

Mid questions of Endocrine system



ANATOMY

1- About the organogenesis of thyroid gland, choose the correct answer:

- a) Ultimobranchial bodies are incorporated by the sixth week
- b) Degeneration of the thyroglossal duct occurs by the 11th week
- c) The thyroid gland starts originating by the 4th week
- d) The thyroid not functionally mature before the 12th week
- e) The thyroid reaches its final destination by the 6th week

Answer: D

2- The highest number of cells in the islets of Langerhans is:

- A) B cells
- B) a cells
- C) δ cell
- D) PP cells
- E) a and B cells are equal in number

Answer: A



3- What is the innervation of the pineal gland (for the regulation of its diurnal secretions):

- A) pre-ganglionic nerves from the superior sympathetic ganglion
- B) post-ganglionic nerves from the middle sympathetic ganglion
- C) post-ganglionic nerves from the superior sympathetic ganglion
- D) pre-ganglionic nerves from the middle sympathetic ganglion
- E) It receives signals from the paraventricular nucleus

Answer : C

4- Regarding the histology of the adrenal gland, which of the following is correct

- A) Zona fasciculata layer has arched cords
- B) Zona reticularis has narrow sinusoids
- C) Zona glomerulosa- cells are rounded
- D) zona reticularis is the darkest (most eosinophilic) layer

Answer : D

5- Regarding the adenohypophysis, which of the following is incorrect? A) Thyrotropes are the least numerous

- B) Somatotropes tend to be more lateral
- C) Chromophils are more abundant than chromophobes
- D) Pars intermedia contains basophilic cells
- E) Has a thick capsule

Answer : E

6- Regarding the pituitary gland, which of the following is incorrect?

- A) The Colloid-filled cyst is a remnant of Rathke's pouch
- B) The posterior lobe contains thousands of neurons and their unmyelinated axons
- C) The posterior lobe contains glial cells
- D) The anterior lobe is derived from the oral ectoderm
- E) Secretory cells are supported by a delicate network of reticular fibers

Answer : B

7- the correct relationship regarding the thyroid gland :

- A) the recurrent laryngeal nerve is found medial to the lobes
- B) C2-C4. Vertebrae are posterior to its isthmus
- C) The carotid sheath is directly located posterior to the lobes
- D) The IJV lies directly anteriorly to the isthmus
- E) The inferior belly of the omohyoid muscle is an anterolateral relation of the lobes

Answer : A

8- The medulla receives innervations unlike the cortex, the cause is:

- A) medulla is a modified postganglionic neuron that has intact dendrites without axons
- B) the cortex is an endocrine tissue while the medulla isn't
- C) medulla is a modified postganglionic neurons which lack axons and dendrites

Answer : C

9- The incorrect answer about the comparison between right and left adrenal glands :

- A) The right gland is closer to the Inferior vena cava
- B) The right adrenal gland is closer to hilum than the left
- C) The left gland lies posteriorly to the stomach
- D) The left adrenal is crescentic in shape

Answer : B

10 - Which of the following is incorrect regarding organogenesis:

- A) The pineal gland is one of the latest to develop.
- B) The islets of Langerhans share the same origin as the pancreatic acini
- C) the pituitary begins to develop during the 6th week of gestation
- D) Parathyroid glands originate from 3rd and 4th pharyngeal pouches

Answer : C

11- Which of the following is correct about Corpora arenacea?

- A) It increases in size with age and leads to dysfunction of the gland
- B) It appears in children and decreases in size with age
- C) It can't be visualized by H&E stain
- D) Ca/phosphate increase with age
- E) Ca/phosphate salts that are present since birth

Answer : D

12 - Regarding the parathyroid, which of the following is incorrect?

- A) Originate from 3rd and 4th pharyngeal Pouches
- B) Inferior parathyroid glands can be found in thymus
- C) Superior parathyroids are less constant in location
- D) All of them weigh less than 0.5 g
- E) They are responsible for PTH secretion

Answer : C

13- Regarding the organogenesis of the adrenal gland:

- A) Develops in 2 steps where one layer completely convolutes
- B) The adrenal gland doesn't completely mature before puberty
- C) The cortex originates from the mesoderm while the medulla develops from the neural tube

Answer : B

14- Choose the incorrect answer regarding the histology of the parathyroid gland:

- A) Chief cells are smaller in size
- B) chief cells have an acidophilic cytoplasm
- C) oxyphils are basophilic cells and are larger than chief cells
- D) Adipocytes can be found in it . In older individuals the percentage could be greater than 50%

Answer : C

15 – Choose the incorrect answer about the thyroid gland:

- A) The anastomosis of its arteries forms one of its superior relations
- B) One of the arteries originates from ECA
- C) External laryngeal nerve is along/with to one of the arteries
- D) Thyroidea ima is always present

Answer : D

16 - Choose the incorrect answer regarding the relations of the pituitary gland:

- A) Nerves neighbor it Laterally and superiorly
- B) Sphenoid air sinuses anteriorly
- C) Basilar Artery posteriorly
- D) Lies in a bony structure the sphenoid
- E) Superiorly its completely covered by dura matter

Answer : E

17- Hypothalamus secretes hormones

_____ (fill the gap):

A) that reaches the anterior pituitary by
hypophyseal vein

B) posterior lobe stores only two hormones

Answer : B

18- Deleted question

Physiology

1) A woman came with weight gain and cold intolerance which option is the least expected to be :

- A) Low T3
- B) Low TSH levels
- C) Anti-peroxidase antibodies
- D) Anti-thyroglobulin antibodies
- E) Elevated cholesterol

