Model questions on cardiovascular pharmacology

I-Mention three drug group used in the treatment of the following conditions. Mention their mechanism of action, 2 side effects of each drug group:

- Unstable angina pectoris.
- Myocardial infarction.
- Vasospastic angina.
- Malignant hypertension.
- Mild hypertension.
- Atrial fibrillation.
- Supraventricular tachycardia.
- Heart block.
- Ventricular tachycardia.
- Heart failure.
- Acute pulmonary edema
- Digoxin toxicity

II-Compare between:

- Digoxin & digotoxin and ouabain as regards, duration of action, pharmacokinetics and route of administration
- Quinidine, digoxine and procaingamidine as regards their effects on heart rate, ventricular contraction, AV nodal conduction and autonomic nervous system. Mention 2 therapeutic uses and 2 side effects of each drug.
- Verpamil and nifedipine as regards heart rate and blood vessels.
- Propanolol and minoxidil as regards their effects on heart rate, blood vessels and bronchi. Mention 2 side effects of each drug.
- Enalipril and verapamil as regards the mechanism of action, their effects on heart rate, myocardial contraction and bronchi. Mention 2 therapeutic uses and 2 side effects of each drug.
- Hydralazine and clonidine as regards their mechanisms of action, effects on CNS and cardiovascular system. Mention 2 therapeutic uses and 2 side effects of each drug.

III-Mention:

- Centrally acting antihypertensive drug used in emergency hypertension. Enumerate 2 of its side effects.
- Diuretic drug used in long term management of hypertension. Enumerate 2 of its side effects.
- Diuretic drug that cause hypokalemia. Enumerate 2 of its side effects.
- Antihypertensive drug that cause parkinsonism as a side effect. Mention the mechanism of its action.
- Drug used in treatment of congestive heart failure that produces bradycardia.
- Antihypertensive drug that produces tachycardia. Mention the mechanism of action and 2 of its side effects.
- Antihypertensive drug that produces bradycardia. Mention the mechanism of action and 2 of its side effects.
- Antihypertensive that produce bronchoconstriction and vasoconstriction.
- 2 antihypertensive drugs that produce hyperkalemia.
- Diuretic used in the treatment of emergency hypertension.
- A drug used in the treatment of both hypertension and psychosis.
- A local anesthetic drug used in the treatment of ventricular arrhythmia.
- 2 sedating antihypertensive drugs. Mention the mechanism of action and 2 side effects.
- A drug used in the treatment of both ventricular arrhythmia and generalized epilepsy.
- Antiarrhythmic drug administrated by IV drip. Mention the mechanism of action and 2 of its side effects.
- Antihypertensive drug administrated by bolus IV injection.

**IV-Mention the mechanism of action, 2 therapeutic uses and 2 side effects of the following:**
- Dysopyramide.
- Sodium nitroprusside.
- Menoxidil
- Clonidine.
- Guanfacine.
- Isosorbid dinitrate.
- Lidocaine.
- Amodiarone.
- Adenosine

