CVS-Physiology

Archive

Lecture 1+2

Physiology of cardiac muscle 1+2

Dona By :

Bashar Ayasrah
Zaid frahat

CVS-Physiology Lecture 1+2

Which of the following statements is INCORRECT regarding the automaticity and rhythmicity of the ?heart

.A) Autorhythmicity is myogenic in origin
.B) The sinoatrial (SA) node is the dominant pacemaker of the heart
.C) The atrioventricular (AV) node can generate a nodal rhythm if the SA node fails
.D) The ability to respond to a stimulation is the defining characteristic of automaticity
.E) These properties are intrinsic to cardiac muscle cells

Answer d

Which of the following statements is INCORRECT regarding pacemaker action potentials?

.A) They exhibit a slow diastolic depolarization (pacemaker potential)
.B) They have an unstable resting membrane potential
.C) They rely primarily on calcium influx for the upstroke of the action potential
.D) The "funny current" (If) contributes to the pacemaker potential
.E) They have a stable resting membrane potential

Answer: E

Which of the following statements about the plateau phase of the cardiac action potential is TRUE?

.A) The plateau phase is caused by the Na+ influx
.B) K+ channels remain completely closed during the plateau phase
.C) The plateau phase is absent in ventricular myocytes
.D) Ca2+ inflow equals K+ outflow
.E) The plateau phase causes immediate repolarization

Answer d

Which of the following statements about fast action potential in cardiac muscle is WRONG?

.A) The resting membrane potential is around -90 mV
.B) Depolarization is due to the opening of voltage-gated Na+ channels
.C) The plateau phase is maintained by the influx of Ca++ through L-type channels
.D) Repolarization occurs due to the opening of K+ channels
.E) Depolarization is due to the opening of T-type Ca++ channels

Answer: E

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lecture 3

HEART CHAMBERS & CARDIAC VALVES

Corrected By :

anonymous

CVS-Physiology Lecture 3

1. Right Ventricle have the following except?
a. Two papillary muscles
b. The conus arteriosus (infundibulum) which leads into the pulmonary trunk
c. The septomarginal trabecula
d. The supraventricular crest
e. Form small part of the diaphragmatic surface
Answer ✅: d

2. Which is wrong regarding the right atrium?
a. Forms the right border of the heart
b. The SVC opens into it at the level of the right 5th costal cartilage
c. Have the opening of the coronary sinus
d. Have rough, muscular anterior wall
e. The oval fossa seen in interatrial septum separating the atria
Answer ✅: b

3. What can be seen in right atrium
a. Opening of coronary sinus
Answer ✅: a

4. Choose the wrong information:
A. The chordae tendineae connect the papillary muscles to the valve leaflets.
B. The pulmonary valve guards the pulmonary artery.
C. The pulmonary valve is semilunar.
D. The mitral valve has two leaflets.
E. Each atrium has an additional appendage called an auricle.
Answer ✅: A

5. Pulmonary valve
a. Located at the apex of the infundibulum of the RV into the pulmonary trunk
b. Consists of the left, right, and anterior semilunar cusps
c. The margin of each cusp is called lunula and has thickened portion called the nodule
d. Each cusp forms a pocket-like sinus a dilation in the wall of the initial portion of the pulmonary trunk
Answer ✅: جميع الخيارات صحيحة

CVS-Physiology Lecture 3

6. Left Atrium

a. Situated behind the right atrium and forms the greater part of the base or posterior surface of the heart
b. Left auricle possesses muscular ridges
c. Four pulmonary veins open through the posterior wall and have no valves
d. Left atrioventricular orifice is guarded by the mitral valve
Answer ✅: جميع الخيارات صحيحة

7. Left Ventricle

a. Forms the apex of the heart and most of the diaphragmatic surface
b. Walls two to three times as thick as right ventricle
c. Trabeculae carneae finer and more numerous than right ventricle
d. Anterior and posterior papillary muscles larger than right ventricle
e. A smooth-walled, superoanterior outflow part, the aortic vestibule, leading to aortic orifice
f. Double-leaflet mitral valve guards the left AV orifice
g. Aortic orifice lies in its right posterosuperior part
Answer ✅: جميع الخيارات صحيحة

