceplase
2) Thrombolytic drugs are given **IV**
3) **Streptokinase** is fibrin non selective , causes bleeding (most common) and allergy (immune reaction)
4) **TPA** is fibrin selective , activate only fibrin bound plasminogen , no effect on free plasminogen
5) Bleeding caused by fibrinolytic drugs is treated by the antidote **(aminocaproic and tranexamic)**
6) **Low dose of aspirin** causes irrversible COX inhibition which decrease thromboxane A2
7) **Maximum** dose **of aspirin as antiplatlet** is 300 mg/day (usually 70-150 mg/dl)
8) **Effect of aspirin** persist for about 10 days until synthesis of new platlet
9) **Examples of irreversible blocker of ADP** is ticlopidine , clopidogrel , prasugrel
10) **Ticlopidine** causes neutropenia and anemia
11) **Clopidogrel** is prodrug activated by CYP 2C19 , not activated in poor metabolizer or giving microsomal enzyme inhibitor as omeprazole
12) **Examples of blocker glycoprotein 2B/3A receptor blocker** : abciximab , epifibatide , tirofiban
13) **Dipyridamole** and **colistazole** inhibit PDE3 and inihibit adenosine uptake of platlet leading to increased
14) **CAMP** which causes VD and inhibit platlet aggregation
15) **Dipyridamole** used warfarin in artificial valve and with aspirin in ischemic stroke
16) **Colistazole** used in intermittent claudication and contraindicated in congestive heart failure (due to palpitation)

MCQ Pharma HIS 3

1. The preferred route of administration of streptokinase in acute myocardial infarction is: A. Intravenous B. Subcutaneous C. Intracoronary D. Intracardiac	A
2. The following drug increases cyclic-AMP in platelets and inhibits their aggregation without altering levels of thromboxane A2 or prostacyclin: A. Aspirin B. Sulfinpyrazone C. Dipyridamole D. Abciximab	C
3. What is the mechanism of action of aspirin? a. Blocks the glycoprotein IIb/IIIa receptors b. Converts inactive plasminogen into active plasmin c. Enhances the interaction between antithrombin III and both thrombin and the factors involved in the intrinsic clotting cascade d. Inhibits COX and thus thromboxane synthesis e. Inhibits phosphodiesterase enzyme	D
4. 57 year old woman present to emergency department with crushing chest pain . the doctor administrate fibrinolytic drugs . her symptoms resolve but later she begin to vomit blood . which would be appropriate medication to be given now : a) Abciximab b) Aminocaproic c) Anistreplase d) Clpodigrel e) Urokinase	B

5. The ..... drug inhibits platelets aggregation by binding to integrin receptor GPIIb/IIIA and inhibit the interaction of fibrinogen and Von Willebrand factor to the integrin receptor A. Aspirin B. Abciximab C. Clopidogrel D. Warfarin	B
6. Alteplase is first line agent administrated for maximum treatment rate following stroke, this agent must be administrated in which of the following intervals: a) With 3 h b) Within 6 h c) Within 9 h d) Within 12 h e) Within 24 h	A
7. Reduce platelet aggregation by reducing thromboxan level by which drug: a) Heparin b) Urokinase c) Aspirin d) Vit K e) warfarin	C
8. Thromobolytic agent synthesized by kidney is : a) heparin b) urokinase c) aspirin d) vit K e) warfarin	B
9. Which of the following compounds is most likely to block ADP receptors and prevent platelet aggregation? a) Clopidogrel b) Aspirin c) Prostacyclin d) Abciximab e) Montelukast	A

10. Which is considered "fibrin selective" because it rapidly activates plasminogen that is bound to fibrin? a) Alteplase. b) Fondaparinux. c) Streptokinase. d) Urokinase.	**A**
11. Which drug belong to fibrinolytic inhibitors : a) Aminocaproic acid b) Ticlopedine c) Streptokinase d) Vit K e) Alteplase	**A**
Match : a) Warfarin b) Heparin c) Vit K d) Urokinase e) Aspirin **12. Anticoagulant in vivo and vitro** **13. Antagonize the action of oral anticaoagulant** **14. Anticoagulant in vivo** **15. Reduce platelet aggregation by decreasing thromboxane synthesis** **16. Thromolytic agent synthesized in kidney**	**12-b** **13-c** **14-a** **15-e** **16-d**
17. She is given an intravenous dose of alteplase. Characteristics of this agent include which of the following? a. High antigenicity b. Acts on free plasminogen c. Success at clot resolution d. Low fibrin specificity e. Long half-life	**C**
18. Which of the following is used to degrade an established thrombus? A) Aspirin B) Clopidogrel C) Ticlopidine D) Tranexamic acid E) Urokinase	**E**

19. The most important complication of streptokinase therapy is: a. Hypotension b. Bleeding c. Fever d. Anaphylaxis e. Tinnitus	**B**
20. Which of the following is a common side effect of ticlopidine? a) Gastric ulcers b) Neutropenia c) Osteoporosis d) Seizures e) Tinnitus	**B**
21. A 20-year-old woman presents to her primary care physician with heavy menstrual bleeding. An endometrial biopsy revealed no cellular atypia. Her physician prescribes tranexamic acid. What is tranexamic acid's mechanism of action? a) Activates plasminogen b) Activates platelets c) Blocks cyclooxygenase d) Inhibits plasmin e) Suppresses LH surge	**D**
22. Tranexaemic acid is a specific antidote of: a) Fibrinolytic drugs b) Organophosphates c) Barbiturates d) Heparin	**A**
23. A cardiac patient was replaced clopidogrel for aspirin due to development of allergy to aspirin. Which of the following is the mechanism of action of the newly prescribed drug? a- It binds to the active site of cyclo-oxygenase by acetylation b- It blocks binding of plasminogen to fibrin c- It hinders the production of TXA2 d- It antagonizes action of platelet ADP, thus preventing fibrinogen binding to platelets e- None of the above	**D**

24. Which of the following is a thrombolytic agent: a- Alteplase b- Abciximab c- Enoxaparin d- Carvedilol e- Baclofen	**A**
25. A 58-year-old businessman is brought to the emergency room 2 hours after the onset of severe chest pain. ECG changes confirm the diagnosis of myocardial infarction. Th following fibrinolytic drug is used to open his occluded coronary: a- Aminocaproic acid. b- Heparin. c- Lepirudin. d- Reteplase. e- Warfarin.	**D**
26. Mechanism of eptifibatide is : a- Activate antithrombin III. b- Inhibit vitamin K epoxide reductase enzyme. c- Inhibit thromboxane A-2 synthesis. d- Block irreversibly platelet ADP receptors. e- Block reversibly platelet glycoprotein IIb/IIIa receptors.	**E**
27. A 65-year-old man with history of cerebral thrombosis. To prevent recurrence of this disease, the patient is most likely to be treated indefinitely with following antiplatelet drug: a- Aminocaproic acid. b- Aspirin c- Enoxparin. d- Lepirudin. e- Warfarin.	**B**
28. Which of the antiplatelet drug is a prodrug: A. clopidogrel B. Dypyramidole C. Tirofiban D. Aspirin	**A**

