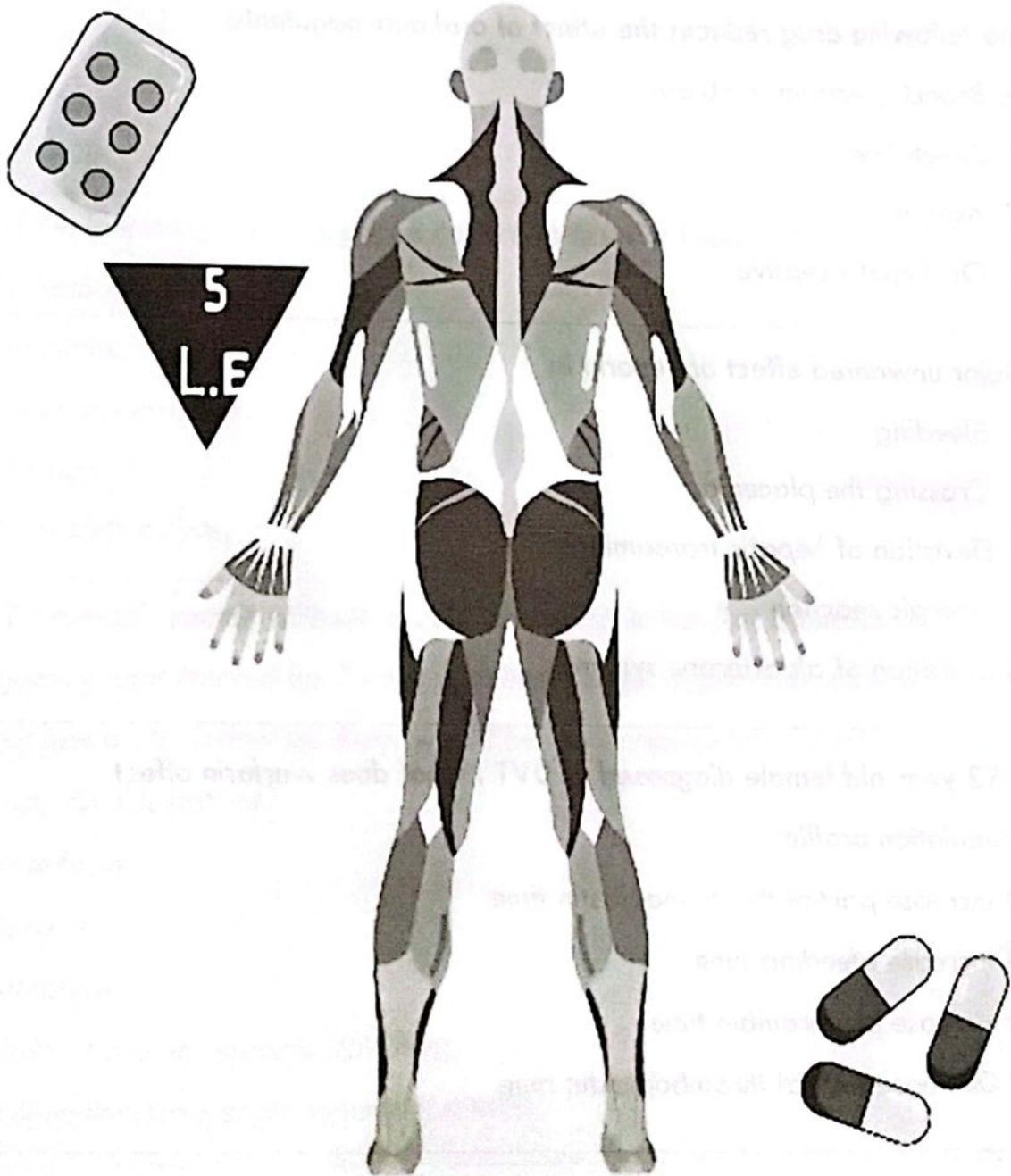


# PHARMACOLOGY

## His MCQ 2

LEVEL 1 - SEMESTER 2



Dr. M. M.