**V- Explain the following statements on pharmacological basis:**
- Digoxin is contraindiced in ventricular arrhythmia.
- Atenolol is contraindicated in vasospastic angina.
- Digoxine induced bradycardia.
- Tolerance may develop after long term use of nitrates.
- Malrinone is used in the treatment of heart failure.
- Bretylium induced postural hypotension.
- Metoprolol is used in the treatment of hypertension.
- Adenosine is used in the treatment of acute supraventricular tachycardia.
- It is better to give digoxcine before administration of quinidine in the treatment of atrial fibrillation.
- Quinidine is contraindicated in patients with congestive heart failure.
- Quinidine may produce paradoxical tachycardia in patients with atrial fibrillation.
- Congestive heart failure may occur, if dysopyramide in patients with cardiac dysfunction.
- Theophylline is the proper antidote for acute adenosine toxicity.
- Lidocaine is administrated by IV infusion in the treatment of ventricular arrhythmia.
- Terazocin produces vasodilation without tachycardia.
- Acebutalol produces less bronchospasm than propranolol.
- Guanethidine is contraindicated in patient with pheochromocytoma.
- Long term use of hydralazine may precipitate angina pectoris.
- Atenolol is combined with hydralazine in the treatment of moderate and severe hypertension.
- It is contraindicated to give aldosterone and prindopril.
- Lisinopril induced hyperkalemia.
- Fosinopril is contraindicated in patient with bilateral renal artery stenosis.
- Nicorandil induced coronary vasodilatation.
- Isosorbide dinitrate induced headache.
- Nitrates are used in the treatment of cyanide poisoning.
- Cyanosis may occur after long term use of nitrates.
- Nitrate induced coronary dilatation.
- Verapamil and isosorbide mononitrate is a good combination in the treatment of stable angina.
- It is contraindicated to give quinidine in the treatment of digitalis induced tachycardia.
- Furosemide may aggravate digitalis toxicity.
- It is contraindicated to combine digoxine and verapamil in patient with congestive heart failure.
- It is contraindicated to give adrenaline in patient on digitalis therapy.
- Captopil may be used in the treatment of heart failure.
- Tachycardia and bradycardia may occur in cases of digitalis toxicity.
- Digitalis is contraindicated in treatment of wolf parkinsonian white syndrome.
VI- Choose the correct answer
1- Broad spectrum antiarrythmic drug that blocks sodium, potassium and calcium channels is:
   a- Quinidine.
   b- Propranolol.
   c- Amodiarone.
   d- Amidopine.

2- The drug of choice in treatment of acute supraventricular tachycardia is:
   a- Atenolol.
   b- Adenosine.
   c- Amilodipine.
   d- Non of above.

3- All of the following are drugs are potent cardiodepressant except:
   a- Lidocaine.
   b- Procainamide
   c- Desopyramide
   d- Verapamil.

4- All of the following drugs can be used in the treatment of Wolf Parkinsonian White syndrome except:
   a- Digoxine
   b- Flecanide.
   c- Bretelium.
   d- Procainamide.

5- The drug of choice in the treatment of digitalis induced ventricular arrhythmia is:
   a- Lidocaine.
   b- Procainamide
   c- Desopyramide
   d- Verapamil.

6- All of the following manifestations may be side effects of digitalis induced arrhythmia except:
   a- Heart block.
   b- Ventricular tachycardia.
   c- Atrial fibrillation.
   d- Non of above.
7- All of the following drugs can be used in the treatment of digitalis induced supraventricular tachycardia except:
a- Quinidine.
b- Metoprolol.
c- Deltiazem.
d- Non of above.

8- All of the following drugs have parasympathomimetic effect except:
a- Ouabain.
b- Bretelium.
c- α methyl dopa.
d- Non of above

9- All of the following drugs have atropine like action except:
a- Meclizine 
b- Quitapen. 
c- Dysopyramide. 
d- Mexilitine.

10- Ultrashort acting parentraly administrated antiarrythmic drug used in the treatment of ventricular tachycardia:
a- Lidocaine. 
b- Procainamide 
c- Desopyramide 
d- Verapamil.

11- Ultrashort acting parentraly administrated drug used in the treatment of supraventricular tachycardia is:
a- Atenolol. 
b- Adenosine. 
c- Amilodipine. 
d- Non of above.

12- Digoxine produces all of the following effects except:
a- Diuretic action. 
b- +ve inotropic action. 
c- Atropine like action 
d- Non of above.

13- A drug that increases heart rate and myocardial contraction is:
a- Digotoxin. 
b- Atropine.
c- Adrenaline.
d- Doputamine

14- A drug that decreases heart rate and increases myocardial contraction is:
a- Digotoxin.
b- Malrenone.
c- Theophilline .
d- Doputamine.

15- A drug that decreases heart rate and decreases myocardial contraction is:
a- Veapamil
b- Nifedipine.
c- Norepinephrine .
d- Non of above .

16- A drug that decreases heart rate and increases myocardial contraction is:
a- Veapamil
b- Nifedipine.
c- Norepinephrine .
d- Non of above.

17- Antianginal drug that produces coronary vasoconstriction is:
1- Nitroglycerine.
2- Deliazem
c- Atenolol.
d- Nicorandil

18- Antianginal drug that may increase cardiac work is:
a- Verapamil
b- Isosorbide dinitrate
c- Metoprolol.
d- Non of above.

