ENDOCRINE SYSTEM

EXAM - wareed batch

إعداد :

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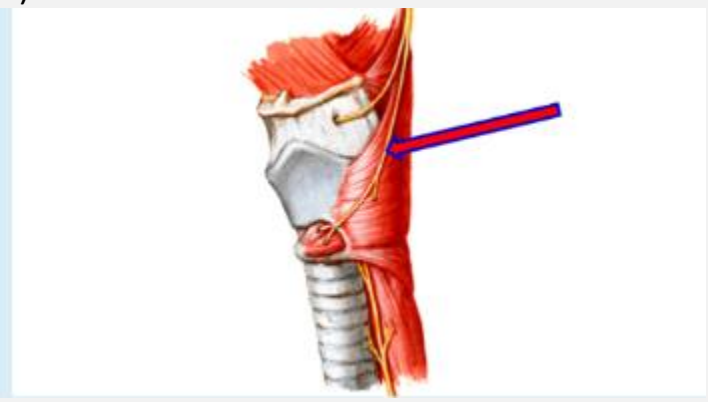
1) Which of the following can be formed by hydroxylation of phenylalanine?

a. Serine
b. Tyrosine
c. Tryptophan
d. Leucine
e. Glycine

2) A 27 year old anxious patient presented with amenorrhea and galactorrhea. She was prescribed an oral medication that restored her menstruation, and stopped the galactorrhea. Which of the following is incorrect?

a. The patient might have had a pituitary microprolactinoma.
b. Pituitary surgery has higher cure rate than drug treatment of microprolactinomas.
c. The patient was probably prescribed cabergoline.
d. The DA2 receptor blocker haloperidol might worsen her hyperprolactinemia.
e. Her infertility is due probably to decreased gonadotrophins effect on ovary.

3) What is the labeled structure ?



a. Superior laryngeal nerve
b. inferior laryngeal nerve
c. External laryngeal nerve
d. Recurrent laryngeal nerve
e. Internal laryngeal nerve

4) Corticostreoids are contraindicated in all following conditions EXCEPT?
a. Peptic ulcer
b. Hypertension
c. Allergic rhinitis
d. Heart failure
e. Patients with history of diabetes

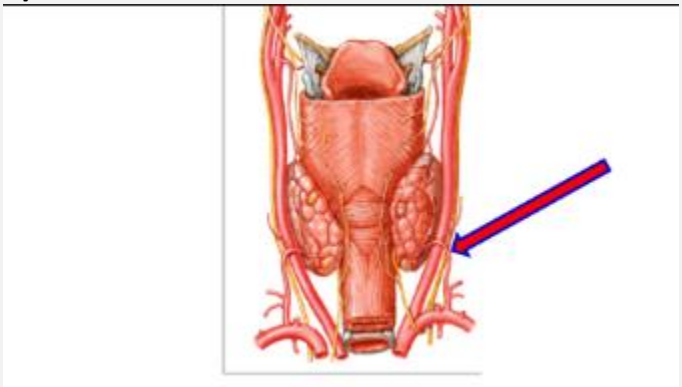
5) All the following are TRUE about diabetes, EXCEPT?
a. Nearly 3% of global blindness can be attributed to diabetic retinopathy
b. It is an old disease known as early as the 5th century AD
c. We use (unclassified diabetes) category temporarily when there is not a clear diagnostic category
d. T1 DM onset occur in childhood only
e. Diabetes mellitus in pregnancy is defined by the same criteria as in non-pregnant persons

6) It is known that amino acids may be glucogenic, ketogenic or mixed. Which of the following amino acids is not converted to acetyl co A upon metabolism?
a. Tyrosine
b. Leucine
c. Tryptophan
d. Lysine
e. Valine

7) Which of the following are symptoms of Addison's disease?
a. hyperglycemia
b. Moon face
c. Striae
d. Hyperpigmentation
e. Weight gain and Fatigue

8) The rate limiting step in de novo fatty acid synthesis is catalyzed by which of the following enzymes?
a. Ketoacyl synthase
b. Acetyl co A carboxylase

9) What is the labeled structure?



a. subaavran artery
b. Superior thyroid artery
c. Thyrocervical trunk
d. Inferior thyroid artery
e. External carotid artery

10) A patient has been advised to take a medication containing acetyl salicylic acid to reduce the risk of ischemic heart disease. The objective of using this treatment is which of the following?

a. To inhibit prostacyclin isomerase activity
b. To reduce 15-lipooxygenase activity
c. To inhibit thromboxane synthase activity
d. To increase 5-liopoxygenase activity
e. To increase lipoxin synthase activity

11) All of the following statements are true about this condition except?

a. This disease is caused by anti-TPO autoantibodies.
b. It is associated with HLA-DR.
c. It is caused due to anti-thyrotropin antibodies.
d. Most commonly affects middle aged women.
e. It is a common cause of hyperthyroidism.

12) What is true regarding the thyroid hormones?

a. T3 is more abundant than T4
b. They decrease the BMR
c. They decrease the GIT motility
d. T3 is more active than t4
e. iodide intake stimulates T3 and T4 synthesis in endemic goiter

13)
14)
15)

16) The chemical formula of urea is NHZ CO NH2. the source of the two nitrogen of urea are derived from?

a. Pyruvate and ammonia
b. Glutamate and ammonia
c. Argininosuccinate and ammonia
d. Alanine and ammonia
e. Aspartate and ammonia

17) During fetal development. abnormally low levels of the thyroid hormones result in a condition known As?

