

QUESTIONS

1.13 Endocrine System

496. Hormones:
- (a) are secreted through ducts into the blood
 - (b) exert their influence on specific target organs or tissues
 - (c) may be stimulated or inhibited by neural mechanisms
 - (d) may be secreted by certain nerves
 - (e) can be transported in the lymph
497. Cells that synthesize steroid hormones typically have:
- (a) an abundance of lipid droplets
 - (b) well-developed, rough endoplasmic reticulum
 - (c) well-developed, smooth endoplasmic reticulum
 - (d) mitochondria with tubular cristae
 - (e) mitochondria with flat cristae
498. The so-called APUD series of hormones are:
- (a) polypeptides
 - (b) steroids
 - (c) produced by cells that are very rich in rough endoplasmic reticulum
 - (d) produced by cells that are rich in smooth endoplasmic reticulum
 - (e) produced by cells that have a large number of small (100-200 nm diameter), membrane-bound, cytoplasmic storage granules
499. Which of the following hormones are produced by APUD cells?
- (a) adrenocorticotrophic hormones (ACTH)
 - (b) melanocyte stimulating hormone (MSH)
 - (c) parathyroid hormone
 - (d) insulin
 - (e) glucagons
500. Vasopressin and oxytocin originate in the:
- (a) adenohypophysis
 - (b) neurohypophysis
 - (c) hypothalamus
 - (d) adrenal medulla
 - (e) ganglia of the autonomic nervous system.
501. Vasopressin and oxytocin are:
- (a) small peptides
 - (b) secreted by neurons
 - (c) secreted by pituicytes
 - (d) stored in the adenohypophysis
 - (e) present in the hypothalamus

502. The portal system of the hypophysis:
- (a) is arterial
 - (b) transports releasing factors to secretory cells of the part distalis (adenohypophysis)
 - (c) originates in the lower hypophyseal arteries
 - (d) forms a capillary bed in the median eminence
 - (e) drains into sinusoidal capillaries in the pars distalis.
503. The pars nervosa of the hypophysis:
- (a) develops from endoderm
 - (b) is in vascular contact with the vascular contact with the hypothalamus by means of a portal system
 - (c) contains pituicytes
 - (d) contains Herring bodies
 - (e) contains perikarya of neurons.
504. After staining with hematoxyline and eosin which of the following cell types are identifiable in the adenohypophysis (pars distalis)?
- (a) acidophils
 - (b) basophils
 - (c) chromophobes
 - (d) metachromatic cells
 - (e) melanocytes.
505. The adenohypophysis (pars distalis):
- (a) originates from neuroectoderm
 - (b) develops from an invagination of the roof of the mouth
 - (c) contains sinusoidal capillaries
 - (d) secretes at least six distinct sorts of hormones
 - (e) contains pituicytes
506. The thyroid gland:
- (a) stores thyroglobulin in extracellular loci
 - (b) secretes hormones that help control basal metabolic rate
 - (c) can synthesis thyroxine in the absence of iodide
 - (d) functions under the influence of an hypophyseal hormone
 - (e) becomes enlarged following treatment with chemicals that inhibit thyroxine production (goitrogens).
507. The thyroid gland:
- (a) originates from embryonic endoderm
 - (b) stores its main hormones within the secretory cells
 - (c) needs iodide for the formation of thyroid hormones
 - (d) is not essential to life
 - (e) contains PAS-positive material.

508. The thyroid gland secretes into the blood:
- (a) thyroglobulin
 - (b) thyroxine (T_4)
 - (c) tri-iodothyronine (T_3)
 - (d) calcitonin
 - (e) trypsin
509. The colloid in thyroid follicles:
- (a) may be basophilic
 - (b) stains PAS-positive
 - (c) contains thyroglobulin
 - (d) contains glycoproteins
 - (e) contains calcitonin
510. Thyroid follicular cells appear squamous:
- (a) when hypoactive
 - (b) after hypophysectomy
 - (c) when hyperactive
 - (d) after treatment with large amounts of thyroxine
 - (e) after treatment with antithyroid drugs (goitrogens).
511. The C cells ('parafollicular cells') of the thyroid gland:
- (a) are in direct contact with the lumina of follicles
 - (b) are stained well by silver impregnation techniques
 - (c) secrete a hormone that reduces the level of calcium in body fluids
 - (d) develop from the ultimobranchial bodies in the embryo
 - (e) can be included in the APUD series of hormones
512. The parathyroid glands are:
- (a) essential to life
 - (b) encapsulated
 - (c) pharyngeal derivatives
 - (d) usually found embedded within thyroid glands
 - (e) typically four in total.
513. Parathyroid glands secrete a hormone that:
- (a) response to hypophyseal tropic hormone secretion
 - (b) raises the level of calcium in body fluids
 - (c) lowers the level of calcium in body fluids
 - (d) facilitates the intestinal absorption of calcium
 - (e) increase bone resorption.