## MCQ pharma HIS 2

<p><b>1. Low concentrations of heparin selectively interfere with the following coagulation pathway(s):</b></p> <ul style="list-style-type: none"><li>A. Intrinsic pathway</li><li>B. Extrinsic pathway</li><li>C. Common pathway</li><li>D. Both 'A' and 'C'</li></ul>	<b>D</b>
<p><b>2. The following drug reduces the effect of oral anticoagulants:</b></p> <ul style="list-style-type: none"><li>A. Broad spectrum antibiotic</li><li>B. Cimetidine</li><li>C. Aspirin</li><li>D. Oral contraceptive</li></ul>	<b>D</b>
<p><b>3. Major unwanted effect of heparin is:</b></p> <ul style="list-style-type: none"><li>a) Bleeding</li><li>b) Crossing the placenta</li><li>c) Elevation of hepatic transaminase</li><li>d) Allergic reaction</li><li>e) Inhibition of aldosterone synthesis</li></ul>	<b>A</b>
<p><b>4. A 52-year-old female diagnosed as DVT , what does warfarin affect coagulation profile:</b></p> <ul style="list-style-type: none"><li>a) Increase partial thromboplastin time</li><li>b) Increase bleeding time</li><li>c) Increase prothrombin time</li><li>d) Decrease partial thromboplastin time</li></ul>	<b>C</b>

<p><b>5. Oral anticoagulant is:</b></p> <ul style="list-style-type: none"> <li>a) Heparin</li> <li>b) Urokinase</li> <li>c) Aspirin</li> <li>d) Vit K</li> <li>e) Warfarin</li> </ul>	<b>E</b>
<p><b>6. Antagonize the action of oral anticoagulant is :</b></p> <ul style="list-style-type: none"> <li>a) heparin</li> <li>b) urokinase</li> <li>c) aspirin</li> <li>d) vit K</li> <li>e) warfarin</li> </ul>	<b>D</b>
<p><b>7. All of the following are recognized adverse effects of heparin EXCEPT:</b></p> <ul style="list-style-type: none"> <li>a) Osteoporosis.</li> <li>b) Alopecia.</li> <li>c) Thrombocytopenia.</li> <li>d) Allergy.</li> <li>e) Fetal cleft palate.</li> </ul>	<b>E</b>
<p><b>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?</b></p> <ul style="list-style-type: none"> <li>a) Warfarin.</li> <li>b) Aspirin.</li> <li>c) Alteplase.</li> <li>d) Unfractionated heparin (HMWH).</li> <li>e) Low molecular-weight heparin (LMWH).</li> </ul>	<b>E</b>

13. The ma  
A. bleed:

<p><b>9. Which of the following is direct oral factor Xa inhibitor and inhibit both free Xa and bound Xa to clotting system :</b></p> <ul style="list-style-type: none"><li>a) rivaroxoban</li><li>b) hirudin</li><li>c) Argatroban</li><li>d) fondaprainx</li><li>e) heparin</li></ul>	<p><b>A</b></p>
<p><b>10. Which of the following is indirect factor Xa inhibitor and does not require monitoring :</b></p> <ul style="list-style-type: none"><li>a) rivaroxoban</li><li>b) hirudin</li><li>c) Argatroban</li><li>d) fondaprainx</li><li>e) heparin</li></ul>	<p><b>D</b></p>
<p><b>11. Which must heparin bind to in order to exert its anticoagulant effect?</b></p> <ul style="list-style-type: none"><li>a) GP IIb/IIIa receptor.</li><li>b) Thrombin.</li><li>c) Antithrombin III.</li><li>d) Von Willebrand factor.</li><li>e) P2Y12 ADP receptor.</li></ul>	<p><b>C</b></p>
<p><b>12. The primary advantage of enoxaparin over heparin is that it</b></p> <ul style="list-style-type: none"><li>A. is unlikely to cause bleeding</li><li>B. more effectively Inhibits the synthesis of clotting factors</li><li>C. has a more rapid onset</li><li>D. cause thrombocytopenia</li><li>E. has a shorter half-life</li></ul>	<p><b>A</b></p>

<p><b>13. The major adverse effect of heparin is:</b></p> <ul style="list-style-type: none"> <li>A. bleeding</li> <li>B. crossing the placenta</li> <li>C. elevating the hepatic transaminases</li> <li>D. allergic reactions</li> <li>E. inhibiting the aldosterone synthesis</li> </ul>	<p><b>A</b></p>
<p><b>14. Which of the following can be used to antagonize the action of heparin in case of heparin overdose?</b></p> <ul style="list-style-type: none"> <li>A. Heparin sulfate</li> <li>B. Dextran sulfate</li> <li>C. Protamine sulfate</li> <li>D. Ancrod</li> <li>E. Vitamin K</li> </ul>	<p><b>C</b></p>
<p><b>15. The following drugs inhibit the metabolism of warfarin:</b></p> <ul style="list-style-type: none"> <li>a) Cimetidine.</li> <li>b) Amiodarone.</li> <li>c) Carbamazepine.</li> <li>d) The oral contraceptive.</li> </ul>	<p><b>A</b></p>
<p><b>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 :</b></p> <ul style="list-style-type: none"> <li>a) Heart failure</li> <li>b) Drug abuse</li> <li>c) Hypotention</li> <li>d) Immune deficiency state</li> <li>e) Recent eye surgery</li> </ul>	<p><b>E</b></p>