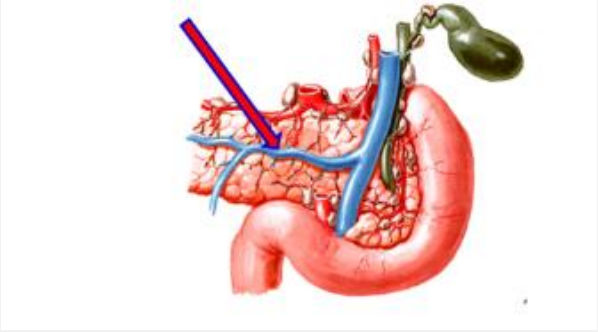
a. Gorter
b. Cretinism
c. Hashimoto's disease
d. Graves' disease
e. Myxedema

18) Aqueous vasopressin: Which statement is false?
a. is useful in treatment of cranial diabetes insipidus complicating head injury.
b. may cause hyponatremia in overdose.
c. is less bioavailable by nasal spray than by subcutaneous injection.

19) Criteria for the Diagnosis of Diabetes according to American Diabetes Association Standards of Medical Care in Diabetes, include the following, EXCEPT?
a. Fasting plasma glucose (FPG), ?126 mg/dL (7.0 mmol/L)
b. 2-h plasma glucose ?20() mg/Dl (11.1 mmol/L) during an OGTT
c. HbA1 c more or equal 6.5%
d. Classic diabetes symptoms + random plasma glucose ?200 mg/dL (11.1 mmol/L)
e. HbA1c more or equal 6.5% + Ketoacidosis (DKA)

20) A 42-year-old woman presents with fatigue, weight gain, cold intolerance, low T3 and T4 levels and an elevation in TSl-l. All of the following are potential causes of these findings except?
a. Chronic lymphocytic thyroiditis.
b. Total thyroidectomy.
c. Iodine deficiency.
d. Pituitary adenoma.
e. Hashimoto thyroiditis.

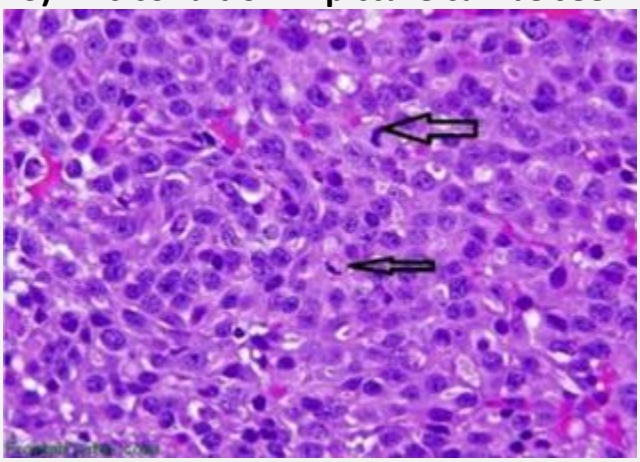
21) What is the labeled structure?



a. Splenic vein
b. inferior mesenteric vein
c. Portal vein
d. Neck of pancreas
e. Superior mesenteric vein

22) Corticosteroids can be used in all following conditions EXCEPT?
a. Autoimmune diseases
b. Bronchial asthma
c. Osteoporosis
d. Diagnosis of Cushing‘s syndrome
e. Addison's disease

23) This condition in picture can be seen in all of the following, except?



a. Prolactinoma.
b. Growth hormone adenoma.
c. Dyshormogenic goiter.
d. Classic papillary carcinoma.
e. Follicular adenoma.

24) All following are adverse effetcs of corticosteroids EXCEPT?
a. Hypoglycemia
b. Hypertension
c. Osteoporosis
d. Decreased growth in children
e. Cataract

25) Selective destrucdon of the zona glomerulosa of the adrenal cortex would produce a deficiency of which hormone?
a. aldosterone
b. androstenedione
c. cortisol
d. dehydroepiandrosterone
e. erythropoietin

26) NADPH is important hydrogen donor for reduction reactions, it is synthesized by the action of which of the following enzymes?
a. Glucose 6 P dehydrogenase
b. Pyruvate dehydrogenase
c. Acetyl co A carboxylase
d. Lipoprotein lipase
e. Glycerol kinase

27) Reducing equivalents oxidation rate utilizing the shuttle systems through the entrance of protons to complex I of ETC will?
a. Be decreased in active and inactive muscle.
b. Increase when cyanide is used to prevent electron transfer through ETC.
c. Be very high if the ATP synthase is inhibited, but increase when an uncoupler is added.
d. Increase if mitochondrial ADP is depleted and AMP is increased
e. Be interrelated to an enzymatic and transporter exchanger activity.

28) All following are oral hypoglycemic drugs EXCEPT?
a. Sulfonylureas
b. Meglitinides
c. Biguanides
d. Hydrochlorothiazide
e. Thiazolidinediones

29) Concerning calcium metabolism?
a. the net effect of parathyroid hormone is to increase serum calcium
b. Vitamin D increases renal excretion of both calcium and phosphate
c. Calcitonin is secreted by parathyroid chief cells
d. Insulin decreases bone formation
e. parathyroid hormones decrease calcium excretion in urine

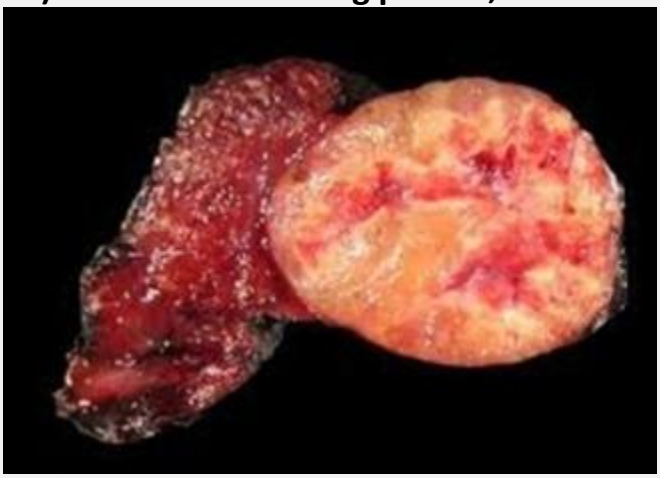
30) Choose correct statement about action of increased thyroid hormone production?
a. T3 sensitizes the myocardium to the effects of catecholamines
b. T3 and T4 cause hyperprolactinemia
c. Weight gain is related with thyroid overproduction

31) What is the most common primary malignant thyroid neoplasm in countries with adequate dietary iodine intake?
a. Follicular adenoma.
b. Follicular carcinoma
c. Medullary thyroid carcinoma.
d. Anaplastic carcinoma.
e. papillary thyroid carcinoma.

