ANS-CVS-GIT-RS PHARMACOLOGY

REVISION QUESTIONS

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Q1

Explain the mechanism by which digoxin increases cardiac contractility

- Block Na/K exchanger.
- Increases intracellular Calcium.
- Acts on Vagus nerve to restore tone

Q2

What cardiac effect of organic nitrates is detrimental in the prophylactic treatment of exertional angina?

Irregular heart.

Q3

Name three classes of drugs that can reduce post-myocardial infarction cardiac remodeling

- Calcium Channel Blocker
- Beta Blockers.

Q4

Name two anti-hypertensive drug classes that are absolutely contraindicated in pregnancy

ACE inhibitors : fetal renal tract abnormalities.

ARBs : ↑ Renal dysgenesis

Q5

Name four anti-hypertensive drugs that can be given parenterally in the management of hypertensive crises

ACE

Ca^{+} Blocker.

Diuretic.

Q6

Name two drug classes used in the management of hypercholesterolaemia that are associated with causing myositis

Q7

Which electrolyte changes would aggravate digitalis-induced arrhythmia?

Q8

What is the drug of choice for the management of ventricular tachycardia following acute myocardial infarction?

Q9

Name four drugs that can be used to treat digoxin-induced premature ventricular contractions

Q10

Name a drug class used in the management of hyperlipidemias that can decrease the absorption of warfarin when given concurrently

Q11

What are the adverse effects of angiotensin converting enzyme inhibitors on potassium and acid-base balance?

Q12

A 48-year-old man was brought to the emergency department with an acute myocardial infarction (MI). The man regularly used sildenafil in preparation for sexual intercourse because of an erectile dysfunction. He had recently been diagnosed with exertional angina, and he had been taking an appropriate prescribed therapy.

Which class of anti-angina drugs could have caused the patient's MI?

Q13

A 45-year-old man was admitted to the coronary unit because of a myocardial infarction in the posterior wall. Two hours after admission, his heart rate started decreasing (40 bpm), and an electrocardiogram indicated sinus bradycardia.

Which drug would be appropriate for this patient?

Q14

List five major therapeutic indications for the use of systemic anti-muscarinic drugs

Q15

Explain the pharmacological basis for the use of pralidoxime in organophosphate poisoning

Q16

The relaxation of gut smooth muscle by adrenergic stimulation is dependent upon which ion channel?

Q17

Epinephrine decreases intracellular cyclic AMP levels by acting on which adrenergic receptor?

Q18

List the pharmacological effects of a non-selective beta adrenergic receptor agonist on the cardiovascular system

Q19

What is the main action or purpose of acetylcysteine in respiratory disorders?

Q20

A patient consumes an excessive dose of theophylline and develops toxicity in response to the drug.

What are the major clinical features of this overdose?

Q21

Which of the following statements is NOT TRUE about cimetidine in comparison to ranitidine?

A. Cimetidine has CNS side effects

B. Cimetidine has more anti androgenic action

C. Cimetidine has a longer duration of action

D. Cimetidine has more significant inhibition of hepatic metabolism of other drugs

Q22

Actions of metoclopramide are due to:

A. Dopamine D2 receptor antagonism and agonist activity on 5- HT4 receptors

B. Agonist activity on dopamine D2 and serotonin 5-HT4 receptors

C. Agonist activity on dopamine D2 receptors and serotonin 5-HT3 receptor antagonism

D. Agonist activity on dopamine D2 and serotonin 5-HT3 receptors

Q23

List four classes of drugs that are used in gastro esophageal reflux disease

Q24

What is the mechanism of action of guaiphenesin as an expectorant?

Q25

In a patient with Addison's disease, which class of diuretic agents would not have any diuretic effect?

Aldosteron Antagonist
Spirolene & Amiloredone.

Q26

Name two classes of diuretics that can cause acidosis

Acetazolamides : Carbonic Anhydrase.

K^+ Sparing diuretics :

All Except : Thiazide
Loop diuretics

Q27

Which diuretics are indicated in the treatment of acute comatose patient with injury in brain and cerebral edema?

Osmotic : Mannitol
Isosorbide

Q28

What is the mechanism of frusemide-induced hypokalemia and metabolic alkalosis?