8. Mitral valve

a. Guards the left AV orifice
b. Consists of two cusps, one anterior and one posterior
c. Anterior cusp is larger and intervenes between atrioventricular and aortic orifices
Answer ✅: جميع الخيارات صحيحة

9. Aortic valve

a. Guards the aortic orifice
b. One cusp is situated on the anterior wall (right cusp)
c. Two cusps are located on the posterior wall (left and posterior cusps)
d. Behind each cusp, the aortic wall bulges to form an aortic sinus
e. Anterior aortic sinus gives origin to the right coronary artery
f. Left posterior sinus gives origin to the left coronary artery
g. Located posterior to the left side of the sternum at level of 3rd intercostal space
Answer ✅: جميع الخيارات صحيحة

CVS-Physiology Lecture 3

10. Cardiac skeleton & AV bundle

a. Collection of dense fibrous connective tissue in the form of four rings
b. Surround AV orifices, aortic orifice, and pulmonary trunk openings
c. Separates atrial musculature from ventricular musculature
d. AV bundle passes through the anulus and is the single connection between atrial and ventricular myocardium
Answer ✅: جميع الخيارات صحيحة

11. Atrial Septal Defect (ASD)

a. Congenital anomaly of interatrial septum
b. Usually incomplete closure of foramen ovale
c. Small openings cause no hemodynamic abnormalities and are of no clinical significance
Answer ✅: جميع الخيارات صحيحة

12. Ventricular Septal Defect (VSD)

a. Membranous part is common site of VSDs
b. Defects also occur in muscular part
c. Isolated VSDs account for ~25% of congenital heart disease
d. Causes left-to-right shunt of blood
e. Large shunt increases pulmonary blood flow → pulmonary hypertension and possible cardiac failure
Answer ✅: جميع الخيارات صحيحة

13. Which of the following congenital heart defects are associated with a right-to-left shunt? (5 Ts)

a) Tetralogy of Fallot
b) Transposition of the great arteries
c) Truncus arteriosus
d) Total anomalous pulmonary venous return
e) Tricuspid atresia
Answer ✅: جميع الخيارات صحيحة

CVS-Physiology Lecture 3

15. Which of the following cardiac fibers conduct action potentials the fastest?

a) Atrial muscle fibers
b) Ventricular muscle fibers
c) Purkinje fibers
d) AV node fibers
Answer ✅: c Purkinje fibers

16. Hyperkalemia Effect :

A) +ve chronotropic
B) -ve inotropic
C) +ve inotropic ,-ve chronotropicve chronotropic
D) -ve chronotropic , + ve inotropic
E) -ve intropic ,-ve chronotropicve chronotropic
Answer: ✅ E

CVS-Physiology

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lecture 5

Heart Rate & Its Regulation

Corrected By :

Anonymuos

CVS-Physiology lecture 5

1. Which of the following inhibits Vaso motor center?

a. Mild hypercapnia WM
b. Moderate hypoxia
c. Left ventricular baroreceptors
d. Peripheral chemo receptors
e. Central chemoreceptors

Answer✅ : C

2. One liter of blood was lost. What possibly happened?

A. Increase in firing of discharge from baroreceptors
B. Chemoreceptors have no role
C. Increase in activity of the vasomotor center
D. Slight decrease in heart rate

Answer✅ : C

أي ربّ

أسألُكَ أن أُوفّق في مساعِيّ، وأن أسيرَ بحرزِك في طريقي آمنة مُطمئنّة، و أتذوّق بهجَة الوُصول والحُصول.

آمين.

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Lecture6

Normal ECG

Corrected by:

Anonymous

CVS-Physiology Lecture 6

Arterioles are:
A. Conducting vessels
B. Resistance vessels
C. Capillaries
D. Veins
Answer: B. Resistance vessels ✅

Which of the following is not true about mean arterial blood pressure (MAP)?
A. Equals systolic pressure minus diastolic pressure
B. Systolic pressure on average is 120 mmHg
C. Diastolic pressure on average is 80 mmHg
D. MAP determines the actual pressure by which substances move from capillaries into tissues
E. If a patient's BP is 83/50 mmHg, MAP would be 50 mmHg
Answer: A. Equals systolic pressure minus diastolic pressure ✅