32) A 40 years old woman complains of decreased energy, weight gain and cold intolerance. She is seen by her family physician who diagnosed her as a case of hypothyroidism. Which of the following is the precursor of thyroid hormone?
a. DOPA
b. Glutamine
c. Tyrosine
d. Tryptophan
e. Threonine

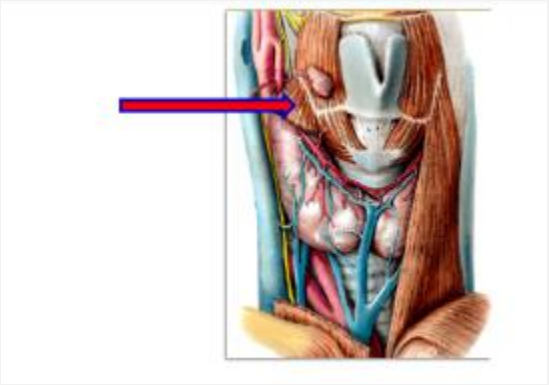
33) Carbimazole: Which of the following is false?
a. enhances uptake of radioiodine by the thyroid gland .
b. inhibits thyroperoxidase reaction more effectively than high intracellular iodide.
c. has a longer plasma half-life than propylthiouracil.
d. is converted to its active metabolite methimazole by liver.
e. is less preferred than propylthiouracil to control hyperthyroidism during pregnancy

34) About the following picture, all of the following are true, except?



a. Solitary nodules. in general, are more likely to be neoplastic than are multiple nodules.
b. Nodules in males are more likely to be neoplastic than are those in females.
c. Nodules that take up radioactive iodine in imaging studies are less likely to be benign than malignant.
d. Nodules in younger patients are more likely to be neoplastic than are those in older patients.
e. About 10% of cold nodules prove to be malignant.

35) What is the labeled structure?

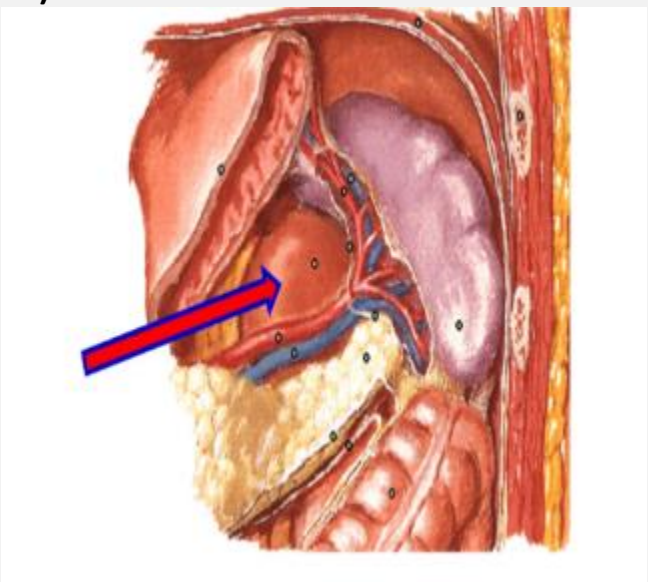


a. Omohyoid muscle
b. Sternothyroid muscle
c. Thyrohyoid muscle
d. Sternohyoid muscle
e. Sternomastoid muscle

36) Fructose-2,6-bisphosphate?

a. Inhibits phosphofructokinase-1and phosphofructokinase-Z
b. Activates fructose 1, 6 biphosphatase and inhibits phosphofructokinasel
c. Inhibits fructose 1, 6 biphosphatase and inhibits phosphofructokinased
d. Activates hexokinase and fructose 2, 6 biphosphatase
e. Inhibits fructose 1, 6 biphosphatase and activates phosphofructokinase-i

37) What is the labeled structure?



a. Stomach
b. Left kidney
c. Spleen
d. Pancreas
e. Right kidney

38) A 5 years old boy presents with altered mental status. heart failure and muscle weakness. He is diagnosed as primary carnitine deficiency. In which of the following is carnitine directly involved?

a. Beta- oxidation
b. Transport of fatty acyl co A
c. Activation of fatty acids
d. Omega- oxidation
e. Alpha- oxidation

39) All of the following nuclear changes are typically seen in papillary thyroid carcinoma except?

a. Grooves.
b. Pseudo inclusions.
c. Nuclear enlargement.
d. Fine chromatin.
e. Papillary architecture.

40) Clinical manifestations of adrenocortical insufficiency do not appear until 90% of the cortex has been compromised. One of the following is NOT among the clinical of manifestation of Secondary (Pituitary related) adrenocortical insufficiency?

a. Progressive weakness.
b. Gastrointestinal disturbances (nausea and vomiting).
c. Hyperkalemia and Hyperpigmentation.
d. Hypoglycemia.
e. Anorexia.