MCQ Notes Pharma HIS 4

1) Examples **of 1st generation antihistamine** is diphenhydramine , dimenhydrinate . cyclizine and meclizine
2) **Examples of 2nd generation antihistamine** is loratadine , cetirizine , ketotifen
3) SE **of 1st generation is** sedation (most common) , atropine like action and orthostatic hypotension (alpha blocking)
4) **SE of 2nd generation is** arrythemia (torsade depointes) especially in livere failure or when given with microsomal inhibito as ketoconazole
5) Driver + **allergy** = give 2nd not 1st generation antihistamine
6) **Cortisol :**
   - inhibit inflammatory cell
   - 1st line immunosupprrssive in organ transplant
   - SE : hyperglycemia , hypertension , hypokalemia , osteoporosis , gastric ulcer , infection
7) **Cyclosporin :**
   - Calcinurin inhibitor
   - Inhibit IL2 of T-helper cell
   - SE : hypertension , hyperkalemia , hirsutism , hyperglycemia , nephrotoxcicity , headaxhe and seizures
8) Tacrolimus the same as calcinurin but is more potent and bind to immunophilin FK-binding protein
9) **Mycophenolate :**
   - Inhibit de novo synthesis of purine
   - Used in cardiac transplant because it is antiproliferative

10) Azathioprine :

- *Patient taking allopurinol with azathioprine , should reduce the dose of azathioprine*
- *Interfere with purine metabolism*

11) Monoclonal antibodies :

- *Omalizumab is anti-Ig E , used to treat refractory bronchial asthma*

MCQ Pharma HIS 4

1. Cyclosporine inhibits: a) T lymphocyte proliferation b) B lymphocyte proliferation c) Antibody production d) Both T and B lymphocyte proliferation e) NK cells only	**A**
2. Which one of the following drugs could significantly impair the ability to drive an automobile? A. Diphenhydramine. B. Ergotamine. C. Fexofenadine. D. Ranitidine. E. Sumatriptan.	**A**
3. Which of the following antihistaminic drugs would be the most appropriate treatment for a car driver with allergic sinusitis? a) Chlorpheniramine b) Diphenhydramine c) Promethazine d) Loratidine e) Cyclizine	**D**
4. Class I H1 blockers have which of the following effects? A. Parasympathomimetic action B. Local anesthetic effects if injected C. Convulsion in children if the dose is too high D. Increase in the total peripheral resistance E. α1 blocking action	**E**
5. Drugs used in the treatment of allergic rhinitis include all EXCEPT: A. Loratadine B. Cetirizine C. Chlorpheniramine D. Diphenhydramine e. Buspirone	**E**

6. A 5 years old child with severe nephrotic syndrome on treatment with tacrolimus, frusemide and prednisolone developed seizures. What is the likely cause of this symptom: a) Frusemide b) Hypokalemia c) Hypotension d) Prednisolone e) Tacrolimus	**E**
7. Loratadine is clinically effective in blocking actions of histamine on: A. Vestibular apparatus B. Cardiac muscle C. Allergic rhinitis D. Reticular formation of the brain E. Gastric acidity	**C**
8. Which of the following is frequently associated with sedation and atropine like action? A. Loratadine B. Cetirizine C. Diphenhydramine D. Histamine E. Misoprostol	**C**
9. Which of the following glucocorticoids is relatively a short-acting drug? A. Prednisolone B. Dexamethasone C. Triamcinolone D. Paramethasone	**A**
10. Immunosuppressive effect of glucocorticoids is caused by: A. Reducing concentration of lymphocytes and inhibiting function of tissue macrophages and other antigen-presenting cells B. Suppression of cyclooxygenase II expression which results in reducing amount of an enzyme available to produce prostoglandins C. Activation of phospholipase A2 and reducing prostaglandin and leukotriene synthesis. D. Activation of angiotensin-converting enzyme E. Suppression of histamine release	**A**

11. Indication of glucocorticoids include all the following EXCEPT: A. Chronic (Addison's disease) and acute adrenocortical insufficiency B. Organ transplants (prevention and treatment of rejection–immunosuppression) C. Inflammatory conditions of bones and joints (arthritis, bursitis, tenosynovitis). D. Hypocalcemia E. Gastrointestinal diseases (inflammatory bowel disease)	D
12. Which of the following most accurately describes the immunosuppressant action of cyclosporine? A) Activation of NK cells B) Blockade of tissue responses to inflammatory mediators C) Increased catabolism of IgG antibodies D) Inhibition of calcineurin mediated gene transcription of interleukins E) Interference with MHC II-peptide activation of T cells	D
13. Which of the following is a monoclonal antibody that binds to TNF-a and inhibits its action? a. Etanercept b. Infliximab c. Sirolimus d. Thalidomide e. Trastuzu	B
14. One of the following is not a possible side effect of glucocorticoids usage, it is: a. Elevated blood glucose levels b. Fluid retention c. Hyperkalemia d. Increased susceptibility to infection. e. Elevated blood pressure	C
15. Which of the following is anti-Ig-E monoclonal antibody used in treatment of refractory bronchial asthma : a. anakinera b. infliximab c. abatacept d. toafacitinib e. omalizumab	E

16. MATCH the lettered expression from the list below with its most appropriate definition in the items below. Answers may be used once, more than once, or not at all. a) Prednisolone. b) Cyclosporine. c) Mycophenolate mofetile. d) Allopurinol. e) anti-Rh0 (D) IgG. 1) Calcineurin inhibitor. 2) Inhibits metabolism of azathioprine. 3) Prevent erythroblastosis fetalis. 4) Osteoporosis. 5) Inhibit de novo synthesis of purines.	**A-4** **B-1** **C-5** **D-2** **E-3**
17. One of the following adverse effects is not due to prolonged therapy with corticosteroids? a) Fluid retention b) Increased susceptibility to infection c) Elevated blood pressure d) Muscle hypertrophy e) Hypokalemia	**D**
18. Cyclosporine is effective in organ transplantation. Which of the following most accurately describes the immunosuppressant action of cyclosporine? a) Activation of NK cells b) Blockade of tissue responses to inflammatory mediators c) Increased catabolism of IgG antibodies d) Inhibition of the gene transcription of interleukins e) Interference with MHC II-peptide activation of T cells	**D**
19. Which of the following is a chimeric monoclonal antibody that binds to TNF-α and inhibits its action? a) Etanercept b) Infliximab c) Sirolimus d) Trastuzumab e) Thalidomide	**B**

