

# Endocrine

## Final 2015

1- Correct about hormone receptor binding – hormones bind at saturation level

2- Has the least number of peptides – TRH

3- True about G proteins – alpha 2 receptors usually are inhibitory

4- True about DM – Type 2 are usually obese and have a family history of the disease

5- Requires routine central lymph node dissection – medullary carcinoma

6- True about parathormon – vitamin D deficiency can cause hyperparathyroidism

7- Wrong about Sheehan syndrome – associated with anterior pituitary enlargement with increased vasculature

8- A woman with a unilateral enlargement in the thyroid, previous URT infection, increased lymphocyte count – lymphocyte infiltrate with granulomatous reaction

9- Not likely to be a hot nodule – medullary carcinoma

10- True about MEN syndrome – medullary carcinoma in MEN 2 has an earlier onset than sporadic

11- Doesn't cause Addison's disease – massive adrenal hemorrhage

12- Top cause of endogenous Cushing syndrome - corticotroph pituitary adenoma

13- Not a symptom of hyperparathyroidism – tetany

- 14- Wrong about DM – type 2 has peripheral resistance which involves decreased glucose uptake by skeletal muscles and brain tissue
- 15- The leading cause of death in DM is associated with what complication – coronary artery atherosclerosis
- 16- Picture of thyroid tumor – medullary carcinoma
- 17- Wrong about picture of adrenal tumor – nuclear pleomorphism is an indicator of malignancy
- 18- Picture of calcification – Psammoma bodies in papillary carcinoma
- 19- Wrong about pars distalis – endocrine cells produce the extracellular matrix
- 20- True about picture of pars intermedia – is a remnant of Rathke's pouch (most likely)
- 21- Picture of a nerve – recurrent laryngeal nerve
- 22- True about picture of thyroid follicles – have many mitochondria and apical lysosomes
- 23- Picture of parathyroid – regulates blood calcium
- 24- Picture of adrenal gland – posterior relations of the two glands are the same
- 25- Picture of adrenal medulla – outer cells receive blood from 2 capillaries
- 26- Wrong about endocrine system – each hormone has one specific target cell type
- 27- Adrenaline needs the previous action of another hormone for – lipolysis
- 28- Wrong about adrenaline – a peptide hormone
- 29- Inhibits ACTH release- cortisol

- 30- Doesn't increase GH – obesity
- 31- Inhibits GH – aging
- 32- Is not raised in severely uncontrolled DM – blood volume
- 33- True about T3 – promotes growth
- 34- Wrong about thyroid hormones – T3 produces rT3
- 35- Not made in the liver – calcitonin
- 36- Wrong about Vit. D – making ergocalciferol is sufficient for humans (most likely)
- 37- Wrong about calcitonin – deficiency causes hypercalcemia but hypersecretion doesn't cause hypocalcaemia
- 38- Wrong about osteoporosis – only occurs in women
- 39- Wrong about angiotensin – a maximal amount of aldosterone is needed for fluid balance (sireen checked the slides bte7ki minimal -aseil)
- 40- Wrong about endocrine regulation – always involves exocytosis of a hormone
- 41- Agent for acromegaly and diarrhea – Octreotide
- 42- True about Octreotide – available in monthly depot
- 43- A drugs that promotes ovulation and causes multiple pregnancies – not sure
- 44- Wrong about Bromocriptine use – dwarfism (most likely)
- 45- T4 is used for elderly because – it has less cardiotoxicity
- 46- Not an effect of thyroid hormone treatment – constipation
- 47- Major side effect of prolonged glucocorticoid treatment – suppression of hypothalamus-pituitary-adrenal axis

- 48- A SERM agent – Raloxefine
- 49- Causes hypoglycemia – Glyburide
- 50- An alpha glucosidase inhibitor – Miglitol
- 51- True about TZDs – PPAR agonists
- 52- A sorbitol inhibitor – Enalrestat
- 53- Wrong about sedation – mainly due to fexofenadine family of drugs
- 54- Antihistamine agent, safe, used as hypnotic – chlorpromazine
- 55- Wrong about a 5HT agent – Ondanosetron is a new used for hypertension
- 56- Wrong about cardiac chymase – involved with blood volume balance
- 57- A rapid acting, short duration, IV insulin preparation – regular insulin
- 58- Activates ATPase: gly-sth
- 59- Used as a diagnostic tool for cushings : metopirone
- 60- Which is true: PTH coupled in cells or calcitonin is a physiologic regulator of calcium



## Mid 2015

Wrong about endocrine glands – spongocytes secrete epinephrine and norepinephrine

2-

Wrong about endocrine – adrenal medulla is modified parasympathetic ganglion

3-

Wrong about pituitary – secondary plexus supplies p  
ars nervosa

4-

Wrong about thyroidectomy – thyrohyoid is cut

5-

True about removal of left adrenal – stomach and lesser sac are anterior

6-

True about endocrine system – herring bodies are temporary stores of hypothalamic hormones

7-

Wrong about endocrine – anterior pituitary hormone directly inhibits parathyroid

8-

Wrong about thyroid – half of it becomes fat later in life

9-

True about pituicytes – glial cells similar to astrocytes

10-

(Removed) Wrong about mechanism of action of hormones – all steroid hormones always bind receptors inside cells or nucleus

11-

A neurohormone, hormone and neurotransmitter – somatostatin (most likely)