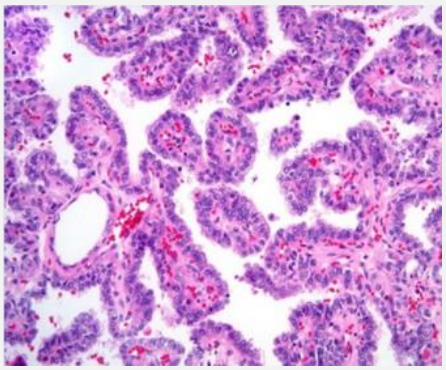
41) What is the main cause of Cushing disease?

a. Hypersecretion of GH
b. Tuberculosis
c. Adrenocortical carcinoma
d. Autoimmune adrenalitis
e. Hypersecretion of catecholamines

42) The following can reduce secretion of respective hormone or substance except?

a. Octreotide: Somatotropin from acidophil tumour of pituitary.
b. Leuprolide SC injection daily: LH and FSH from anterior pituitary.
c. Sermorelin: ACTH from from pituitary basophil microadenoma.
d. Large dose of sodium iodide: Thyroxine.
e. Ganirelix: LH from anterior pituitary.

43) Which of the following histologic findings is a feature of classic type of papillary thyroid carcinoma ?



a. Composed entirely of follicles.
b. Nuclei of the lesional cells are small and round without nuclear membrane irregularity.
c. Contains well-formed papillae with fibrovascular core.
d. Lesional cells have a cell height at least 2 - 3 times of the cell width.
e. Amyloid deposits is seen which is positive for congo red stain.

44) A diagnosis of pituitary carcinoma requires which one of the following findings?
a. Marked nuclear pleomorphism.
b. Discontinuous subarachnoid space deposits.
c. More than one mitotic figure per 10 HPF.
d. Tumor necrosis.
e. High NC ratio.

45) A 32-year-old woman presents with amenorrhea and bilateral white breast discharge. No breast lesions are palpated and pregnancy test is negative. What is the most likely finding on an MRI scan of the brain?
a. An empty sella turcica.
b. Glioblastoma.
c. Pituitary macro adenoma.
d. Pituitary micro adenoma.
e. Pituitary carcinoma.

46) What do you call the material deposited on the islets of Langerhans?
a. Dystrophic calcification.
b. Amyloid.
c. Atherosclerosis.
d. Hyaline.
e. Microrganisms.

47) Large doses of iodide in hyperthyroidism decreases the following except?
a. the srze and vascularrty of toxrc gorter.
b. thyroid hormone release for about 2 weeks.
c. peripheral conversion of thyroxine into 13 in case of sodium ipodate.
d. uptake of radioiodine by the thyroid gland.
e. intrafollicular storage of iodotyrosines in thyroid gland.

48) Barbiturates, nigericin, and calcium are interfering with energy production through ETC. Which of the following statements correctly describes the mode of action of the three?

a. Barbiturates and calcium inhibit the ETC, and nigericin inhibits ATP synthesis
b. Calcium inhibits the ETC, whereas nigericin and barbiturate inhibit ATP synthesis
c. All of them compete with 02 for cytochrome oxidase.
d. Nigericin and barbiturates inhibit ATP synthesis; while, calcium blocks the ETC.
e. Barbiturates partially inhibit ETC, but calcium with nigericin prevents ATP synthesis.

49) One of the following causes for Hypercortisolism (Cushing Syndrome) is ACTH dependent?

a. Iatrogenic hypercortisolism
b. Cushing disease.
c. Adrenocortical hyperplasia.
d. Adrenocortical carcinoma.
e. Adrenocortical adenoma.

50) How does antidiuretic hormone affect water absorption in the kidney?

a. Antidiuretic hormone causes the kidney to produce large volume of urine.
b. Antidiuretic hormone causes the kidney to release more urea into the urine, causing increased urine production.
c. Antidiuretic hormone causes the kidney to increase water absorption into the blood by causing the nephrons to express more aquaporins.
d. Antidiuretic hormone causes the kidney to increase water absorption into the blood by causing the nephrons to express less aquaporins.
e. All choices are correct

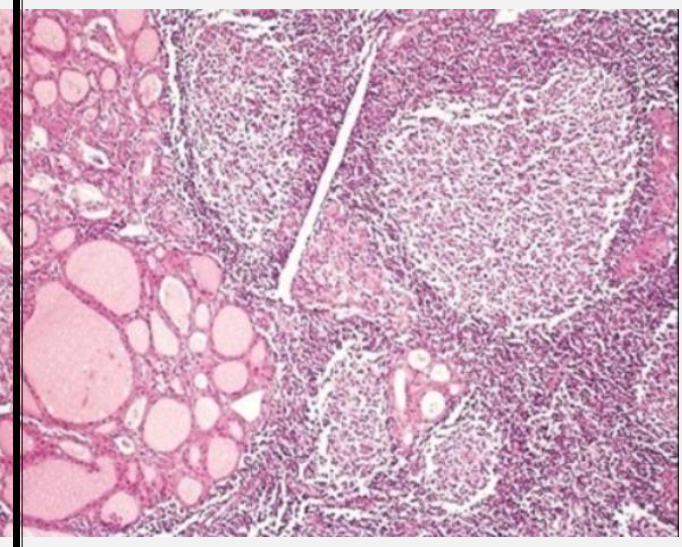
Question 1：Regarding parathyroid gland, the action of parathormone is mediated through activation of the following enzyme?

a. Adenyl cyclase.
b. Phosphodiesterase.
c. Iodinase.
d. Reductase.
e. Cholinesterase.

Question 2: In the following tissues, which of the following enzymes best matches the type of steroid hormone produced?

a. Zona fasciculata has 11-beta-hydroxylase to synthesize cortisol.
b. Zona glomerulosa has 16-hydroxylase to synthesize aldosterone.
c. Zona reticularis has 18-hydroxylase to synthesize cortisol.
d. Ovarian theca cell has active cytochrome P450 aromatase to synthesize estradiol.
e. Leydig cell of testis lack 17 beta-hydroxysteroid dehydrogenase to release androstenedione as end-product.