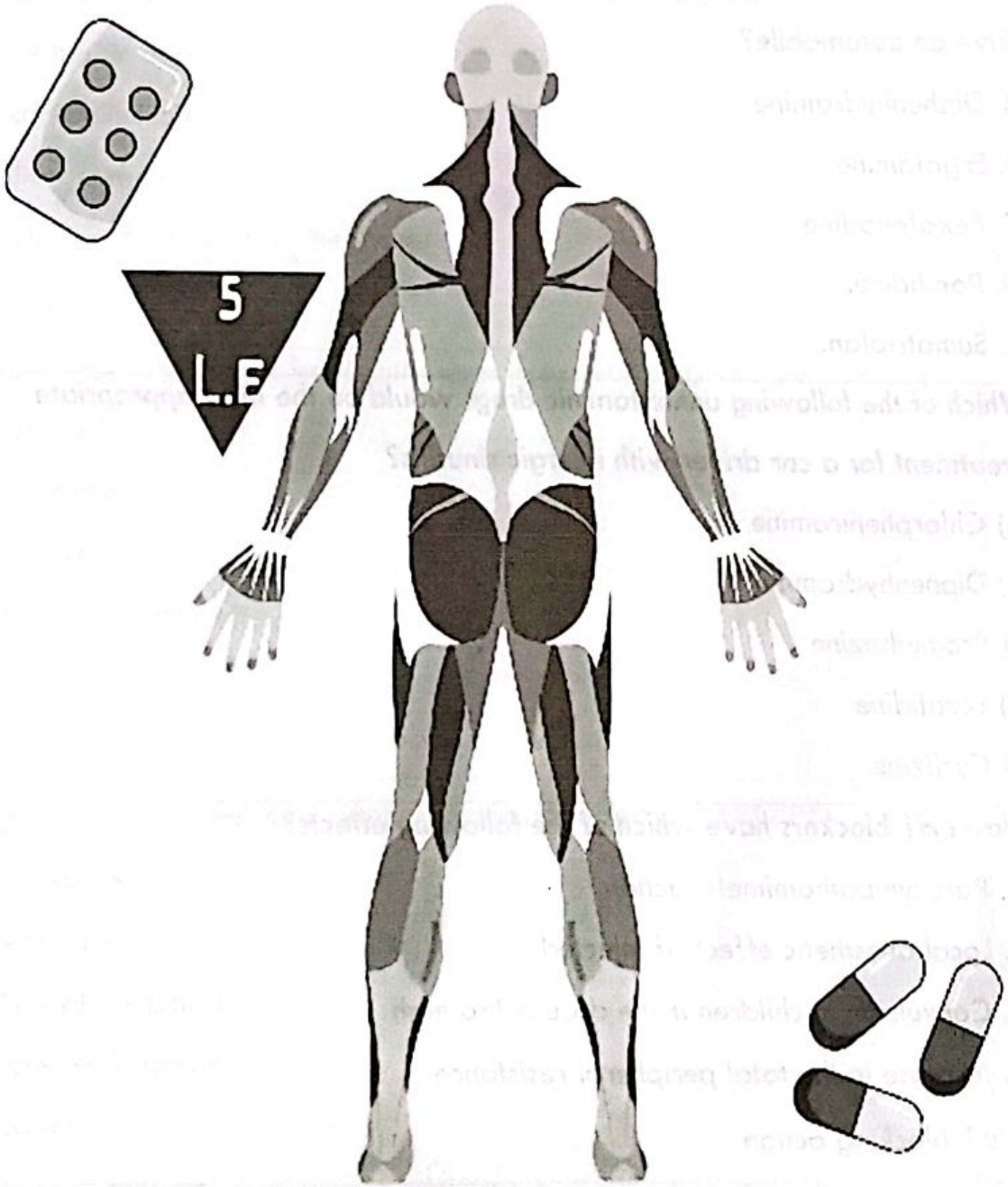
20. Which of the following is an immunosuppressant that suppresses both B and T lymphocytes via inhibition of de novo synthesis of purines? a) Cyclophosphamide b) Methotrexate c) Mycophenolate mofetil d) Prednisone e) Tacrolimus	C
21. Which of the following immunosuppressants interferes with T-cell activation by modifying the activity of calcineurin? a) Cyclosporine b) Methotrexate c) Prednisolone d) Sirolimus e) Temsirolimus	A
22. Side effect of first-generation histamine Hl antagonists is: a) Aplastic anemia b) Vomiting, tinnitus, decreased hearing c) Postural hypotension d) Gastric ulcers and upper gastrointestinal bleeding e) Arrhythmia	C
23. A patient is treated with an immunosuppressant drug following a liver transplant. The drug is known to bind to cyclophilin and inhibit the actions of calcineurin. For what drug toxicity should this patient be monitored? a) Pulmonary fibrosis b) Hypotension c) Hypoglycemia d) Nephrotoxicity e) CHF	D
24. Side effect of first-generation histamine H1 antagonists is: a) Aplastic anemia b) Vomiting c) Sedation d) Gastric ulcers	C

25. One of the drugs Mr Short was taking to suppress organ rejection was azathioprine. Which of the following describes its mechanism of action? *a) blockade of leukocyte adhesion to endothelial cells* *b) conversion to 6 mercaptopurine, a purine antimetabolite toxic to stimulated lymphocytes* *c) decreased prostaglandin production due to inhibition of phospholipase A2* *d) inhibition of TNF-alpha*	***B***

PHARMACOLOGY

His MCQ 4

LEVEL 1 · SEMESTER 2



Dr. M. M.

MCQ HIS 4

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6. Loratadine is clinically effective in blocking actions of histamine on: A. Vestibular apparatus B. Cardiac muscle C. Allergic rhinitis D. Reticular formation of the brain E. Gastric acidity	**C**
7. Which of the following is frequently associated with sedation and atropine like action? A. Loratadine B. Cetirizine C. Diphenhydramine D. Histamine E. Misoprostol	**C**
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9. Which of the following glucocorticoids is relatively a short-acting drug? A. Prednisolone B. Dexamethasone C. Triamcinolone D. Paramethasone	**A**
10. Immunosuppressive effect of glucocorticoids is caused by: A. Reducing concentration of lymphocytes and inhibiting function of tissue macrophages and other antigen-presenting cells B. Suppression of cyclooxygenase II expression which results in reducing amount of an enzyme available to produce prostoglandins C. Activation of phospholipase A2 and reducing prostaglandin and leukotriene synthesis. D. Activation of angiotensin-converting enzyme E. Suppression of histamine release	**A**
11. Indication of glucocorticoids include all the following EXCEPT: A. Chronic (Addison's disease) and acute adrenocortical insufficiency B. Organ transplants (prevention and treatment of rejection–immunosuppression) C. Inflammatory conditions of bones and joints (arthritis, bursitis, tenosynovitis). D. Hypocalcemia E. Gastrointestinal diseases (inflammatory bowel disease)	**D**
12. 5 years old child with severe nephrotic syndrome on treatment with tacrolimus, frusemide and prednisolone developed seizures. What is the likely cause of this symptom? a. Hypokalemia b. Hypotension c. Tacrolimus d. Frusemide e. predinsolone	**C**

13. Which of the following most accurately describes the immunosuppressant action of cyclosporine? A) Activation of NK cells B) Blockade of tissue responses to inflammatory mediators C) Increased catabolism of IgG antibodies D) Inhibition of calcineurin mediated gene transcription of interleukins E) Interference with MHC II-peptide activation of T cells	**D**
14. Which of the following is a monoclonal antibody that binds to TNF-a and inhibits its action? a. Etanercept b. Infliximab c. Sirolimus d. Thalidomide e. Trastuzu	**B**
15. One of the following is not a possible side effect of glucocorticoids usage, it is: a. Elevated blood glucose levels b. Fluid retention c. Hyperkalemia d. Increased susceptibility to infection. e. Elevated blood pressure	**C**
16. Which of the following is anti-Ig-E monoclonal antibody used in treatment of refractory bronchial asthma : a. anakinera b. infliximab c. abatacept d. toafacitinib e. omalizumab	**E**