ANS : B

> 2) After ingesting a protein rich meal, which hormone is less expected to be secreted:

- A) Growth hormone
- B) Thyroid hormone
- C) Epinephrine
- D) Insulin
- E) Glucagon

ANS : C

> 3) All of the following is a function of GH except : A) Decreases gluconeogenesis

- B) Increases insulin secretion
- C) Promotes osteoblast activation

ANS : A

> 4) The least likely to cause short stature out of the following : A) Decreased GH receptors

- B) Decreased IGF-1 production
- C) Decreased thyroid hormone
- D) Pituitary adenoma

ANS : D

5) which of the following is incorrect regarding insulin effects on the body:

- A) Increases AAs in plasma by promoting their transport across cell membranes
- B) Increases glucose uptake in cells by up-regulating GLUT4 on cell membranes
- C) Insulin has synergistic relation with GH to promote growth

ANS : A

6) Which of the following explains decreased pituitary secretion (for exception to prolactin) if the pituitary is isolated :

- A) Necrosis of the gland
- B) Prolactin release is stimulated by dopamine regardless of location
- C) Inhibiting hormones of hypothalamus exert more effect on the pituitary
- D) Releasing hormones exert more effect on the pituitary than inhibitory except for prolactin

ANS : D

➤ 7) Which of the following explains the relatively little decrease in plasma calcium in patients with rickets, while a huge decrease in phosphate amounts:

- A) Vit D toxicity
- B) Increased PTH levels
- C) Increased calcitonin

ANS : B

➤ 8) In chronic conditions, GH mostly associated with: A) Intracellular protein depletion

- B) Calorie intake
- C) Glucose utilization
- D) Glucose insufficiency

ANS : A

- 9) Which of the following is an INCORRECT match between Cushing's syndrome symptom and the underlying pathophysiology:
- A) Hyperglycemia – cortisol promotes fat consumption.
 - B) purple lines on skin – increased protein catabolism.
 - C) Immunosuppression – protein degradation in lymphoid tissues.
 - D) Thin and weak skeletal muscles – Amino acids are directed towards the site of injury.
 - E) Hypotension in 80% of patients – cortisol has little mineralocorticoids effect

ANS : E

- 10) Which of the following is incorrect about thyroid hormone :
- A) T3 is four times more potent than T4
 - B) T3 stays longer in the plasma
 - C) Both have intracellular receptors

ANS : B

- 11) The incorrect statement regarding to thyroid hormone:
- A) The organification process means iodination of thyroglobulin
 - B) MIT and DIT usually get recycled
 - C) Oxidation is done by peroxidase
 - D) Coupling of two DIT making T4 which is immediately released in the blood
 - E) Iodine intake into cells is done by NIS (sodium iodide symporter)

ANS : D

- 12) When are the cortisol levels the highest:
- A) One hour after waking-up
 - B) At sleep
 - C) Late evening hours

ANS : A

13) The incorrect combination of the following:

- A) Hypothyroidism -- deiodinase deficiency
- B) Diabetes insipidus – increased ADH levels
- C) Type 1 diabetes – insulin insufficiency
- D) Type 2 diabetes – insulin resistance
- E) Laron dwarfs – GH receptor dysfunction

ANS : B

➤ 14) The major stimulator of aldosterone secretion is: A) Increased angiotensin 2 levels

- B) Increased sodium concentration in plasma
- C) Hypokalemia
- D) ACTH

ANS : A

➤ 15) What is the relation between TH and catecholamines for their effect on heart rate:

- A) Synergism
- B) Permissive
- C) No effect
- D) Antagonistic
- E) Competition

ANS :B

➤ 16) Which of the following is incorrect regarding hormones: A) Lipid soluble hormones are transported via plasma proteins

- B) Lipid soluble hormones exert their function mainly via changing gene expression
- C) Vit D is an example on lipid-soluble hormone
- D) Water soluble hormones never alter gene expression
- E) Water soluble hormones have their receptors on plasma membranes

ANS : D

17) If a newborn has cretinism is treated within a few weeks of getting born , which one of these complication can't be treated :

- A) Mental growth
- B) Skeletal growth
- C) None of the symptoms of cretinism are irreversible

ANS : Deleted question

➤ 18) An example for positive feedback system: A) Oxytocin
B) Prolactin

ANS : A

➤ 19) The incorrect statement is:

- A) 2/3 of glucose intake, is converted to glycogen in liver immediately after meal
- B) Glucagon is more potent in cases of starvation and after excessive consumption of glucose than other conditions
- C) GH, cortisol, insulin and thyroid hormones utilize fat as a source of energy
- D) In cases of hypoglycemia, adrenal glands secrete epinephrine

ANS : C

➤ 20) The main stimulator for the release of vasopressin: A) Increased plasma osmolarity
B) Hypotension
C) Increased urine osmolarity
D) Excited arterial stretch receptor
E) relaxed smooth muscles of blood vessels

ANS : A

21) Which of the following is incorrect about calcium homeostasis:

- A) Hypercalcemia causes decreased muscle excitability, hypocalcemia causes tetany
- B) PTH promotes calcium/phosphate absorption from intestines by producing 1,25-hydroxycholecalciferol
- C) Calcium in most of the body is found in the ionized form

ANS : C

➤ 22) The purpose of hypothalamic-hypophyseal portal system is to:

- A) The hypothalamic hormones bypass systemic/general circulation
- B) The hypothalamic hormone reaches the pituitary with high concentrations
- C) Private route for the hypothalamic hormones
- D) Obligate all of the blood of the pituitary gland to pass first through the hypothalamus
- E) All of the above

ANS : E