**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) fondaparinux

A

**20. Sudden withdrawal of warfarin leads to which of the following?**

- A) Alopecia
- B) Hemorrhage
- C) Osteoporosis
- D) Tachycardia
- E) Thrombosis

E

<p><b>1. Which of the following tests would provide accurate information about the coagulation status of a patient taking enoxaparin?</b></p> <p>a) aPTT  b) Factor X test  c) INR  d) Prothrombin Time  e) Clotting Time</p>	<b>B</b>
<p><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 ?</b></p> <p>a) Aspirin  b) Dabigatran  c) Heparin  d) Ticlopidine  e) Warfarin</p>	<b>B</b>
<p><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:</b></p> <p>a) Aminocaproic acid  b) Argatroban  c) Vitamin K  d) Plasminogen  e) Ticlopidine</p>	<b>B</b>
<p><b>24. Drug can enhance anticoagulant activity of oral anticoagulants:</b></p> <p>a) Oral contraceptive  b) Cholestyramine  c) Barbiturate  d) Rifampicin  e) Tetracycline</p>	<b>E</b>

**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

<p><b>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?</b></p> <p>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.</p>	<b>D</b>
<p><b>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?</b></p> <p>a) Aminocaproic acid  b) Desmopressin  c) Factor VIII  d) Protamine  e) Vitamin K1</p>	<b>E</b>
<p><b>31. Low molecular weight heparins have the following advantages over unfractionated heparin except:</b></p> <p>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>	<b>A</b>

5. The foll  
a) They in

<p><b>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)?</b></p> <ul style="list-style-type: none"><li>a) LMWH is a better inhibitor of thrombin</li><li>b) LMWH carries no risk of bleeding</li><li>c) LMWH does not cause HIT</li><li>d) LMWH is easier to manage for outpatients</li><li>e) LMWH is more easily reversible</li></ul>	<b>D</b>
<p><b>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?</b></p> <ul style="list-style-type: none"><li>a) Activates the coagulation cascade</li><li>b) Activates tissue plasminogen activator</li><li>c) Degrades the heparin</li><li>d) Inactivates antithrombin</li><li>e) Ionically combines with heparin</li></ul>	<b>E</b>
<p><b>34. The primary mechanism by which heparin prevents coagulation of blood is:</b></p> <ul style="list-style-type: none"><li>a) Direct inhibition of prothrombin to thrombin Conversion</li><li>b) Facilitation of antithrombin III mediated inhibition of factor Xa and thrombin</li><li>c) Activation of antithrombin III to inhibit factors IX and XI</li><li>d) Inhibition of factors XIIa and XIIIa</li></ul>	<b>B</b>

<p><b>35. The following statements are true of oral anticoagulants except:</b></p> <ul style="list-style-type: none"> <li>a) They interfere with release of clotting factors</li> <li>b) Irrespective of the dose administered, their anticoagulant effect has a latency of onset of 1-3 days</li> <li>c) Their dose is adjusted by repeated measurement of prothrombin time</li> <li>d) They are contraindicated during pregnancy</li> </ul>	<b>A</b>
<p><b>36. The following drug reduces the effect of oral anticoagulants:</b></p> <ul style="list-style-type: none"> <li>a) Broad spectrum antibiotic</li> <li>b) Cimetidine</li> <li>c) Aspirin</li> <li>d) Oral contraceptive</li> </ul>	<b>D</b>
<p><b>37. Correct statements about heparin include all of the following EXCEPT:</b></p> <ul style="list-style-type: none"> <li>a. It is a mucopolysaccharide</li> <li>b. It crosses the placenta</li> <li>c. It is not absorbed from the GIT</li> <li>d. It is found in mast cells</li> <li>e. It prolongs clotting time of blood both in vivo and in vitro</li> </ul>	<b>B</b>
<p><b>38. Heparin therapy is monitored by:</b></p> <ul style="list-style-type: none"> <li>a. Sedimentation rate</li> <li>b. Level of <math>\alpha</math>-2 antiplasmin</li> <li>c. Partial thromboplastin time</li> <li>d. Prothrombin time</li> <li>e. Plasma fibrinogen concentration</li> </ul>	<b>C</b>
<p><b>39. Which of the following sentence is true with regard to warfarin?</b></p> <ul style="list-style-type: none"> <li>A. Is a vitamin K antagonist</li> <li>B. Is a thrombin inhibitor</li> <li>C. Activates fibrinolysis</li> <li>D. Binds to antithrombin III</li> </ul>	<b>A</b>

