



Demo Exam For ExamEval.com

Question #1

A 60-year-old patient with hypertension and type 2 diabetes is started on lisinopril. Which pharmacodynamic effect contributes most to its antihypertensive action?

- A. Increased bradykinin degradation
- B. Increased angiotensin II levels
- C. *Reduced aldosterone secretion
- D. Enhanced sympathetic tone

Question #2

Which β -blocker exhibits ISA, making it less likely to cause bradycardia at rest?

- A. Propranolol
- B. Metoprolol
- C. *Pindolol
- D. Atenolol

Question #3

Which of the following is a common adverse effect of ACE inhibitors?

- A. Cough
- B. Hyperkalemia
- C. Angioedema
- D. Dizziness
- E. *All of the above

Question #4

Which calcium channel blocker is a dihydropyridine selective for vascular smooth muscle?

- A. Verapamil
- B. Diltiazem
- C. *Amlodipine
- D. Propranolol

Question #5

A patient is prescribed clonidine for hypertension. Which receptor subtype does clonidine primarily agonize?

- A. α 1-adrenergic receptor
- B. * α 2-adrenergic receptor
- C. β 2-adrenergic receptor
- D. Imidazoline I1 receptor

Question #6

Which antihypertensive is contraindicated in pregnancy due to known teratogenicity?

- A. *Losartan
- B. Methyldopa
- C. Hydralazine
- D. Propranolol

Question #7

Which functional group in captopril is essential for chelating the zinc ion in angiotensin-converting enzyme's active site?

- A. Carboxylate
- B. *Sulfhydryl
- C. Proline ring
- D. Hydroxyl

Question #8

Which property of the tetrazole ring in angiotensin receptor blockers like losartan increases their oral bioavailability compared to a carboxylate group?

- A. Higher pKa
- B. Reduced hydrogen bonding
- C. *Increased lipophilicity
- D. None of the above

Question #9

Which structural feature of dihydropyridine calcium channel blockers, such as nifedipine, is most critical for high-affinity binding to vascular L-type calcium channels?

- A. Nitro group on the phenyl ring
- B. Ester moiety
- C. *Dihydropyridine ring
- D. Piperidine substituent

Question #10

A patient with essential hypertension often has increased peripheral resistance due to vascular remodeling. Which cellular change primarily contributes to this increase?

- A. *Vascular smooth muscle hypertrophy
- B. Endothelial hyperplasia
- C. Increased capillary density
- D. Decreased extracellular matrix deposition

Question #11

A patient with renovascular hypertension has elevated angiotensin II levels. Which of the following describes a direct vascular effect of angiotensin II?

- A. Induction of endothelial nitric oxide synthase expression
- B. Activation of G_i protein-coupled receptors on vascular smooth muscle cells
- C. Increased release of atrial natriuretic peptide from cardiac atria
- D. *A potent, short-lived constriction of resistance arterioles mediated by binding to AT₁ receptors, leading to increased intracellular calcium via IP₃/DAG signaling and activation of myosin light-chain kinase

Question #12

In primary hypertension, baroreceptors undergo resetting. What change is observed in baroreceptor function?

- A. Increased sensitivity to pressure changes
- B. *Resetting to operate at a higher baseline pressure
- C. Increased firing at normal pressures
- D. Lower threshold for activation

Question #13

Long-standing hypertension is characterized by which vascular change?

- A. *Medial hypertrophy of small arteries and arterioles
- B. Endothelial proliferation
- C. Increased capillary density
- D. Reduced wall-to-lumen ratio

Question #14

Which of the following is NOT a recommended first-line agent for uncomplicated essential hypertension?

- A. Hydrochlorothiazide
- B. Amlodipine
- C. *Propranolol
- D. Lisinopril

Question #15

A patient with both hypertension and benign prostatic hyperplasia would benefit most from which antihypertensive?

- A. *Terazosin
- B. Doxazosin
- C. Losartan
- D. Verapamil

Question #16

In a hypertensive emergency complicated by acute pulmonary edema from acute decompensated heart failure, which intravenous agent is preferred?

- A. Esmolol IV infusion
- B. *Nitroglycerin IV infusion
- C. Enalaprilat IV push
- D. Hydralazine IV push

Question #17

The cardiovascular system operates under a variety of physical, fluid, and anatomical parameters that collectively determine how much opposition blood encounters as it moves through vessels

- A. Vessel diameter
- B. Blood viscosity
- C. *Length of the vessel
- D. Cardiac output

Question #18

Which diuretic has been shown to reduce mortality in patients with heart failure and hypertension?

- A. Hydrochlorothiazide
- B. Chlorthalidone
- C. Furosemide
- D. *Spironolactone

Question #19

Which of the following dosing regimens is NOT recommended for initial monotherapy in uncomplicated primary hypertension?

- A. Lisinopril 10 mg once daily
- B. Hydrochlorothiazide 12.5 mg once daily
- C. *Metoprolol tartrate 50 mg once daily
- D. Amlodipine 15 mg once daily

Question #20

A patient with resistant hypertension on an ACEi, CCB, and HCTZ still have BP >150/95 mmHg. Which agent is recommended next?

- A. Hydralazine
- B. *Spironolactone
- C. Minoxidil
- D. Propranolol