19- All of the following drug combinations are valid in the treatment of stable angina except:
a- Deliazem + Atenolol.
b- Nifedipine + verapamil.
c- Isosorbide mononitrate+ verapamil
d- Isosorbide dinitrate + Metoprolol.
20- All of the following drugs may be used in the treatment of hypertensive encephalopathy except:
   a- Clonidine
   b- Catopril.
   c- Nitroglycerine
   d- Sodium nitroprusside.

21- All of the following drugs can be administrated by sublingual rout except:
   a- Captopril.
   b- Nifedipine.
   c- Nitroglycerine
   d- Sodium nitroprusside.

22- The drug most likely to be used in patient with high renin hypertension is:
   a- Prindopril
   b- hydrochlorthiazide.
   c- Nicardipine.
   d- Non of above.

23- The drug most likely to be used in hypertensive patient with chronic obstructive air way disease is:
   a- Pindolol.
   b- Enalipril.
   c- Deltiazem
   d- Reserpine.

24- The drug most likely to be used in hypertensive, diabetic patient is:
   a- Timolol .
   b- Bumetinide.
   c- Minoxidil
   d- Valsartan.

25- The drug most likely to be used in hypertensive patient with supraventricular tachycardia is:
   a- Nadolol.
   b- Chlorthalidone.
   c- Nicarpine.
   d- hydralazine.
26- Postural hypotension is a side effect of all of the following drugs except:
   a- Guanethidine.
   b- Trimetaphane.
   c- Isosorbide dinitrate.
   d- labetalol.

27- Which of the following is predominantly venous vasodilator
   a- Hydralazine
   b- Minoxidil
   c- sodium nitroprusside
   d- Nitroglycerine.

28- Which of the following is thiazide non diuretic drug
   a- Polythiazide.
   b- Chlorthalidone
   c- Diazoxide
   d- Non of above

29- All of the following drugs has diuretic action except:
   a- Digoxine.
   b- Theophylline
   c- Diazoxide
   d- Non of above

30- Salt and water retention is side of effect of which of the following drugs:
   a- Reserine.
   b- Theophylline
   c- Indipamide
   d- Non of above

31- Which of the following is potassium channel opener:
   a- Glebenclamide.
   b- Nicorandil
   c- Quinidine
   d- All of the following

32- Malrinone is an example of:
   a- Phosphodiesterase I inhibitor.
   b- Phosphodiesterase II inhibitor
   c- Phosphodiesterase III inhibitor
   d- Phosphodiesterase IV inhibitor
33- Which of the following is vasodilator B blocker;
   a- Atenolol.
   b- labetalol.
   c- Acebutalol
   d- Non of above

34- All of the following drugs can be used in the treatment of paroxysmal supraventricular tachycardia except
   a- Atenolol
   b- Lidocaine
   c- Adenosine
   d- Verapamil

35- All of the following increase digitalis toxicity except:
   a- Hyperkalemia
   b- Hypercalcemia
   c- Concomitant administration with furosemide.
   d- Concomitant administration with spironolactone

36-Which of the following is potassium channel opener and calcium channel blocker:
   a- Amilodipine
   b- Nicorandil
   c- indipamide
   d- Hydralazine

37- The hypotensive effect of fosinopril is augmented by all of the following except:
   a- Chlorpromazine
   b- Labetalol
   c- Hydrochlorothiazide
   d- Ibuprofin

38- The following drug combination is valid in the treatment of moderate hypertension except:
   a- Prindopril+ Chlorthalidone.
   b- Quitapril + Amelioride.
   c- Amilodipine + atenolol
   d- Atenolol + hydrochlorothiazide.

39- Which of the following drug combinations is most likely to be used in the treatment of vasospastic angina:
   a- Deliazem + Atenolol.
b- Nifedipine + Sotalol.
c- Isosorbide mononitrate + verapamil
d- Isosorbide dinitrate + Metoprolol.

40- A **drug that increases cGMP and open potassium channels is:**

a- Nitroglycerine
b- Nicorandil
c- Hydralazine
d- Minoxidil