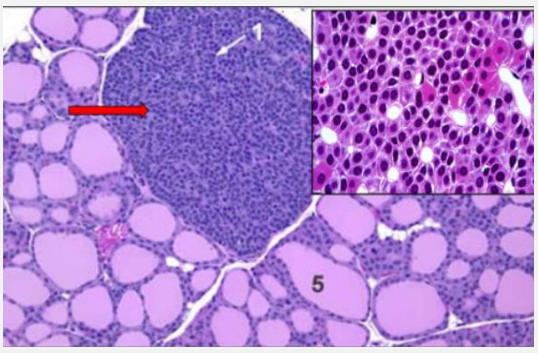
Question 3：A 41 -year-old woman has hypothyroidism. A biopsy of her thyroid gland is shown, all of the following statements are true regarding this process except.



a. Associated with antithyroglobulin antibodies.
b. More common in men than women.
c. Hurthle cell metaplasia of follicular epithelium is characteristic.
d. Patient with this disorder has an increased risk of other autoimmune diseases.
e. The disease is a risk factor for development of papillary thyroid cancer.

Question 4

The most numerous cell type in the pointed structure is?

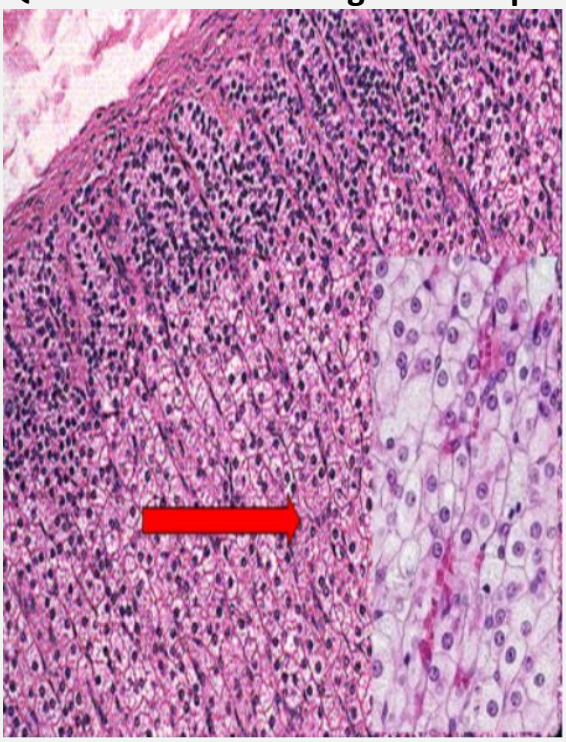


Select one:
a. Parafollicular cells.
b. Oxyphil cell.
c. Follicular cell.
d. Chief cell.
e. Oxyntic cell.

Question 5: Which anterior pituitary hormone plays a major role in the regulation of a non-endocrine target gland?

a. ACTH
b. TSH
c. Prolactin
d. FSH
e. LH

Question 6: Concerning the cells present in the pointed zone the False statement is?

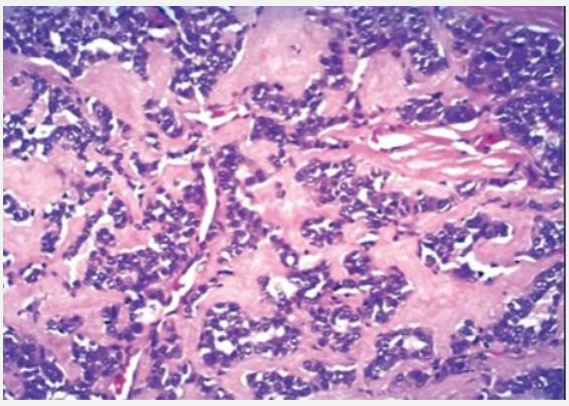


a. Called spongiocytes
b. Contains numerous mitochondria.
c. Abundant lipid droplets
d. Secrete glucocorticoids.
e. Contains extensive rough endoplasmic reticulum.

Question 7 :Biomarkers have diagnostic significance, from the following sets of them choose the most sensitive to be used in diagnosis of myocardial infarction, viral hepatitis, Paget's disease and organophosphorus compounds poisoning, respectively?

a. AST, pseudocholinesterase, CK-MB and GGT
b. LDH, ALP, TnT2 and cholinesterase
c. Enolase, lipase, ALT and acid phosphatase
d. Beta- Glucuronidase, cholinesterase, GGT and AST
e. TnT2, AL T, ALP and cholinesterase

Question 8 : Screening method for medullary carcinoma of thyroid?



a. Serum calcitonin.
b. Serum calcium.
c. Serum ALP.
d. Serum acid phosphatase.
e. Serum TSH.

Question 9 : All the following sentences are causes of osteoporosis EXCEPT?
a. Postmenopausal deficiency of estrogen.
b. Deterioration of bone homeostasis due to aging.
c. Rheumatoid arthritis.
d. Excessive thyroxine.
e. Hypothyroidism.

Question 10 : A 27-year-old male presented to the outpatient clinic with complaints of bone pain and progressive increase in height. A homozygous mutation was detected in the cytochrome P450 aromatase gene. What is the action of this enzyme?
a. It catalyzes the formation of testosterone from androstenedione.
b. It forms dihydrotestosterone from testosterone.
c. It converts dehydroepiandrosterone (DHEA) to androstene-dione.
d. It synthesizes androstene-diol from testosterone.
e. It converts testosterone to Estradiol.