* Loss of K^+ & Na^+ results to more Bicarbonate reabsorption with loss of K^+ & Na^+

@RAS

Q29

The most likely complication of prolonged use of adrenergic nasal decongestant drops is:

A. Hypertrophy of nasal mucosa

B. Naso-pharyngeal moniliasis

C. Blockage of eustachian tubes

D. Atrophic rhinitis

Q30

A terrorist drops a vial of "nerve gas" into a crowded subway at rush hour. The patients are brought to the nearest emergency centres and are given atropine.

Which effect of the nerve gas will persist after giving the atropine?

Atropine = ↓ ↓ cholinic

A. Bradycardia

B. Skeletal muscle hyper-function or paralysis

C. Bronchospasm

D. GI hypermotility, fluid and electrolyte loss from profuse diarrhoea

Q31

A 58-year-old man complained to his physician of weakness, drowsiness, dizziness, and palpitations. He was recently diagnosed with bladder obstruction due to benign prostatic hyperplasia and had been taking a drug for 2 weeks.

Which of the following drugs most likely caused the patient's symptoms?

A. Bethanechol

B. Propranolol

C. Phenylephrine

D. Tamsulosin

Q32

In which of the following would the elimination of theophylline be increased due to increased hepatic metabolism?

A. Congestive heart failure patients

B. Patients receiving erythromycin

C. Tobacco smokers

D. Patients receiving cimetidine

Q33

A 50 year old male presents with striking hypertriglyceridemia, after about 6 months of drug treatment his 'triglyceride and VLDL cholesterol' levels dropped dramatically and his 'HDL cholesterol' levels had doubled.

This phenomenon is commonly seen with:

A. Lovastatin

B. Nicotinic acid

C. Gemfibrozil

D. Ezetimibe

Q34

A 55-year-old woman who had been suffering from atrial flutter for 3 months was admitted to the hospital for cardioversion. She received an intravenous infusion of a drug for 10 minutes, and a few minutes later the heart reverted to a normal sinus rhythm.

Which of the following drugs was most likely administered?

A. Ibutilide Anti Arythmic medication for atrial fibrillat

B. Amiodarone [All Routes] Except for Torsade de Pointes

C. Lignocaine

D. Adenosine Paroxysmal Supraventricular Tachycardia.

Q35

A 57-year-old man complained of dizziness and palpitations shortly after taking a tablet of his prescribed medication. The man was recently diagnosed with variant angina for which he had started an appropriate therapy 4 days earlier.

Which of the following actions most likely caused the patient's symptoms?

A. Coronary vasodilation

B. Increased venous return to the heart

C. Decreased total peripheral resistance

D. Decreased myocardial contractility

Q36

A 58-year-old man complained to his physician of severe chest pain when he walked rapidly despite the therapy he had carefully followed for 3 weeks. The man was recently diagnosed with exertional angina and had started treatment with transdermal nitroglycerin and atenolol. The physician decided to add a drug and prescribed diltiazem.

Which of the following effects was most likely common to all the drugs the patient was taking?

A. Decreased cardiac rate
B. Decreased arterial pressure
C. Increased cardiac contractility
D. Decreased left ventricular end-diastolic volume

Q37

A 35-year-old woman in her 29th week of gestation was found to have a positive direct Coombs test during a routine prenatal visit. Two months after she became pregnant, she was diagnosed with Stage-1 hypertension and started an antihypertensive therapy.

Which of the following drugs was she most likely taking?

A. Nifedipine

B. Prazosin

C. Losartan

D. Methyldopa

Q38

A 58-year-old man recently diagnosed with exertional angina started treatment with atenolol

Which of the following cardiovascular parameters was most likely decreased in this patient?

A. End-systolic volume
B. End-diastolic volume
C. Cardiac ejection fraction
D. Venous tone

Q39

The smooth muscle structure that is relaxed by muscarinic drugs is:

A. Bladder trigone

B. Colon

C. Gastric fundus

D. Bronchi

Q40

Which of the following sympathomimetic agents is preferable for the emergency therapy of cardiogenic shock?

A. Epinephrine

B. Dobutamine

C. Isoproterenol (isoprenaline)

D. Norepinephrine

Q41

What is the drug of choice in anaphylaxis associated with bronchospasm and hypotension?

Epinephrine.