17. MATCH the lettered expression from the list below with its most appropriate definition in the items below. Answers may be used once, more than once, or not at all. a) Prednisolone. — 1) Calcineurin inhibitor. b) Cyclosporine. — 2) Inhibits metabolism of azathioprine. c) Mycophenolate mofetile. — 3) Prevent erythroblastosis fetalis. d) Allopurinol. — 4) Osteoporosis. e) anti-Rh0 (D) IgG. — 5) Inhibit de novo synthesis of purines.	**A-4** **B-1** **C-5** **D-2** **E-3**
18. One of the following adverse effects is not due to prolonged therapy with corticosteroids? a) Fluid retention b) Increased susceptibility to infection c) Elevated blood pressure d) Muscle hypertrophy e) Hypokalemia	**D**
19. Cyclosporine is effective in organ transplantation. Which of the following most accurately describes the immunosuppressant action of cyclosporine? a) Activation of NK cells b) Blockade of tissue responses to inflammatory mediators c) Increased catabolism of IgG antibodies d) Inhibition of the gene transcription of interleukins e) Interference with MHC II-peptide activation of T cells	**D**
20. Hydrocortisone exerts the following actions: a) Increases both K+ and Ca2+ excretion b) Decreases both K+ and Ca2+ excretion c) Decreases K+ but increases Ca2+ excretion d) Increases K+ but decreases Ca2+ excretion	**A**

21. Which of the following is a widely used drug that suppresses cellular immunity, inhibits prostaglandin and leukotriene synthesis, and increases the catabolism of IgG antibodies? *a) Cyclophosphamide* *b) Cyclosporine* *c) Infliximab* *d) Mycophenolate mofetil* *e) Prednisone*	***E***
22. Which of the following drugs specifically inhibits calcineurin in the activated T lymphocytes? *a) Basiliximab.* *b) Tacrolimus.* *c) Prednisone.* *d) Sirolimus.* *e) Mycophenolate mofetil.*	***B***
23. Which of the following is a chimeric monoclonal antibody that binds to TNF-α and inhibits its action? *a) Etanercept* *b) Infliximab* *c) Sirolimus* *d) Trastuzumab* *e) Thalidomide*	***B***
24. Which of the following is an immunosuppressant that suppresses both B and T lymphocytes via inhibition of de novo synthesis of purines? *a) Cyclophosphamide* *b) Methotrexate* *c) Mycophenolate mofetil* *d) Prednisone* *e) Tacrolimus*	***C***

25. A 45-year-old woman has just received a kidney transplant. She is placed on several immunosuppressants to prophylactically prevent her body rejecting the donor organ. Which of the following immunosuppressants interferes with T-cell activation by modifying the activity of calcineurin? a) Cyclosporine b) Methotrexate c) Prednisolone d) Sirolimus e) Temsirolimus	**A**
26. A patient is treated with an immunosuppressant drug following a liver transplant. The drug is known to bind to cyclophilin and inhibit the actions of calcineurin. For what drug toxicity should this patient be monitored? a) Pulmonary fibrosis b) Hypotension c) Hypoglycemia d) Nephrotoxicity e) CHF	**D**
27. Corticosteroids exert anti-inflammatory action by inhibiting the following enzyme: a) Cyclooxygenase b) Lipoxygenase c) Phospholipase-A d) Phosphodiesterase	**C**
28. Corticosteroid therapy can aggravate the following disorders except: a) Congenital adrenal hyperplasia b) Diabetes mellitus c) Hypertension d) Peptic ulcer	**A**

29. The most important mechanism of anti-inflammatory action of glucocorticoids is: a) Inhibition of lysosomal enzymes b) Restriction of recruitment of inflammatory cells at the site of inflammation c) Antagonism of action of interleukins d) Suppression of complement function	**B**
30. Corticosteroid therapy is practically mandatory in the following condition: a) Septic shock b) Renal transplant c) Rheumatoid arthritis d) Ulcerative colitis	**B**
31. Systemic corticosteroid therapy is not used routinely and is reserved only for severe cases of: a) Exfoliative dermatitis b) Posterior uveitis c) Acute rheumatic fever d) Hodgkin's disease	**C**
32. Patients who are taking allopurinol, or express a mutation resulting in a non-functional form of thiopurine S- methyltransferase (TPMT) can exhibit extreme bone marrow suppression and other forms of drug toxicity when exposed to: a) alemtuzumab b) azathioprine c) cyclosporine d) mycophenolate mofetil e) prednisone	**B**

33. Which of the following drugs specifically inhibits calcineurin in the activated T lymphocytes? a) Basiliximab. b) Tacrolimus. c) Prednisone. d) Sirolimus. e) Mycophenolate mofetil.	**B**
34. Side effect of first-generation histamine H1 antagonists is: a) Aplastic anemia b) Vomiting c) Sedation d) Gastric ulcers	**C**
35. A patient on immunosuppresive therapy is given tacrolimus as part of their drug regimen. Which side effect is most likely to occur with this drug? a) hypoglycemia b) hypokalemia c) hypotension d) profound myelosuppression e) renal toxicity	**E**
36. One of the drugs Mr Short was taking to suppress organ rejection was azathioprine. Which of the following describes its mechanism of action? a) blockade of leukocyte adhesion to endothelial cells b) conversion to 6 mercaptopurine, a purine antimetabolite toxic to stimulated lymphocytes c) decreased prostaglandin production due to inhibition of phospholipase A2 d) inhibition of TNF-alpha	**B**

37. A patient was given combination of immunosuppressant drugs following a liver transplant. Six months after his transplant his lab results indicate a 20 mm Hg mean arterial blood pressure, elevated fasting increase in blood glucose, hyperkalemia, and elevated serum creatinine. Which drug is most likely responsible for these side effects? a) azathioprine b) everolimus c) mycophenolate mofetil d) sirolimus e) tacrolimus	**E**
38. One of the following is not an indication of H1 antagonists: a) Urticaria b) Motion sickness c) Nausea and vomiting in pregnancy d) Abdominal colic	**D**
39. Side effect of first-generation histamine Hl antagonists is: a) Aplastic anemia b) Vomiting, tinnitus, decreased hearing c) Postural hypotension d) Gastric ulcers and upper gastrointestinal bleeding e) Arrhythmia	**C**
40. Indication for administration of histamine H1 antagonists is: a) Prevention or treatment of allergic rhinitis b) Hypertension c) Peptic ulcer d) Histamine overdose	**A**

41. A 56-year-old man with end-stage renal disease underwent a kidney transplant. He received immunosuppressive therapy that included a drug that suppresses cellular immunity, inhibits both prostaglandin and leukotriene synthesis, and increases the catabolism of immunoglobulin G (IgG) antibodies. Which of the following drugs has all of these actions? A. Prednisone B. Azathioprine C. Tacrolimus D. Muromonab-CD3 E. Cyclophosphamide	**A**
42. A 53-year-old man with a heart transplant underwent immunosuppressive treatment that included oral cyclosporine. Which of the following cells represent the main site of action of this drug? A. Macrophages B. Dendritic cells C. T-helper cells D. Plasma cells E. Natural killer cells	**C**
43. A 44-year-old woman was in the coronary unit after a heart transplant performed 2 weeks earlier. Pertinent blood test results were white blood cell count 1.2 × 103/mm3 (normal 4.5-11.0 × 103/mm3), platelets 40,000/mm3 (normal 150,000-400,000/mm3). Which of the following drugs most likely caused these findings? A. Cyclosporine B. Dobutamine C. Dopamine D. Azathioprine E. Fluorouracil	**D**