Question 11: Production and phagocytosis of thyroglobulin is the function of?
a. Parathyroid oxyphil cell
b. Thyroid parafollicular cells
c. Thyroid follicular cells
d. Interfollicular cells
e. Adrenal chromaffin cells

Question 12 : Diacylglycerol, choose the wrong statement?
a. It is an important source for the release of arachidonic acid.
b. It stimulates protein kinase A
c. It is made up of two fatty acids and a glycerol.
d. It is a hydrophobic molecule.
e. It is synthesized in the cell membrane and remains in the cell membrane.

Question 13: GH produces all the following effects, except?
a. Enhance cell division.
b. Stimulate protein synthesis.
c. Stimulate bone growth.
d. Hyperglycemia.
e. Corpus luteum formation.

Question 14 : Deficiency of glucose-6-phosphate dehydrogenase can lead to.
a. Fructosuria
0b. Galactosemia
c. Hereditary fructose intolerance
d. Dietary Fructose Intolerance
e. Favism

Question 15 : The gonadal function is regulated by:

a. Pituitary gonadotropins.
b. Hypothalamic releasing hormones.
c. ADH
d. Oxytocin.
e. ACTH.

Question 16 : There are three different types of Beta-adrenergic receptors Betal, Beta2, and Beta3. Choose the wrong statement.
a. Betal receptor is the major adrenergic receptor in the human heart.
b. The Beta2 receptor is involved in release of glucose through glycogenolysis.
c. Agonists for Beta2 receptor may prove to be beneficial for weight loss.
d. Protein kinase A phosphorylates phospholamban thus reducing its association with SERCA2a.
e. Protein kinase A phosphorylates phospholamban thus increasing heart beat.

Question 17
The following is not correct regarding AcetylCoA?
Select one:
a. It acts as a link between carbohydrate and fat metabolism.
b. The pyruvate is converted to acetylCoA after being transported to mitochondria via its specific transporter protein.
c. The generation of acetylCoA from pyruvate is irreversible reaction.
d. The two carbons of acetylCoA which joined the krebs cycle recently are emitted immediately as C02 in the first round.
e. The acetylCoA formation reaction is catalysed by pyruvate dehydrogenase complex.

Question 18
What is the origin of the tumor seen in this photo?

a. Adrenal cortex: zona fasciculata.
b. Adrenal cortex: zona reticularis.
c. Adrenal cortex: zona glomerulosa.
d. Adrenal medulla.
e. Renal medulla.

Question 19 : Which of the following is CORRECT as regards the major energy source for different tissues in different metabolic states?

a. In fasting, ketone bodies are the main energy source for liver.
b. In starvation, muscle spares its proteins and oxidizes fatty acids as primary energy source.
c. Fatty acids provide the major energy source for erythrocytes in fed state.
d. Neural tissue is exclusively dependent on ketone bodies in starvation.
e. During food ingestion, glucose is derived from muscle glycogenolysis.

Question 20 : Mitochondria in brown fat of human infants regulate heat generation by manipulating the permeability of inner mitochondrial membrane, which increases heat output due to?

a. Inhibition of adenine nucleotide translocase
b. Inhibition of FO/FI ATP synthase
c. Increasing ATP synthesis in the mitochondria.
d. Increasing the rate of electron transport.
e. Decreasing the rate of 02 consumption.

Question 21 : Where is the endocrine portion of the pancreas housed in?

a. Islets of Langerhans b. Alpha cells c. Beta cells
d. Delta cells e. Pancreatic acini

Question 22 : Insufficient growth hormone in child release causes?

a. Diabetes insipidus. b. Diabetes mellitus. c. Tetany.
d. Hyper-aldosteronism. e. Dwarfism.

Question 23 : All of the followings correctly describe the features of glycogen synthase enzyme except.

a. UDP-glucose is the substrate for this enzyme.
b. It can only add glucose units to non-reducing ends.
c. It can not elongate a branch containing less than 4 glucose subunits.
d. It can elongate a glycogen core or primer containing at least 8 glucose monomers.
e. It catalyzes the formation of branch points with 1,6-glycosidic bonds

Question 24 : In catecholamine hormones synthesis, choose the wrong statement.

a. Tyrosine hydroxylase converts tyrosine to DOPA.
b. Phenylethanolamine N-methyltransferase converts norepinephrine to epinephrine.
c. Aromatic amino acid decarboxylase converts dopamine to norepinephrine.
d. Epinephrine has one extra hydroxyl group and one methyl group than dopamine.
e. Conversion of epinephrine to norepinephrine occurs in the storage vesicles.

Question 25: Thyroid hormones, choose the wrong answer:
a. When iodine supplies are sufficient, the T4:T3 ratio is about 7:1.
b. Thyroperoxidase stimulate the coupling of two DIT to form T4 or MIT and DIT to form T3.
c. TSH stimulates the endocytosis of thyroglobulin.
d. About 30% of thyroid gland is thyroglobulin.
e. Somatostatin stimulate cAMP which inhibit growth hormone production.