Increase peripheral resistance:
A. Muscular exercise
B. Hyperproteinemia
C. Vasodilation
D. Dehydration
Answer: B. Hyperproteinemia ✅

Decrease peripheral resistance:
A. Hyperproteinemia
B. Muscular exercise
C. High blood viscosity
D. Hemorrhage
Answer: B. Muscular exercise ✅

Most potent vasodilator in the heart:
A. PO_2
B. PCO_2
C. ANP
D. NO
Answer: A. PO_2 ✅

CVS-Physiology Lecture 6

Most potent vasodilator in the CNS:

A. PO_2
B. PCO_2
C. ANP
D. NO

Answer: B. PCO_2 ✅

Which type of hyperemia occurs due to increased tissue activity?

A. Reactive hyperemia
B. Active hyperemia

Answer: B. Active hyperemia ✅

Which type of hyperemia occurs after temporary occlusion of blood supply?

A. Active hyperemia
B. Reactive hyperemia

Answer: B. Reactive hyperemia ✅

Sympathetic vasoconstrictor fibers arise from:

A. Cranial nerves
B. Thoraco-lumbar segments of spinal cord
C. Sacral outflow
D. Hypothalamus

Answer: B. Thoraco-lumbar segments of spinal cord ✅

Parasympathetic fibers that directly cause vasodilation supply:

A. Salivary glands
B. Coronary vessels
C. Genital organs
D. Sweat glands

Answer: C. Genital organs ✅

ADH causes:

A. Vasodilation and decreased BP
B. Vasoconstriction and increased BP
C. Only increases water retention
D. Only increases sodium excretion

Answer: B. Vasoconstriction and increased BP ✅

CVS-Physiology Lecture 6

Angiotensin II effects include all except:

A. Strong arteriolar vasoconstriction
B. Stimulates norepinephrine release from sympathetic fibers
C. Decreases aldosterone secretion
D. Stimulates thirst
Answer: C. Decreases aldosterone secretion ✅

Adrenaline effect on blood vessels in small doses:

A. Vasoconstriction in skeletal muscles
B. Vasodilation in skeletal muscles
C. No effect
D. Only increases heart rate
Answer: B. Vasodilation in skeletal muscles ✅

Nitric oxide (NO) causes:

A. Vasoconstriction
B. Vasodilation
C. Platelet aggregation
D. Increase BP
Answer: B. Vasodilation ✅

Thromboxane A_2 effect:

A. Vasodilation and decrease platelet aggregation
B. Vasoconstriction and increase platelet aggregation
C. Only vasodilation
D. Only platelet aggregation
Answer: B. Vasoconstriction and increase platelet aggregation ✅

Endothelium-derived hyperpolarizing factor (EDHF) effect:

A. Opens K^+ channels → hyperpolarization → vasodilation
B. Increases intracellular Ca^{2+} → vasoconstriction
C. Releases NO
D. Stimulates thromboxane A_2
Answer: A. Opens K^+ channels → hyperpolarization → vasodilation ✅

CVS-Physiology Lecture 6

ET-1 (Endothelin-1) effect:

A. Vasodilation via ETB receptors

B. Vasoconstriction via ETA receptors

C. Decreases intracellular Ca^{2+}

D. Inhibits smooth muscle contraction

Answer: B. Vasoconstriction via ETA receptors ✅

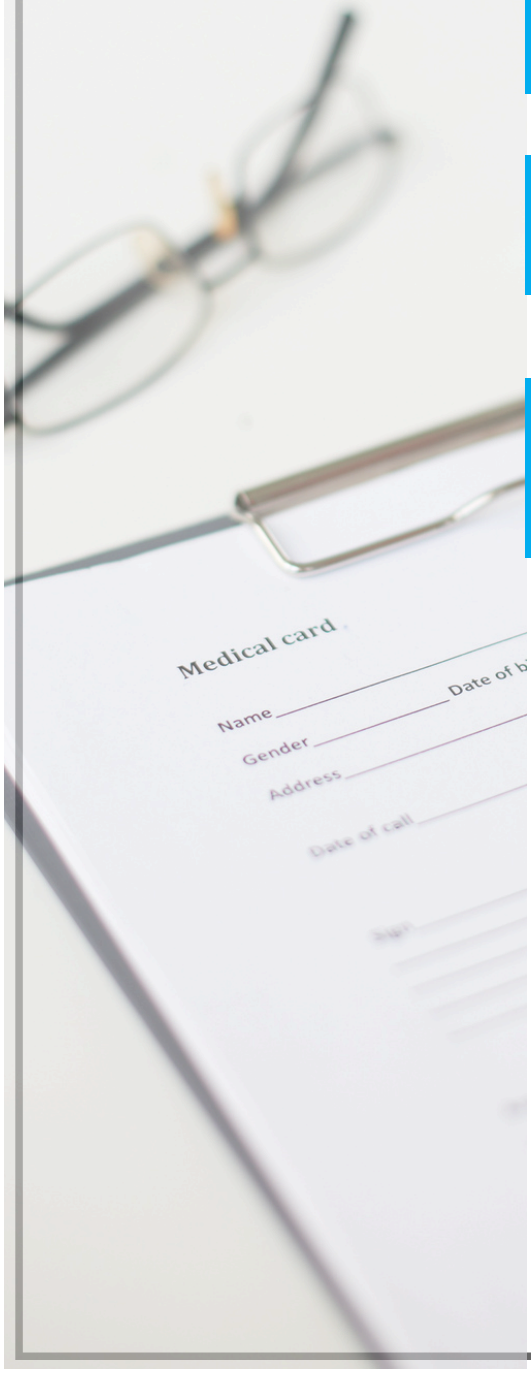
أسألك

ألا أُحرَم من توفيقك هذه المرة، فيخيب مسعاي الذى هو صِفرٌ بدونك،

أسألك

ألا أُرَدّ خائِبا يا اللّه🌷

CVS- physiology



Archive

Lecture 7

ECG Normal

Done By :

Deema Qaralleh

CVS- physiology

1) The isoelectric period on the ECG that represents the interval between atrial depolarization and the onset of ventricular depolarization is called:

A. PR interval

B. PR segment

C. ST segment

D. QT interval

Answer: B

2) What is the part of an ECG between the end of the P wave and the start of the R wave called?

A. PR Interval

B. ST Segment

C. PR Segment

D. QT Interval

Answer: C

3) Which of the following ECG findings indicates a myocardial infarction (MI) and typically does not disappear over time?

A. ST- segment elevation

B. T-wave inversion

C. Deep Q wave

D. Prolonged PR interval

E. Tachycardia

Answer: C

CVS-Physiology

Archive

Lecture 12

Regulation Of Blood Pressure

Corrected by:

CVS-Physiology Lecture 12

1- If blood pressure in the carotid artery falls, the changes that will occur:
A- Carotid baroreceptors will increase their stimulatory impulses.
B- Carotid baroreceptors will decrease their inhibitory impulses.
C- Arteriolar dilatation will occur causing a decrease in peripheral resistance.
D- Depressor center gives more inhibitory impulses to pressor.
E- Bradycardia is one result.

Answer: B- Carotid baroreceptors will decrease their inhibitory impulses.

2- One of the following is NOT an effect of renin- angiotensin system:
A- Strong arteriolar VC.
B- Stimulation of aldosterone release.
C- Stimulation of vasopressin release.
D- Stimulation of NA release.
E- Stimulation of salt and water excretion.

Answer: E- Stimulation of salt and water excretion.

3- Immediately after hemorrhage:
A. There is increase in the muscle tone of abdominal wall muscles.
B. There is increase in the central venous pressure.
C. There is conversion of tissue proteins into plasma proteins.
D. There is Increase in sympathetic discharge to the heart due to increase the firing of baroreceptors.
E. Anemic hypoxia stimulates release of erythropoietin from the kidney to stimulate erythropoiesis.

Answer: D (archive's answer, not sure though).

4- One of the following regulates the fine control of ABP:
A- Medulla oblongata.
B- Midbrain.
C- Hypothalamus.
D- Pons.
E- Cerebellum.

Answer: A- Medulla Oblongata.