Q42

Dobutamine differs from dopamine in that:

A. It does not activate beta1 adrenergic receptors

B. It causes pronounced tachycardia

C. It does not activate dopaminergic receptors

D. It has good blood-brain-barrier penetrability

Q43

Phenylephrine instilled in the eye produces:

A. Cycloplegia but no mydriasis

B. Both mydriasis and cycloplegia

C. Neither mydriasis nor cycloplegia

D. Mydriasis but no cycloplegia

Q44

In a patient of hypertension, the dose of propranolol that normalized blood pressure reduced resting heart rate to 50/minute.

Which of the following beta adrenergic receptor blockers will be most suitable for him as an alternative so that heart rate is not markedly reduced?

A. Atenolol
B. Pindolol
C. Metoprolol
D. Bisoprolol

Q45

Aprepitant is which of the following?

A. Substance P antagonist

B. Cholinergic antagonist

C. Dopaminergic agonist

D. Serotonin 5-HT3 antagonist

Q46

For optimum rehydration, the molar concentration of glucose in ORS should be:

A. Half the molar concentration of Na+

B. One third the molar concentration of Na+

C. Equal to or somewhat higher than the molar concentration of Na+

D. Three times the molar concentration of Na+

Q47

The success of oral rehydration therapy of diarrhea depends upon the following process in the intestinal mucosa:

A. Sodium pump mediated Na+ absorption

B. Amino acid coupled Na+ absorption

C. Passive Na+ diffusion secondary to glucose absorption

D. Glucose coupled Na+ absorption

Q48

Which Vaughan-William classes of anti-arrhythmic drugs are associated with Torsades de pointes?

Class I a

Class III

Amiodaron for all Arythmias except Torsade de Pointes.

Q49

Which of the following drugs produces vasodilator actions through release of nitric oxide?

A. Nifedipine

B. Nebivolol

C. Hydralazine

D. Minoxidil

Q50

Name two anti-hypertensive drugs that produce vascular smooth muscle relaxation primarily through activation of potassium channels?

Q51

In the long term, what is the mode of anti-hypertensive actions of thiazide diuretics?

Q52

Which of these is not a benefit of beta adrenergic blocker therapy in myocardial infarction?

A. Prophylaxis against ventricular tachycardia

B. Reduction in cardiac work

C. Improvement of myocardial contractility

D. Suppression of atrial ectopic beats

Q53

Which of the following anti-hyperlipidaemic drugs has a mechanism of action that involves activation of nuclear receptors leading to alteration of the transcription of a number of genes involved in lipid metabolism in the liver?

A. Lovastatin

B. Ezetimibe

C. Nicotinic acid

D. Gemfibrozil

Q54

The doctor used edrophonium for differentiating myasthenic crisis from cholinergic crisis

He preferred it over other anticholinergic agents because of its:

A. Shorter duration of action

B. Longer duration of action

C. Direct action on muscle end plate

D. Selective inhibition of true cholinesterase

Q55

Propranolol is useful in all of the following EXCEPT:

A. Partial atrio-ventricular heart block

B. Angina

C. Familial tremor

D. Hypertension

Q56

A patient with asthma has moderate bronchospasm and wheezing about twice a week. Current medications are inhaled salbutamol (mainly for acute symptom control) and inhaled beclomethasone as a "control medication." The patient continues to have occasional and generally mild flare-ups of his asthma.

If the physician wishes to make salmeterol part of the treatment plan, how best should it be used for this patient?

A. A replacement for the salbutamol
B. A replacement for the beclomethasone
C. An add-on to current medications for additional prophylactic benefits
D. Primary (sole) therapy, replacing both salbutamol and beclomethasone

Q57

One of the most common undesirable effects of inhaled beclomethasone dipropionate is:

A. Pneumonia

B. Atrophic rhinitis

C. Hypothalamus-pituitary-adrenal axis suppression

D. Oropharyngeal candidiasis

Q58

An elderly man with chronic obstructive pulmonary disease (COPD), is managed with several drugs, one of which is inhaled ipratropium.

What is the main mechanism that accounts for the beneficial effects of this drug in the management of COPD?

A. Enhances epinephrine release from the adrenal medulla

B. Blocks receptors upon which an endogenous bronchoconstrictor mediator acts

C. Inhibits cAMP breakdown via phosphodiesterase inhibition

D. Prevents antigen-antibody reactions that lead to mast cell mediator release

Q59

Name four classes of drugs that improve long-term prognosis in congestive heart failure

Q60

The non-selective alpha adrenergic blockers produce the following actions EXCEPT:

A. Postural hypotension

B. Bradycardia

C. Miosis

D. Inhibition of ejaculation


END