Question 26 : This reaction is not regulatory step or rate-limiting step in its corresponding metabolic pathway?
a. phosphorylation of Glucose to G6P by hexokinase -—-———-— glycolysis
b. phosphorylation of Fructose-6-P by PFK-I -—-———-— glycolysis
c. oxidation of G6P by G6P dehydrogenase -—-———-— PPP
d. regeneration of oxaloacetate from L-malate -—-———-— Krebs cycle
e. the generation of pyruvate from phosphoenolpyruvate -—-—-— glycolysis

Question 27: Which one of the followings is not correctly matched?
a. PPP and glycogenesis -—-———-— anabolic pathways
b. glucokinase -—-———-— phosphorylation of any hexose (galactose, glucose, etc)
c. fructokinase deficiency -—-———-— fructosuria
d. energy rich molecules -—-———-— NADH and FADH2
e. direct pathway for ATP synthesis -—-———-— substrate-level phosphorylation

Question 28 : Due to ....., each NADH molecule generated through glycolysis in cardiac tissues is used to generate ..... molecules by oxidative phosphorylation?
a. Aspartate/malate shuttle / 2.5 ATP
b. Aspartate/malate shuttle / 1.5 ATP
c. DHAP/G3P shuttle / 2.5 ATP
d. DHAP/G3P shuttle / 1.5 ATP
e. Malate/oxaloacetate shuttle / 5 ATP

Question 30 : Lack of cortisol with normal aldosterone level might be a consequence of which of the following enzymatic defects in the adrenal cortex?
a. 21beta-hydroxylase.
b. 17-alpha-Hydroxylase.
c. 18-Hydroxylase/hydroxysteroid dehydrogenase.
d. 11-beta-Hydroxylase.
e. 3beta (OH) steroid dehydrogenase(3beta-HSD)/delta 5-4 isomerase.

Question 31 : Tyrosine kinase receptor :
a. They are functional only as dimers, so they are always found as dimmers.
b. Its transmembrane segment is a single hydrophobic alpha helix.
c. Its mutations may lead to cancer.
d. Upon activation only tyrosine residues are phosphorylated.
e. There must be autophosphorylation for this receptor to function.

Question 32 : According to the blood supply of the suprarenal glands, which is incorrect?
a. Superior suprarenal artery arises from the superior phrenic artery.
b. The right suprarenal vein end in the inferior vena cava.
c. Middle suprarenal artery arises from the abdominal aorta.
d. The left suprarenal vein end in the left renal vein.
e. Inferior suprarenal artery arises from the renal artery.

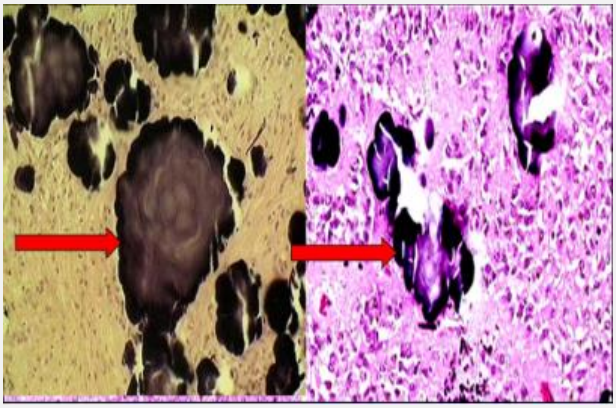
Question 33 : In the reaction catalyzed by succinate dehydrogenase in Krebs cycle, the following molecule was used as a strong oxidizing agent?
a. NAD+ b. NADH c. FADH2
d. FAD e. NADP+

Question 34 : The pyramidal lobe is connected to the hyoid bone by:
a. The suspensory ligament of Berry
b. The levator glandulae thyroidae
c. Fibrous capsule
d. Directly
e. Pretracheal fascia

Question 35: Which of the following statements about gluconeogenesis is correct?
a. Pyruvate is first converted to phosphoenolpyruvate by phosphoenolpyruvate carboxykinase
b. Fructose 1, 6-biphosphatase converts fructose 1,6-bisphosphate into fructose 1-phosphate.
c. Glucose 6-phosphatase hydrolyzes glucose 6-phosphate to release glucose into the blood.
d. Glucose 6-phosphatase hydrolyzes glucose 6-phosphate and is found in liver and muscle.
e. Phosphoenolpyruvate carboxykinase converts pyruvate into oxaloacetate.

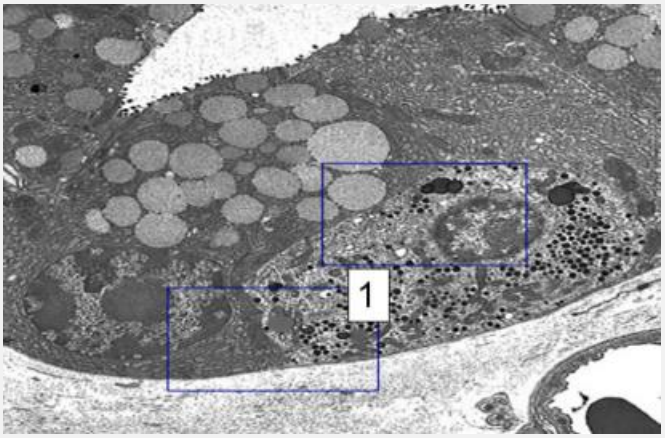
Question 36: Biomarkers can be used for diagnosis of different diseases, one of the following sets of enzymes can be used for diagnosis of alcoholic liver disease?
a. CPK, lipase and choline esterase
b. LDH, AST and ALP
c. ALT, AST and gamma-GT
d. Asparaginase, 5'-nucleotidase and ALT
e. Glucose 6 phosphate dehydrogenase, choline esterase and ALP

Question 37: The pointed structure present in?



a. Pituitary gland.
b. Parathyroid gland
c. Pineal body.
d. Cerebral cortex.
e. Suprarenal gland

Question 38 : The true statement for the cell (1) is?

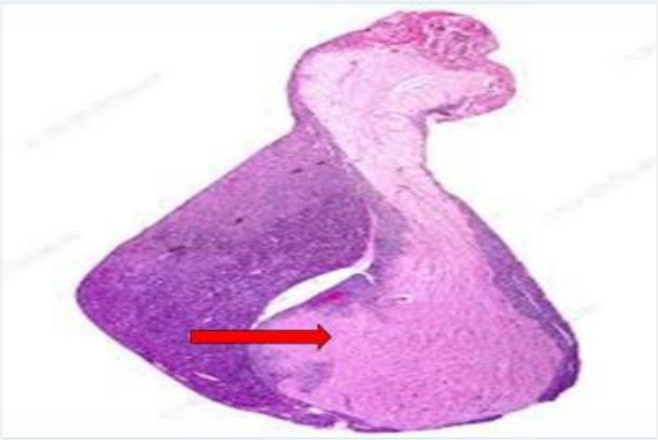


a. Present in Parathyroid gland.
b. Secretory granules are apical.
c. Secrete T3 and T4.
d. Called clear cell.
e. Contain numerous lysosomes.