514. Normal parathyroid glands of adults possess:
- (a) principal or chief cells
 - (b) basophilic cells
 - (c) oxyphilic cells
 - (d) calcitonin-secreting cells
 - (e) fat cells.
515. Oxyphil cells of parathyroid glands:
- (a) are strongly acidophilic
 - (b) are present in fetuses
 - (c) have large accumulations of mitochondria
 - (d) have large accumulations of secretory granules
 - (e) are the main source of parathyroid hormones
516. Parathyroid hormone is:
- (a) a steroid
 - (b) an iodinated molecule
 - (c) a large polypeptide (more than 80 amino acids)
 - (d) a small polypeptide
 - (e) one of the APUD series of hormones
517. Which of the following hormones are produced by the islets of Langerhans?
- (a) insulin
 - (b) glucagons
 - (c) cholecystokinin
 - (d) secretin
 - (e) pancreozymin
518. Alpha (A) cells of the islets of Langerhans:
- (a) secrete insulin
 - (b) secrete glucagon
 - (c) are situated predominantly towards the periphery of the islets
 - (d) have alcohol-resistant granules
 - (e) have water-soluble granules
519. The beta (B) cells of the islets of Langerhans:
- (a) secrete glucagons
 - (b) secrete insulin
 - (c) are the most abundant cell type in the islets
 - (d) are mainly peripheral
 - (e) contain crystalloids within their secretory granules

520. The adrenal cortex secretes:
- (a) mineralocorticoids
 - (b) catecholamines
 - (c) glucagons
 - (d) glucorticoids
 - (e) ACTH
521. The cells of the adrenal cortex are:
- (a) of neural origin
 - (b) rich in rough endoplasmic reticulum
 - (c) of mesodermal origin
 - (d) producers of steroid hormones
 - (e) rich in mitochondria with tubular cristae
522. The zona fasciculate of the adrenal cortex receives:
- (a) arterial blood only
 - (b) venous blood only
 - (c) both arterial and venous blood
 - (d) blood in sinusoids
 - (e) blood from a renal portal system
523. Cortisol is:
- (a) a steroid
 - (b) a glucocorticoid
 - (c) a mineralocorticoid
 - (d) secreted in response to ACTH
 - (e) secreted by cells of the zona fasciculate
524. Mineralocorticoids are:
- (a) steroid hormones
 - (b) secreted by cells of the zona fasciculate
 - (c) secreted in response to ACTH
 - (d) secreted in response to angiotensin II
 - (e) involved in the homeostasis of sodium in body fluid
525. The fetal or provisional cortex:
- (a) is larger at birth than the permanent cortex
 - (b) involutes after birth
 - (c) is found between the adrenal cortex and medulla
 - (d) is believed to produce precursors of biologically active androgens
 - (e) is influenced by chorionic gonadotropin

526. The adrenal medulla contains:
- (a) irregular epithelioid cells
 - (b) chromaffin cells
 - (c) catecholamine-producing cells
 - (d) sympathetic ganglion cells
 - (e) androgen-secreting cells
527. The cells of the adrenal medulla:
- (a) are neuroectodermal derivatives
 - (b) secrete epinephrine
 - (c) secrete nor-epinephrine
 - (d) secrete steroid hormones
 - (e) are innervated by preganglionic sympathetic fibers
528. The so-called chromaffin reaction:
- (a) stains cells of the adrenal cortex
 - (b) stains cells of the adrenal medulla
 - (c) stains cells that contain catecholamines
 - (d) involves the use of chromium salts or chromic acid in the fixative solution
 - (e) results in the formation of brown granules within cells
529. The pineal body (pineal gland):
- (a) is covered by pia mater
 - (b) is surrounded by cerebrospinal fluid
 - (c) often becomes calcified in old age
 - (d) has abundant neuroglia
 - (e) secretes factors that are believed to influence gonadal function