**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

<p><b>44. Warfarin has the following actions EXCEPT:</b></p> <ul style="list-style-type: none"> <li>a- It inhibits vitamin K-epoxide reductase</li> <li>b- It inhibits carboxylation of vitamin K-dependent factors</li> <li>c- Anticoagulant effect is observed after 8-12 hours</li> <li>d- Its antidote is protamine sulfate</li> <li>e- It prolongs prothrombin time</li> </ul>	<b>D</b>
<p><b>45. If a patient developed severe thrombocytopenia, an appropriate injectable substitute to heparin is:</b></p> <ul style="list-style-type: none"> <li>a- Enoxaparin</li> <li>b- Dicumarol</li> <li>c- Delteparin</li> <li>d- Hirudin</li> <li>e- Phenindione</li> </ul>	<b>D</b>
<p><b>46. Effect of oral warfarin can be increased by the following except:</b></p> <ul style="list-style-type: none"> <li>a- Aspirin</li> <li>b- Sulphonamide</li> <li>c- Clofibrate</li> <li>d- Cimetidine</li> <li>e- Phenobarbitone</li> </ul>	<b>E</b>
<p><b>47. Which of the following is a low-molecular weight heparin:</b></p> <ul style="list-style-type: none"> <li>a- Desmopressin</li> <li>b- Foscasnet</li> <li>c- Entacapone</li> <li>d- Enoxaparin</li> <li>e- Hirudin</li> </ul>	<b>D</b>

<p><b>48. Vitamin that should be avoided during oral anticoagulant therapy:</b></p> <ul style="list-style-type: none"><li>a- Vitamin A</li><li>b- Vitamin B</li><li>c- Vitamin C</li><li>d- Vitamin D</li><li>e- Vitamin K</li></ul>	<p>E</p>
<p><b>49. Warfarin is an anticoagulant. Its proposed mechanism of action is that it:</b></p> <ul style="list-style-type: none"><li>a- Inhibits platelet synthesis</li><li>b- Block prostaglandin synthesis</li><li>c- Prohibits absorption of vitamin K</li><li>d- Binds to fibrinogen</li><li>e- Inhibits synthesis of vitamin K-dependent clotting factors</li></ul>	<p>E</p>
<p><b>50. Which of the following statements about anticoagulant therapy is correct?</b></p> <ul style="list-style-type: none"><li>a. Heparin produces its effect by inhibiting antithrombin III.</li><li>b. Heparin is effective orally.</li><li>c. Warfarin is effective in vivo only</li><li>d. Warfarin is antagonized by protamine sulfate.</li><li>e. Low molecular weight heparin has shorter duration of action:</li></ul>	<p>C</p>
<p><b>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:</b></p> <ul style="list-style-type: none"><li>a- Abciximab.</li><li>b- Aprotinin.</li><li>c- Lepirudin.</li><li>d- Plasminogen.</li><li>e- Vitamin K-2.</li></ul>	<p>C</p>

<p><b>52. Time taken for observable anticoagulant effect of warfarin is:</b></p> <ul style="list-style-type: none"> <li>A. 6-12 hours</li> <li>B. 24-36 hours</li> <li>C. 2-7 days</li> <li>D. 8-10 days.</li> </ul>	C
<p><b>53. Which of the following is used for reversal of anticoagulant effect of warfarin in case of life-threatening bleeding?</b></p> <ul style="list-style-type: none"> <li>A. Platelets</li> <li>B. Protamine</li> <li>C. Vitamin K or Vitamin K dependant coagulation factors</li> <li>D. Any of the above</li> </ul>	C
<p><b>54. Which of the following drugs can cause alopecia?</b></p> <ul style="list-style-type: none"> <li>a. Warfarin</li> <li>b. Heparin</li> <li>c. Verapamil</li> <li>d. Ticlodipine</li> <li>e. Digoxin</li> </ul>	B
<p><b>55. Low molecular weight heparins:</b></p> <ul style="list-style-type: none"> <li>a. Have a higher affinity for antithrombin than high molecular weight heparin</li> <li>b. Are less effective in preventing the development of deep venous thrombosis.</li> <li>c. Have a higher bioavailability from the subcutaneous site of injection than normal heparin</li> <li>d. Require more frequent dosing than normal heparin</li> <li>e. Level monitoring may be required in liver failure - renal and pregnancy</li> </ul>	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 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