Question 39 : What is the posterior relation of the neck of the pancreas?

a. Beginning of the portal vein
b. Beginning of the superior mesenteric artery
c. Beginning of the splenic vein
d. Beginning of the superior mesenteric vein
e. Beginning of the splenic artery

Question 40 : The true statement for the cell present in the pointed area?

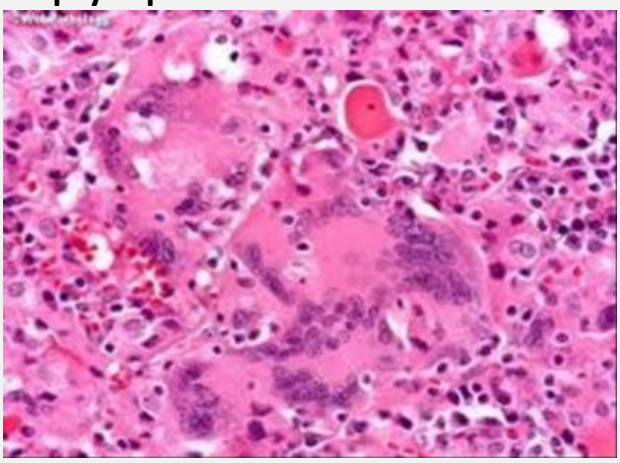


a. Multipolar nerve cells.
b. Called astrocytes.
c. Produce oxytocin and ADH
d. Modified neurons.
e. A type of glial cell

Question 41 : Epinephrine, choose the wrong statement?

a. Increases cAMP levels
b. Lead to activation of Beta 3 adrenergic receptor which stimulates fatty acid oxidation
c. Causes mobilization of fuel and increase blood glucose through the breakdown of muscle and liver glycogen
d. Lead to activation of protein kinase A
e. Released in stress situations.

Question 42 : A 51 -year-old woman presents with a painful neck mass, palpitations, weight loss and heat intolerance. Clinical exam demonstrates a diffusely enlarged and tender thyroid gland. A biopsy is performed. What is the best diagnosis?



a. Chronic lymphocytic thyroiditis.
b. Sarcoidosis.
c. Sub-acute thyroiditis
d. Papillary thyroid carcinoma.
e. Graves' disease.

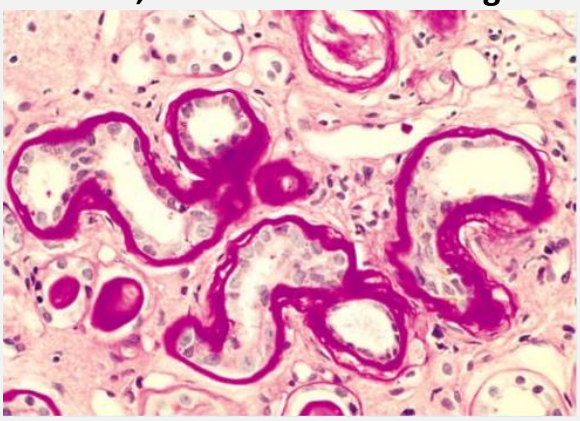
Question 43 : Fructose is contraindicated as I.V. infusion because of all of the followings except:
a. In excessive amounts, fructose is converted to triglycerides.
b. It can lead to depletion of Pi stores in the liver.
c. It can lead to activation of glycogenolysis and gluconeogenesis.
d. there is a strong association between high fructose intake and obesity, cardiovascular diseases, and onset of diabetes.
e. It is lipogenic.

Question 45 : Eicosanoids are a fatty acid derivatives, acting as local hormones through signal cascades, which of the following is incorrect?
a. All of the molecules in this category are unsaturated.
b. Their parent molecule, arachidonic acid, contains 20 carbon atoms.
c. Eicosanoids are acting as short-term chemical messengers.
d. Eicosatrienoic acid is a precursor for arachidonic acid.
e. Eicosanoids are produced by multiple pathways.

Question 47 : A 7-year-old boy is diagnosed as insulin-dependent diabetes mellitus. Which of the following enzymes would be inactive in this boy?
a. Protein kinase A.
b. Phosphoenolpyruvate carboxykinase.
c. Glycogen phosphorylase.
d. Hormone sensitive lipase.
e. Glycogen synthase.

Question 48 : Calcium ions, choose the incorrect statement of the followings.
a. Phosphatidylinositol bisphosphate causes release of Ca2+ from endoplasmic reticulum.
b. Ca2+-calmodulin complex lead to regulate ion pumps.
c. Ca2+-calmodulin complex lead to regulate components of the cytoskeleton.
d. Ca2+-calmodulin complex regulate the activity of some enzymes.
e. Binding of four Ca2+ ions converts calmodulin into a regulatory element.

Question 49: In the attached photo, you can see one of the common chronic complication of diabetes, which of the following best describes it?



a. Gangrene.
b. Amyloid deposition.
c. Atherosclerosis.
d. Hyaline arteriosclerosis.
e. Microangiopathy.

Question 50 : Which of the following's nerves related to the inferior thyroid artery?

a. Internal laryngeal nerve
b. Superior laryngeal nerve
c. Recurrent laryngeal nerve
d. External laryngeal nerve
e. Vagus nerve

بالتوفيق لكم جميعًا