CVS-Physiology Lecture 12

5- All about baroreceptors are true, EXCEPT:
A- Could be found in carotid sinus.
B- Could be found in aortic arch.
C- Normally firing at late systole.
D- Monitor arterial blood pressure.
E- Some are innervated by glossopharyngeal nerve.

Answer: C- Normally firing at late systole

6- One of the following inhibits VMC:
A- Mild hypercapnia.
B- Moderate hypoxia.
C- Left ventricular baroreceptors.
D- Peripheral chemo receptors.
E- Central chemoreceptors.

Answer: C- Left ventricular baroreceptors.

Supplementary Questions: Guyton's Book:

1- A healthy 60-year-old woman with a 10-year history of hypertension stands up from a supine position. Which set of cardiovascular changes is most likely to occur in response to standing up from a supine position?

	Sympathetic Nerve Activity	Parasympathetic Nerve Activity	Heart Rate
A)	↑	↑	↑
B)	↑	↑	↓
C)	↑	↓	↓
D)	↑	↓	↑
E)	↓	↓	↓
F)	↓	↓	↑
G)	↓	↑	↑
H)	↓	↑	↓

Answer: D) Moving from a supine to a standing position causes an acute fall in arterial pressure that is sensed by arterial baroreceptors located in the carotid bifurcation and aortic arch. Activation of the arterial baroreceptors leads to an increase in sympathetic outflow to the heart and peripheral vasculature and a decrease in parasympathetic outflow to the heart. The increase in sympathetic activity to peripheral vessels results in an increase in total peripheral resistance. The increase in sympathetic activity and decrease in parasympathetic outflow to the heart result in an increase in heart rate.

CVS-Physiology Lecture 12

2- A 60-year-old woman has experienced dizziness for the past 6 months when getting out of bed in the morning and when standing up. Her mean arterial pressure is 130/90 mm Hg while lying down and 95/60 while sitting. Which set of physiological changes would be expected in response to moving from a supine to an upright position?

	Parasympathetic Nerve Activity	Plasma Renin Activity	Sympathetic Activity
A)	↑	↑	↑
B)	↑	↓	↑
C)	↑	↓	↓
D)	↑	↑	↓
E)	↓	↓	↓
F)	↓	↑	↓
G)	↓	↑	↑
H)	↓	↓	↑

Answer: G) Moving from a supine to a standing position causes an acute fall in arterial pressure that is sensed by arterial baroreceptors located in the carotid sinuses and aortic arch. Activation of the baroreceptors results in a decrease in parasympathetic activity (or vagal tone) and an increase in sympathetic activity, which leads to an increase in plasma renin activity (or renin release).

3- A 65-year-old man with a 10-year history of essential hypertension is being treated with an angiotensin converting enzyme (ACE) inhibitor. Which set of changes would be expected to occur in response to the ACE inhibitor drug therapy?

	Plasma Renin Concentration	Total Peripheral Resistance	Renal Sodium Excretory Function
A)	↑	↑	↑
B)	↑	↑	↓
C)	↑	↓	↓
D)	↑	↓	↑
E)	↓	↓	↓
F)	↓	↓	↑
G)	↓	↑	↑
H)	↓	↑	↓

Answer: D) Angiotensin I is formed by an enzyme (renin) acting on a substrate called angiotensinogen. Angiotensin I is converted to angiotensin II by a converting enzyme.
Angiotensin II also has a negative feedback effect on juxtaglomerular cells to inhibit renin secretion. Angiotensin II is a powerful vasoconstrictor and sodium retaining hormone that increases arterial pressure. Administration of an ACE inhibitor would increase plasma renin concentration, decrease angiotensin II formation, enhance renal sodium excretory function, and decrease total peripheral resistance and arterial pressure.

CVS-Physiology Lecture 12

4- A 55-year-old man with a history of normal health visits his physician for a checkup. The physical examination reveals that his blood pressure is 170/98 mm Hg. Further tests indicate that he has renovascular hypertension as a result of stenosis in the left kidney. Which set of findings would be expected in this man with renovascular hypertension?