44. A 43-year-old man who underwent a kidney transplant had been receiving an immunosuppressive treatment that included a macrolide antibiotic. The drug binds to a FK-binding proteins located in T cells, thus blocking gene expression for production of several cytokines. Which of the following drugs most likely works with this mechanism of action? *A. Azithromycin* *B. Azathioprine* *C. Tacrolimus* *D. Cyclosporine* *E. Tobramycin*	**C**
45. Which of the following molecular actions most likely mediated the immunosuppressive effect of the drug Azathioprine in this patient? *A. Blockade of tumor necrosis factor-a (TNF-α) receptors* *B. Inhibition of clonal expansion of T and B lymphocytes* *C. Inhibition of antigen presentation by dendritic cells* *D. Stimulation of genetic expression of interleukin-2* *E. Stimulation of macrophage phagocytic activity*	**B**
46. Which of the following statements best explains why mycophenolate mofetil is currently used instead of azathioprine to prevent rejection in solid organ transplantation? *A. Its immunosuppressive activity is definitely superior to that of azathioprine.* *B. It has significantly fewer adverse effects than azathioprine.* *C. It has drastically reduced the risk of graft-versus-host disease.* *D. It selectively inhibits macrophage-mediated production of several interleukins.* *E. It selectively inhibits antigen recognition by antigen- presenting cells.*	**B**

47. A 30-year-old man recently diagnosed with Crohn disease. experienced substantial improvement after 1 month of prednisone therapy. Which of the following drugs would be appropriate to maintain remission of symptoms in this patient? A. Sirolimus B. Fluorouracil C. Tacrolimus D. Thalidomide E. Azathioprine	**E**
48. an immunosuppressive drug that acts by inhibiting enzymes essential for purine biosynthesis. Which of the following drugs was most likely prescribed? A. Etanercept B. Cyclosporine C. Tacrolimus D. Sirolimus E. Azathioprine F. Infliximab	**E**
49. A 45-year-old woman who underwent a liver transplant started an immunosuppressive therapy that included tacrolimus. The risk of which of the following drug-related disorders was most likely increased in this patient? A. Hypotension B. Hypokalemia C. Hypoglycemia D. Hemolytic anemia E. Neurotoxicity	**E**
50. Which of the following actions most likely mediated the therapeutic effect of the drug cyclosporine ? A. Stimulation of synthesis of tumor necrosis factor B. Stimulation of B-cell differentiation into memory B cells C. Inhibition of the apoptosis pathway in target cells D. Stimulation of gene expression for interleukin-2 pro- duction E. Inhibition of calcineurin enzyme	**E**

10

Drugs Affecting Blood and Blood Formation

CHOOSE THE MOST APPROPRIATE RESPONSE

41.1 *Absorption of oral iron preparations can be facilitated by coadministering:*

A. Antacids
B. Tetracyclines
C. Phosphates
D. Ascorbic acid *(p. 546)*

41.2 *The gut controls the entry of ingested iron in the body by:*

A. Regulating the availability of apoferritin which acts as the carrier of iron across the mucosal cell
B. Regulating the turnover of apoferritin-ferritin interconversion in the mucosal cell
C. Complexing excess iron to form ferritin which remains stored in the mucosal cell and is shed off
D. Regulating the number of transferrin receptors on the mucosal cell *(p. 546)*

41.3 *In the iron deficient state, transferrin receptors increase in number on the:*

A. Intestinal mucosal cells
B. Erythropoietic cells
C. Reticuloendothelial cells
D. All of the above *(p. 547)*

41.1D 41.2C 41.3B

41.4 *The percentage of elemental iron in hydrated ferrous sulfate is:*
A. 5%
B. 10%
C. 20%
D. 33% *(p. 547)*

41.5 *Select the oral iron preparation which does not impart metallic taste and has good oral tolerability despite high iron content but whose efficacy in treating iron deficiency anaemia has been questioned:*
A. Iron hydroxy polymaltose
B. Ferrous succinate
C. Ferrous fumarate
D. Ferrous gluconate *(p. 548)*

41.6 *The daily dose of elemental iron for maximal haemopoietic response in an anaemic adult is:*
A. 30 mg
B. 100 mg
C. 200 mg
D. 500 mg *(P. 549)*

41.7 *The side effect which primarily limits acceptability of oral iron therapy is:*
A. Epigastric pain and bowel upset
B. Black stools
C. Staining of teeth
D. Metallic taste *(p. 547, 549)*

41.8 *Choose the correct statement about severity of side effects to oral iron medication:*
A. Ferrous salts are better tolerated than ferric salts
B. Complex organic salts of iron are better tolerated than inorganic salts
C. Liquid preparations of iron are better tolerated than tablets
D. Tolerability depends on the quantity of elemental iron in the medication *(p. 547)*

41.4C	41.5A	41.6C	41.7A	41.8D

41.9 *The following is **not** a valid indication for parenteral iron therapy:*

A. Inadequate response to oral iron due to patient noncompliance
B. Anaemia during pregnancy
C. Severe anaemia associated with chronic bleeding
D. Anaemia in a patient of active rheumatoid arthritis *(p. 549)*

41.10 *Iron sorbitol-citric acid differs from iron dextran in that:*

A. It cannot be injected i.v.
B. It is not excreted in urine
C. It is not bound to transferrin in plasma
D. It produces fewer side effects *(P. 549)*

41.11 *Choose the correct statement about iron therapy:*

A. Haemoglobin response to intramuscular iron is faster than with oral iron therapy
B. Iron must be given orally except in pernicious anaemia
C. Prophylactic iron therapy must be given during pregnancy
D. Infants on breastfeeding do not require medicinal iron *(p. 550)*

41.12 *A patient of iron deficiency anaemia has been put on iron therapy. What should be the rate of rise in haemoglobin level of blood so that response is considered adequate:*

A. 0.05 – 0.1 g% per week
B. 0.1 – 0.2 g% per week
C. 0.5 – 1.0 g% per week
D. More than 1.0 g% per week *(p. 550)*

41.9B 41.10A 41.11C 41.12C

41.13 *The following chelating agent should **not** be used systemically to treat acute iron poisoning in a child:*

A. Desferrioxamine
B. Calcium edetate
C. Dimercaprol
D. Calcium disodium diethylene triamine penta acetic acid *(p. 551)*

41.14 *Megaloblastic anaemia occurs in:*

A. Vitamin B_{12} but not folic acid deficiency
B. Folic acid but not Vitamin B_{12} deficiency
C. Either Vitamin B_{12} or folic acid deficiency
D. Only combined Vitamin B_{12} + folic acid deficiency *(p. 553, 555)*

41.15 *The metabolic reaction requiring vitamin B_{12} but **not** folate is:*

A. Conversion of malonic acid to succinic acid
B. Conversion of homocysteine to methionine
C. Conversion of serine to glycine
D. Thymidylate synthesis *(p. 552)*

41.16 *The daily dietary requirement of vit B_{12} by an adult is:*

A. 1-3 µg
B. 50-100 µg
C. 0.1-0.5 mg
D. 1-3 mg *(p. 552)*

41.17 *The following factor(s) is/are required for the absorption of dietary vitamin B_{12}:*