	Total Peripheral Resistance	Plasma Renin Activity	Plasma Aldosterone Concentration
A)	↑	↑	↑
B)	↑	↓	↑
C)	↑	↓	↓
D)	↑	↑	↓
E)	↓	↓	↓
F)	↓	↑	↓
G)	↓	↑	↑
H)	↓	↓	↑

Answer: A) Stenosis of one kidney results in the release of renin and the formation of angiotensin II from the affected kidney. Angiotensin II stimulates aldosterone production and increases total peripheral resistance by constricting most of the blood vessels in the body.

5- While participating in a cardiovascular physiology laboratory, a medical student isolates an animal's carotid artery proximal to the carotid bifurcation and partially constricts the artery with a tie around the vessel. Which set of changes would be expected to occur in response to constriction of the carotid artery?

	Heart Rate	Sympathetic Nerve Activity	Total Peripheral Resistance
A)	↑	↑	↑
B)	↑	↑	↓
C)	↑	↓	↓
D)	↑	↓	↑
E)	↓	↓	↓
F)	↓	↓	↑
G)	↓	↑	↑
H)	↓	↑	↓

Answer: A) Constriction of the carotid artery decreases blood pressure at the level of the carotid sinus. A decrease in carotid sinus pressure leads to a decrease in carotid sinus nerve impulses to the vasomotor center, which in turn leads to enhanced sympathetic nervous activity and decreased parasympathetic nerve activity. The increase in sympathetic nerve activity results in peripheral vasoconstriction and an increase in total peripheral resistance and heart rate.

CVS-Physiology Lecture 12

6- While participating in a cardiovascular physiology laboratory, a medical student isolates the carotid artery of an animal and partially constricts the artery with a tie around the vessel. Which set of changes would be expected to occur in response to constriction of the carotid artery?

	Sympathetic Nerve Activity	Renal Blood Flow	Total Peripheral Resistance
A)	↑	↑	↑
B)	↑	↓	↑
C)	↑	↓	↓
D)	↑	↑	↓
E)	↓	↓	↓
F)	↓	↑	↓
G)	↓	↑	↑
H)	↓	↓	↑

Answer: B) Constriction of the carotid artery reduces blood pressure at the carotid bifurcation where the arterial baroreceptors are located. The decrease in arterial pressure activates baroreceptors, which in turn leads to an increase in sympathetic activity and a decrease in parasympathetic activity (or vagal tone). The enhanced sympathetic activity results in constriction of peripheral blood vessels, including the kidneys. The enhanced sympathetic activity leads to an increase in total peripheral resistance and a decrease in renal blood flow. The combination of enhanced sympathetic activity and decreased vagal tone also leads to an increase in heart rate.

7- A 22-year-old man enters the hospital emergency department after severing a major artery in a motorcycle accident. It is estimated that he has lost approximately 700 milliliters of blood. His blood pressure is 90/55 mm Hg. Which set of changes would be expected in response to hemorrhage in this man?

	Heart Rate	Sympathetic Nerve Activity	Total Peripheral Resistance
A)	↑	↑	↑
B)	↑	↓	↑
C)	↑	↓	↓
D)	↑	↑	↓
E)	↓	↓	↓
F)	↓	↑	↓
G)	↓	↑	↑
H)	↓	↓	↑

Answer: A) The arterial baroreceptors are activated in response to a fall in arterial pressure. During hemorrhage, the fall in arterial pressure at the level of the baroreceptors results in enhanced sympathetic outflow from the vasomotor center and a decrease in parasympathetic nerve activity. The increase in sympathetic nerve activity leads to constriction of peripheral blood vessels, increased total peripheral resistance, and a return of blood pressure toward normal. The decrease in parasympathetic nerve activity and sympathetic outflow would result in an increase in heart rate.

CVS-Physiology Lecture 12

8- A healthy 28-year-old woman stands up from a supine position. Moving from a supine to a standing position results in a transient decrease in arterial pressure that is detected by arterial baroreceptors located in the aortic arch and carotid sinuses. Which set of cardiovascular changes is most likely to occur in response to activation of the baroreceptors?

	Mean Circulatory Filling Pressure	Strength of Cardiac Contraction	Sympathetic Nerve Activity
A)	↑	↑	↑
B)	↑	↓	↑
C)	↑	↓	↓
D)	↑	↑	↓
E)	↓	↓	↓
F)	↓	↑	↓
G)	↓	↑	↑
H)	↓	↓	↑

Answer: A) Activation of the baroreceptors leads to an increase in sympathetic activity, which in turn increases heart rate, strength of cardiac contraction, and constriction of arterioles and veins. The increase in venous constriction results in an increase in mean circulatory filling pressure, venous return, and cardiac output.