A. Gastric acid
B. Gastric intrinsic factor
C. Transcobalamine
D. Both 'A' and 'B' *(p. 552)*

41.13C 41.14C 41.15A 41.16A 41.17D

41.18 *A 60-year-old patient presented with anorexia, weakness, paresthesia and mental changes. His tongue was red, tendon reflexes were diminished, haemoglobin was 6 g% with large red cells and neutrophils had hypersegmented nuclei. Endoscopy revealed atrophic gastritis. Deficiency of which factor is likely to be responsible for his condition:*

A. Folic acid
B. Vitamin B_{12}
C. Pyridoxine
D. Riboflavin *(p. 553)*

41.19 *Features of methylcobalamin include the following:*

A. It is an active coenzyme form of vit B_{12}
B. It is required for the synthesis of S-adenosyl methionine
C. It is specifically indicated for correcting neurological defects of vit B_{12} deficiency
D. All of the above *(p. 553)*

41.20 *Hydroxocobalamin differs from cyanocobalamin in that:*

A. It is more protein bound and better retained
B. It is beneficial in tobacco amblyopia
C. It benefits haematological but not neurological manifestations of vit B_{12} deficiency
D. Both 'A' and 'B' are correct *(p. 552, 554)*

41.21 *Megaloblastic anaemia developing under the following condition is due entirely to folate deficiency* ***not*** *associated with vitamin B_{12} deficiency:*

A. Malnutrition
B. Blind loop syndrome
C. Phenytoin therapy
D. Pregnancy *(p. 555)*

41.18B 41.19D 41.20D 41.21C

41.22 *A patient of megaloblastic anaemia was treated with oral folic acid 5 mg daily. After 2 weeks he reported back with cognitive deficit, sensory disturbance, depressed knee jerk, while blood picture and haemoglobin level were improved. What could be the most likely explanation:*

A. Folic acid was not adequately absorbed resulting in partial response
B. Folate therapy has precipitated vitamin B_{12} deficiency in the neural tissue
C. Folate therapy has unmasked pyridoxine deficiency
D. Patient has folate reductase abnormality in the nervous system *(p. 555)*

41.23 *Folinic acid is specifically indicated for:*

A. Prophylaxis of neural tube defect in the offspring of women receiving anticonvulsant medication
B. Counteracting toxicity of high dose methotrexate
C. Pernicious anaemia
D. Anaemia associated with renal failure *(p. 555)*

41.24 *Recombinant human erythropoietin is indicated for:*

A. Megaloblastic anaemia
B. Haemolytic anaemia
C. Anaemia in patients of thalassemia
D. Anaemia in chronic renal failure patients *(p. 556)*

41.22D 41.23B 41.24D

41.25 *A patient of chronic renal failure maintained on intermittent haemodialysis has anaemia not responding to iron therapy. Which of the following additional drug is indicated:*

A. Epoetin
B. Cyanocobalamin
C. Folic acid
D. Pyridoxine *(p. 556)*

42.1 *Vitamin K is indicated for the treatment of bleeding occurring in patients:*

A. Being treated with heparin
B. Being treated with streptokinase
C. Of obstructive jaundice
D. Of peptic ulcer *(p. 559)*

42.2 *Choose the preparation(s) of vitamin K that should* ***not*** *be injected in the newborn:*

A. Phytonadione
B. Menadione
C. Menadione sod.diphosphate
D. Both 'B' and 'C' *(p. 559, 560)*

42.3 *Menadione (vitamin K_3) can produce kernicterus in neonates by:*

A. Inducing haemolysis
B. Inhibiting glucuronidation of bilirubin
C. Displacing plasma protein bound bilirubin
D. Both 'A' and 'B' are correct *(p. 560)*

42.4 *Select the correct statement about ethamsylate:*

A. It checks capillary bleeding
B. It inhibits platelet aggregation
C. It is an antifibrinolytic drug
D. It is used to fibrose bleeding piles *(p. 560)*

41.25 A 42.1 C 42.2 D 42.3 D 42.4 A

42.5 *The primary mechanism by which heparin prevents coagulation of blood is:*

A. Direct inhibition of prothrombin to thrombin conversion
B. Facilitation of antithrombin III mediated inhibition of factor Xa and thrombin
C. Activation of antithrombin III to inhibit factors IX and XI
D. Inhibition of factors XIIa and XIIIa *(p. 561)*

42.6 *Low concentrations of heparin selectively interfere with the following coagulation pathway(s):*

A. Intrinsic pathway
B. Extrinsic pathway
C. Common pathway
D. Both 'A' and 'C' *(p. 561)*

42.7 *Low doses of heparin prolong:*

A. Bleeding time
B. Activated partial thromboplastin time
C. Prothrombin time
D. Both 'B' and 'C' *(p. 561)*

42.8 *The following action(s) of heparin is/are essential for inhibition of factor Xa:*

A. Facilitation of antithrombin III mediated inhibition of factor XIIa
B. Provision of scaffold for the clotting factor to interact with antithrombin III
C. Induction of a configurational change in antithrombin III to expose its interacting sites
D. Both 'A' and 'B' *(p. 561)*

42.5B	42.6A	42.7B	42.8C

42.9 *The following is true of heparin* ***except****:*

A. Sudden stoppage of continuous heparin therapy causes rebound increase in blood coagulability
B. High doses of heparin inhibit platelet aggregation
C. Heparin is the physiologically active circulating anticoagulant
D. Heparin clears lipemic plasma *in vivo* but not *in vitro* *(p. 561, 562)*

42.10 *Low molecular weight heparins differ from unfractionated heparin in that:*

A. They selectively inhibit factor Xa
B. They do not significantly prolong clotting time
C. They are metabolized slowly and have longer duration of action
D. All of the above are correct *(p. 563)*

42.11 *Low molecular weight heparins have the following advantages over unfractionated heparin* ***except:***

A. Higher efficacy in arterial thrombosis
B. Less frequent dosing
C. Higher and more consistent subcutaneous bioavailability
D. Laboratory monitoring of response not required *(p. 563)*

42.12 *Low dose subcutaneous heparin therapy is indicated for:*

A. Prevention of leg vein thrombosis in elderly patients undergoing abdominal surgery
B. Ischaemic stroke
C. Patients undergoing neurosurgery
D. Prevention of extention of coronary artery thrombus in acute myocardial infarction *(p. 562)*

42.9C 42.10D 42.11A 42.12A

42.13 *Heparin is contraindicated in patients suffering from the following diseases* ***except****:*

A. Pulmonary tuberculosis
B. Bleeding due to defibrination syndrome
C. Subacute bacterial endocarditis
D. Large malignant tumours *(p. 563, 568)*

42.14 *The following can be used to antagonise the action of heparin in case of overdose:*

A. Heparan sulfate
B. Dextran sulfate
C. Protamine sulfate
D. Ancrod *(p. 564)*

42.15 *Blood level of which clotting factor declines most rapidly after the initiation of warfarin therapy:*

A. Factor VII
B. Factor IX
C. Factor X
D. Prothrombin *(p. 564)*

42.16 *The following statements are true of oral anticoagulants* ***except****:*

A. They interfere with an early step in the synthesis of clotting factors
B. Irrespective of the dose administered, their anticoagulant effect has a latency of onset of 1-3 days
C. Their dose is adjusted by repeated measurement of prothrombin time
D. They are contraindicated during pregnancy *(p. 564, 566)*