9- An ACE inhibitor is administered to a 65-year-old man with a 20-year history of hypertension. The drug lowered his arterial pressure and increased his plasma levels of renin and bradykinin. Which mechanism would best explain the decrease in arterial pressure?

A- Inhibition of angiotensin I
B- Decreased conversion of angiotensinogen to angiotensin I
C- Increased plasma levels of bradykinin
D- Increased plasma levels of renin
E- Decreased formation of angiotensin II

Answer: E) The conversion of angiotensin I to angiotensin II is catalyzed by a converting enzyme that is present in the endothelium of the lung vessels and in the kidneys. The converting enzyme also serves as a kininase that degrades bradykinin. Thus, a converting enzyme inhibitor not only decreases the formation of angiotensin II but also inhibits kininases and the breakdown of bradykinin. Angiotensin II is a vasoconstrictor and a powerful sodium-retaining hormone. The major cause for the decrease in arterial pressure in response to an ACE inhibitor is the decrease in formation of angiotensin II.

CVS-Physiology Lecture 12

10- A 25-year-old man enters the hospital emergency department after severing a major artery during a farm accident. It is estimated that the patient has lost approximately 800 milliliters of blood. His mean blood pressure is 65 mm Hg, and his heart rate is elevated as a result of activation of the chemoreceptor reflex. Which set of changes in plasma concentration would be expected to cause the greatest activation of the chemoreceptor reflex?

	Oxygen	Carbon Dioxide	Hydrogen
A)	↑	↑	↑
B)	↑	↓	↑
C)	↑	↓	↓
D)	↑	↑	↓
E)	↓	↓	↓
F)	↓	↑	↓
G)	↓	↑	↑
H)	↓	↓	↑

Answer: G) When blood pressure falls below 80 mm Hg, carotid and aortic chemoreceptors are activated to elicit a neural reflex to minimize the fall in blood pressure. The chemoreceptors are chemosensitive cells that are sensitive to oxygen lack, carbon dioxide excess, or hydrogen ion excess (or fall in pH). The signals transmitted from the chemoreceptors into the vasomotor center excite the vasomotor center to increase arterial pressure.

11- A balloon catheter is advanced from the superior vena cava into the heart and inflated to increase atrial pressure by 5 mm Hg. An increase in which of the following would be expected to occur in response to the elevated atrial pressure?
A- ANP
B- Angiotensin II
C- Aldosterone
D- Renal sympathetic nerve activity

Answer: A) Atrial natriuretic peptide is released from myocytes in the atria in response to increases in atrial pressure.

12- An increase in atrial pressure results in which of the following?
A- Decrease in plasma ANP
B- Increase in plasma angiotensin II concentration
C- Increase in plasma aldosterone concentration
D- Increase in sodium excretion

Answer: D) An increase in atrial pressure would also increase plasma levels of atrial natriuretic peptide, which in turn would decrease plasma levels of angiotensin II and aldosterone and increase sodium excretion.

CVS-Physiology Lecture 12

13- Which set of changes would be expected to occur 2 weeks after a 50% reduction in renal artery pressure?

	Plasma Renin	Plasma Aldosterone Concentration	Glomerular Filtration Rate
A)	↑	↑	↑
B)	↑	↑	↓
C)	↑	↓	↓
D)	↑	↓	↑
E)	↓	↓	↓
F)	↓	↓	↑
G)	↓	↑	↑
H)	↓	↑	↓

Answer: B) Constriction of the renal artery increases release of renin, formation of angiotensin II and aldosterone, and arterial pressure. A 50% reduction in renal artery pressure would be below the range of renal autoregulation and would result in a decrease in the glomerular filtration rate.

14- An increase in which of the following would be expected to occur in a person 2 weeks after an increase in sodium intake?
A- Angiotensin II
B- Aldosterone
C- Potassium excretion
D- ANP

Answer: D) An increase in sodium intake would result in an increase in sodium excretion to maintain sodium balance. Conversely, potassium excretion would only transiently increase after an increase in sodium intake. Angiotensin II and aldosterone would decrease in response to a chronic elevation in sodium intake, whereas plasma atrial natriuretic peptide levels would increase.

CVS-Physiology

Archive

Lecture 13

Special Circulation

Corrected by:

Anonymous

CVS-Physiology Lecture13

Coronary blood flow occurs mainly in?
a. Isometric contraction phase
b. Isometric relaxation phase
c. Maximum filling phase
d. Reduced filling phase
e. Atrial contraction phase
✅ **Answer: b. Isometric relaxation phase**

2.The cerebral blood flow (ml/minute) is?
a. 250
b. 500
c. 1200
d. 750
e. 1500
✅ **Answer: d. 750**

3.Which of the following statements about cerebral blood flow is false?
A) Decreases due to venous obstruction
B) Decreases during sleep
C) Accounts for about 15% of cardiac output
D) Increases with hypercapnia
✅ **Answer: B) Decreases during sleep**

4.All the following produce coronary Vasodilatation, except?
a. Renal ischemia
b. Adenosine
c. EDRF
d. Histamine
e. Hypoxia
✅ **Answer: a. Renal ischemia**

5.Which of the following is NOT correctly matched regarding autoregulation mechanisms?
a. Increased metabolic demand → increased resistance
b. Increased perfusion pressure → increased vascular resistance
c. Decreased oxygen → vasodilation
d. Accumulation of CO2 → vasodilation
e. High arterial pressure → vessel constriction
✅ **Answer: a. Increased metabolic demand → increased resistance**

CVS-Physiology Lecture13

6.What is the main factor affecting coronary circulation?

a. Adenosine
b. Neural regulation
c. Hypoxia
d. Perfusion pressure

✅ **Answer: c. Hypoxia**

7.Cardiac output decreases physiologically in?

a. Marked increase in HR
b. Marked decrease in HR
c. Low temperature
d. Sudden standing from lying down
e. Severe hemorrhage

✅ **Answer: d. Sudden standing from lying down**

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Lecture 14

Physiological changes of exercise

Corrected by:

Anonymous

CVS-Physiology Lecture14

1- Which of the following decreases during aerobic exercise?
A- Renal blood flow
B- Mean arterial blood pressure
C- Cerebral blood flow
D- Blood temperature
E- Heart rate
✅ **Answer: A. Renal blood flow**

2- Which of the following decreases in active muscle:
A- Temperature
B- BP
C- HR
D- Blood vessel diameter
✅ **Answer: D. Blood vessel diameter**

3- The blood flow increase in exercise in all the following except?
A- muscles
B- Heart
C- Lungs
D- Kidneys
E- None of the above
✅ **Answer: D. Kidneys**

4- All of the following are correct about what occurs during exercise, except?
A- vasoconstriction
B- vasodilation
C- constant O_2 in gut
✅ **Answer: C. constant O_2 in gut**

5- Decrease total peripheral resistance?
✅ **Answer: Muscular exercise**

6- Exercise increases which of the following?
A- Skin blood flow
B- Cerebral vascular resistance
C- Renal vascular
✅ **Answer: A. Skin blood flow**

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Lecture 15

X

Corrected by:

X

CVS-Physiology Lecture 15

1- Which of the following decreases during aerobic exercise?
A- Renal blood flow
B- Mean arterial blood pressure
C- Cerebral blood flow
D- Blood temperature
E- Heart rate

Answer: A. Renal blood flow

2- Which of the following decreases in active muscle:
A- Temperature
B- BP
C- HR
D- Blood vessel diameter

Answer: B. BP

3- The blood flow increase in exercise in all the following except?
A- muscles
B- Heart
C- Lungs
D-Kidneys
E- None of the above

Answer: D. Kidneys

4- All of the following are correct about what accursed during exercise, except?
A- vasoconstriction
B- vasodilation
C- constant 02 in gut

Answer: C. constant 02 in gut

5- Decrease total peripheral resistance?

Muscular exercise

CVS-Physiology Lecture 15

6- Excerise increses which of the following?
A- Skin blood flow
B- Cerebral vascular resistance
C- Renal vascular

Answer: A. Skin blood flow