42.13B 42.14C 42.15A 42.16A

42.17 *You are treating a patient of deep vein thrombosis with warfarin. What value of International normalized ratio (INR) will you attempt by adjusting dose of the anticoagulant for an adequate therapeutic effect:*

A. 1.2 – 1.5
B. 1.3 – 1.7
C. 1.5 – 2.0
D. 2.0 – 3.0 *(p. 566)*

42.18 *The following drug reduces the effect of oral anticoagulants:*

A. Broad spectrum antibiotic
B. Cimetidine
C. Aspirin
D. Oral contraceptive *(p. 567)*

42.19 *The most clear cut beneficial results are obtained in the use of anticoagulants for the following purpose:*

A. Prevention of recurrences of myocardial infarction
B. Prevention of venous thrombosis and pulmonary embolism
C. Cerebrovascular accident
D. Retinal artery thrombosis *(p. 567)*

42.20 *Anticoagulant medication is indicated in:*

A. Immobilized elederly patients
B. Buerger's disease
C. Stroke due to cerebral thrombosis
D. All of the above *(p. 567, 568)*

42.17D 42.18D 42.19B 42.20A

42.21 *Use of anticoagulants in acute myocardial infarction affords the following benefit(s):*

A. Reduces short-term mortality
B. Prevents thrombus extension and subsequent attack
C. Prevents venous thromboembolism
D. All of the above

42.22 *The most effective drug for prevention of stroke in atrial fibrillation patients is:*

A. Aspirin
B. Warfarin
C. Low dose subcutaneous heparin
D. Digoxin *(p. 568)*

42.23 *Select the fibrinolytic drug(s) that is/are antigenic:*

A. Streptokinase
B. Urokinase
C. Alteplase
D. Both 'A' and 'B' *(p. 569, 570)*

42.24 *Which fibrinolytic agent(s) selectively activate(s) fibrin bound plasminogen rather than circulating plasminogen:*

A. Urokinase
B. Streptokinase
C. Alteplase
D. Both 'A' and 'C' *(p. 569, 570)*

42.25 *The most important complication of streptokinase therapy is:*

A. Hypotension
B. Bleeding
C. Fever
D. Anaphylaxis *(p. 570)*

42.21 C 42.22 B 42.23 A 42.24 C 42.25 B

42.26 *Thrombolytic therapy is indicated in the following conditions* ***except****:*

A. Acute myocardial infarction
B. Stroke due to cerebral thrombosis
C. Deep vein thrombosis
D. Large pulmonary embolism *(p. 570, 571)*

42.27 *A patient of acute myocardial infarction has been brought to the ICU. What is the time lapse since symptom onset beyond which you will* ***not*** *consider instituting thrombolytic therapy:*

A. 3 hours
B. 6 hours
C. 16 hours
D. 24 hours *(p. 570)*

42.28 *Thrombolytic therapy instituted within 3-6 hours of onset of acute myocardial infarction affords the following benefit(s):*

A. Reduces mortality
B. Reduces area of myocardial necrosis
C. Preserves ventricular function
D. All of the above *(p. 570)*

42.29 *The preferred route of administration of streptokinase in acute myocardial infarction is:*

A. Intravenous
B. Subcutaneous
C. Intracoronary
D. Intracardiac *(p. 570)*

42.30 *Streptokinase therapy of myocardial infarction is contraindicated in the presence of the following* ***except****:*

A. Peptic ulcer
B. Ventricular extrasystoles
C. History of recent trauma
D. Severe hypertension *(p. 571)*

42.26B 42.27C 42.28D 42.29A 42.30B

42.31 *A patient has an episode of hematemesis following streptokinase infused for the treatment of deep vein thrombosis. Which of the following drugs would be most effective in controlling the bleeding episode:*

A. Vitamin K
B. Noradrenaline
C. Epsilon aminocaproic acid
D. Rutin *(p. 571)*

42.32 *Tranexaemic acid is a specific antidote of:*

A. Fibrinolytic drugs
B. Organophosphates
C. Barbiturates
D. Heparin *(p. 571)*

42.33 *Aspirin prolongs bleeding time by inhibiting the synthesis of:*

A. Clotting factors in liver
B. Prostacyclin in vascular endothelium
C. Cyclic AMP in platelets
D. Thromboxane A_2 in platelets *(p. 572)*

42.34 *Inhibition of thromboxane synthesis by aspirin in platelets lasts for 5-7 days because:*

A. Aspirin persists in the body for 5-7 days
B. Aspirin induced depletion of arachidonic acid lasts 5-7 days
C. Regeneration of aspirin inhibited cyclooxygenase takes 5-7 days
D. Platelets cannot generate fresh thromboxane synthetase and their turnover time is 5-7 days *(p. 572)*

42.31C 42.32A 42.33D 42.34D

42.35 *The following drug increases cyclic-AMP in platelets and inhibits their aggregation without altering levels of thromboxane A_2 or prostacyclin:*

A. Aspirin
B. Sulfinpyrazone
C. Dipyridamole
D. Abciximab *(p. 572)*

42.36 *Choose the correct statement about ticlopidine:*

A. It blocks $GPII_b/III_a$ receptors on platelet membrane
B. It prevents ADP mediated platelet adenylyl-cyclase inhibition
C. It inhibits thromboxane A_2 synthesis in platelets
D. It does not prolong bleeding time *(p. 572)*

42.37 *Choose the drug which alters surface receptors on platelet membrane to inhibit aggregation, release reaction and to improve platelet survival in extra-corporeal circulation:*

A. Dipyridamole
B. Ticlopidine
C. Aspirin
D. Heparin *(p. 572)*

42.38 *Ticlopidine is recommended for the following* ***except****:*

A. To reduce neurological sequelae of stroke
B. Transient ischaemic attacks
C. To prevent occlusion of coronary artery bypass graft
D. Intermittent claudication *(p. 572-573)*

42.35C 42.36B 42.37B 42.38A

(Note: Once stroke has occurred, no antiplatelet drug (including ticlopidine) alters the course of neurological or other complications. However, they do reduce the occurrence of stroke and transient ischaemic attacks.)

42.39 *The following is true of clopidogrel* ***except:***

A. It is a $GPII_b/III_a$ receptor antagonist
B. It inhibits fibrinogen induced platelet aggregation
C. It is indicated for prevention of stroke in patients with transient ischaemic attacks
D. It is a prodrug *(p. 573)*

42.40 *The following is true of abciximab* ***except:***

A. It is a monoclonal antibody against $GPII_b/III_a$
B. It inhibits platelet aggregation induced by a variety of platelet agonists
C. It is antigenic
D. It is used to reduce the risk of restenosis in patients undergoing PTCA *(p. 573)*

42.41 *Combined therapy with dipyridamole and warfarin is recommended in subjects with the following:*

A. Risk factors for coronary artery disease
B. Prosthetic heart valves
C. Cerebral thrombosis
D. Buerger's disease *(p. 574)*

42.42 *Indications for the use of antiplatelet drugs include the following* ***except****:*

A. Secondary prophylaxis of myocardial infarction
B. Unstable angina pectoris
C. Disseminated intravascular coagulation
D. Stroke prevention in patients with transient ischaemic attacks *(p. 573, 574)*

42.39A 42.40C 42.41B 42.42C

43.1 *Choose the most potent and most efficacious LDL-cholesterol lowering HMG-CoA reductase inhibitor:*
A. Lovastatin
B. Simvastatin
C. Pravastatin
D. Atorvastatin *(p. 578)*

43.2 *The following is true of simvastatin* ***except:***
A. It is more potent than lovastatin
B. At the highest recommended dose, it causes greater LDL-cholesterol lowering than lovastatin
C. It does not undergo first pass metabolism in liver
D. It can raise HDL-cholesterol level when the same is low at base line *(p. 578)*

43.3 *Select the most appropriate hypolipidemic drug for a patient with raised LDL-cholesterol level but normal triglyceride level:*
A. A HMG-CoA reductase inhibitor
B. A fibric acid derivative
C. Gugulipid
D. Nicotinic acid *(P. 578, 582)*

43.4 *Select the drug which reduces cholesterol synthesis in liver, increases expression of LDL receptors on hepatocytes and has been found to reduce mortality due to coronary artery disease:*
A. Simvastatin
B. Nicotinic acid
C. Gemfibrozil
D. Colestipol *(p. 577, 578)*

43.1D	43.2C	43.3A	43.4A

43.5 *The rare but characteristic adverse effect of HMG-CoA reductase inhibitors is:*

A. Onycolysis
B. Myopathy
C. Alopecia
D. Oculomucocutaneous syndrome *(p. 578)*

43.6 *Features of atorvastatin include the following:*

A. Dose to dose most potent HMG-CoA reductase inhibitor
B. Higher ceiling of LDL-cholesterol lowering action than lovastatin
C. Antioxidant property
D. All of the above *(p. 578)*

43.7 *Select the hypocholesterolemic drug which interferes with intestinal absorption of bile salts and cholesterol, and secondarily increases cholesterol turnover in the liver:*

A. Gemfibrozil
B. Cholestyramine
C. Lovastatin
D. Bezafibrate *(p. 577, 579)*

43.8 *Gemfibrozil has the following features* ***except:***

A. It lowers plasma LDL cholesterol to a greater extent than triglycerides
B. It tends to raise plasma HDL-cholesterol level
C. It is a first line drug for type III, type IV and type V hyperlipoproteinemia
D. It reduces the incidence of myocardial infarction *(p. 580)*

43.5B 43.6D 43.7B 43.8A

43.9 *Antiatherosclerotic effect of which class of hypolipidemic drugs may involve additional mechanisms like improved endothelial function, reduced LDL oxidation and antiinflammatory property:*

A. Bile acid sequestrant resins
B. Statins
C. Fibrates
D. Nicotinic acid *(p. 579)*

43.10 *Select the hypolipidemic drug that enhances lipoprotein synthesis, fatty acid oxidation and LDL-receptor expression in liver through paroxisome proliferator-activated receptor α:*

A. Lovastatin
B. Atorvastatin
C. Bezafibrate
D. Nicotinic acid *(p. 579, 580)*

43.11 *A patient with coronary artery disease has raised serum triglyceride level (500 mg/dl) but normal total cholesterol level (150 mg/dl). Which hypolipidemic drug should be prescribed:*

A. Probucol
B. Gemfibrozil
C. Cholestyramine
D. Lovastatin *(p. 580, 583)*

43.12 *The following is true of bezafibrate* ***except****:*

A. It activates lipoprotein lipase
B. It mainly lowers serum triglyceride level with smaller effect on LDL cholesterol level
C. It increases the incidence of myopathy due to statins
D. It tends to lower plasma fibrinogen level *(p. 579, 580)*

43.9B 43.10C 43.11B 43.12C

43.13 *Choose the correct statement about lovastatin:*

A. It markedly lowers plasma triglyceride with little effect on cholesterol level
B. It is used as an adjuvant to gemfibrozil for type III hyperlipoproteinemia
C. It is not effective in diabetes associated hypercholesterolemia
D. It is a competitive inhibitor of the rate limiting step in cholesterol synthesis *(p. 577-578)*

43.14 *Which of the following hypolipidemic drugs is most effective in raising HDL-cholesterol level and lowers serum triglycerides:*

A. Nicotinic acid
B. Fenofibrate
C. Cholestyramine
D. Pravastatin *(p. 580, 581)*

43.`15 *What is true of nicotinic acid as well as nicotinamide:*

A. Both possess vitamin B_3 activity
B. Both cause cutaneous vasodilatation
C. Both lower plasma triglyceride and VLDL levels
D. Both cause hyperglycaemia after prolonged medication *(p. 580-581)*

43.16 *Pretreatment with the following drug can be employed to reduce intolerable flushing, warmth and itching caused by nicotinic acid when used for lowering plasma lipids:*

A. Chlorpheniramine
B. Atropine
C. Aspirin
D. Prednisolone *(p. 581)*

43.13D 43.14A 43.15A 43.16C

43.17 *Which hypolipidemic drug has been used to control and prevent pancreatitis in familial hypertriglyceridemia:*

A. Lovastatin
B. Nicotinic acid
C. Cholestyramine
D. Clofibrate *(p. 581)*

43.18 *Select the first line hypolipidemic drug/drugs for treating hypertriglyceridemia in a subject with normal cholesterol level:*

A. Fibrates
B. HMG-CoA reductase inhibitors
C. Nicotinic acid
D. Both 'A' and 'C' are correct *(p. 583)*

43.19 *Specific drug therapy to lower serum triglycerides (TG) in a subject with normal LDL-cholesterol level is indicated:*

A. In all subjects with serum TG> 150 mg/dl
B. In subjects with existing coronary artery disease and serum TG > 150 mg/dl
C. In subjects with HDL-cholesterol < 40 mg/dl and serum TG > 150 mg/dl
D. Both 'B' and 'C' are correct *(p. 583)*

43.20 *In a 50-year-old male without any other coronary artery disease risk factor, hypocholesterolemic drugs are considered necessary when the serum LDL-cholesterol level is higher than:*

A. 130 mg/dl
B. 160 mg/dl
C. 190 mg/dl
D. 240 mg/dl *(p. 582)*

43.17B 43.18D 43.19D 43.20C

43.21 *High molecular weight, pharmacodynamically inert, nonantigenic substances which form colloidal solution are used as:*

A. Osmotic purgatives
B. Osmotic diuretics
C. Plasma expanders
D. All of the above *(p. 583)*

43.22 *As a plasma expander, dextran has the following advantages* ***except:***

A. It exerts oncotic pressure similar to plasma proteins
B. It keeps plasma volume expanded for about 24 hours
C. It is nonpyrogenic
D. It does not interfere with grouping and cross matching of blood *(p. 583-584)*

43.23 *Hydroxyethyl starch is a:*

A. Plasma expander
B. Haemostatic
C. Heparin substitute
D. Bile acid sequestrant *(p. 584)*

43.24 *Plasma expanders are used in the following conditions* ***except***:

A. Congestive heart failure
B. Extensive burns
C. Mutilating injuries
D. Endotoxin shock *(p. 584)*

(Note: They will increase circulating blood volume and thus preload on heart, which will worsen heart failure.)

43.21 C 43.22 D 43.23 A 43.24 A