12-

Pituitary hormone associated with gigantism, acromegaly and dwarfism – Growth Hormone

13-

Adrenal cortex produces \_\_ hormones but 95% of mineralocorticoid function is for \_\_ -  
3, aldosterone

14-

Wrong about cortisol function – glycogenolysis

15-

An increase in this will not increase aldosterone level – sodium

16-

Opposite hormone in metabolic function to all others – insulin (most likely)

17-

(Removed) Regulates potassium within normal range – insulin (most likely)

18-

True about thyroid hormone synthesis – thyroglobulin has DIT and MIT

19-

Most thyroid hormone produced and most potent – T<sub>4</sub>, T<sub>3</sub>

20-

True about insulin – requirement increases in obesity

21-

(Removed) Low insulin level is required for – inhibiting hepatic gluconeogenesis

22-

Correct about NIDDM – insulin levels are normal or higher

23-

Doesn't use cAMP as second messenger – insulin

24-

Decrease PTH – high 1,25 (OH)<sub>2</sub> vit D

25-

Doesn't increase 1,25(OH)<sub>2</sub> vit D – calcitonin

26-

1,25(OH)<sub>2</sub> vit D is synthesized in – Kidney

27-

Wrong about Comas – there are no types other than above

28-

True about g protein – relays a signal from the first messenger/receptor complex to a membrane protein to activate processes

29-

Ras is – a monomeric GTPase protein

30-

Doesn't form a dimer in GH cascade – Ras (according to doctor, though I guess the question is wrong)

31-

True about phospholipase C cascade – IP3 binding curve is sigmoidal

32-

(Removed) Product of Omega-6 (ecosatrienoic acid) – PGE1

33-

True about desensitization – none

34-

Hormone that binds cytoplasmic receptor – progesterone

35-

True about pituitary – most adenomas are functional

36-

(Removed, completely) Wrong about posterior pituitary – In diabetes insipidus, Na is lost in urine

37-

True about hashimoto thyroiditis – large cells with many mitochondria

38-

Woman with cold nodule/tumor – nuclear pleomorphism  
is a certain sign of malignancy<sup>39</sup>-

Wrong about medullary carcinoma of the thyroid – Only familial type has activated RET  
mutation

40-

Wrong about papillary carcinoma – nuclear inclusions are seen in cytological preparations

41-

Wrong about thyroiditis – Hashimoto has infiltrative fibrosis unlike Riedel

## ✓ past papers (physiology)

### very very important1) Which of

the following is false concerning endocrine control? all hormones are secreted by Exocytosis.

- ✓ 2) True about Hypothalamic hormones: all are peptide.
- ✓ 3) All of the following are true about GH except: Somatostatin increases GH.
- ✓ 4) Which is false about the thyroid : Iodine deficiency doesn't cause goiter.
- ✓ 5) Which is false about T4 : It acts more rapidly than T3.
- ✓ 6) All of the following cause increase the secretion of Aldosterone except : high Na<sup>+</sup> level.
- ✓ 7) Which of the following causes a decrease in sensitivity to the hormone?
  - ✓ a) Decrease in number of target cells.
  - ✓ b) Decrease adenylate cyclase .
  - ✓ c) Competitive antagonist. \*\*
  - ✓ d) Non-competitive antagonist.



- ✓ 8) Which is true about thyroglobulin: Contains MIT & DIT.
- ✓ 9) True about Thyroxin synthesis: Iodide (I-) is oxidized to Iodine (I<sub>2</sub>).
- ✓ 10) Which of the following decrease ACTH secretion: Cortisol.
- ✓ 11) Which is true about Oxytocin :
  - ✓ A) Lactogenic hormone.
  - ✓ B) Inhibited by Progesterone.
  - ✓ C) Increases when the size of the uterus increases.\*\*
- ✓ 12) Wrong about ACTH:
  - ✓ A) Secreted when the median eminence is stimulated.
  - ✓ B) Its secretion is affected by Aldosterone. \*\*
- ✓ 13) Which of the following when found in excess amounts causes protein catabolism : T3.
- ✓ 14) all of the following increase GH secretion except: obesity
- ✓ 15) Which of the following is a neurohormone: Vasopressin -
- ✓ 16) The most imp. Hormone in keeping normal K<sup>+</sup> conc. In the body : 1. Calcitriol 2. vasopressin ADH ... Aldosterone is the answer
- ✓ 17) Insulin is stimulated by all of the following except : starving
- ✓ 18) all of the following stimulate the aldosterone except: high sodium -
- ✓ 19) One of the following is not true about vasopressin: it is transported to pituitary via capillaries
- ✓ 20) aldosterone stimulator: angiotensin II
- ✓ 21) Which of these Hormones has a function that antagonize the others ? Glucagon
- ✓ GH
- ✓ cortisol

- ✓ Insulin
- ✓ Epinephrine
- ✓ Answer : insulin
- ✓ 22-What happens to most of T4 ? converted to T3
- ✓ -23 which of the following molecules bind in thyroid hormone synthesis >>> I answer was : 4 molecules of iodine bind to one molecule of tyrosine to form tetraiodothyronine ( لازم 2 T2 to combine mish yenzad 4 I marra wahdeh)
- ✓ 24) most potent active form of vit d3 activator: PTH and low P
- ✓ 25) not correctly linked to its function: thyroid hormone (table)
- ✓ 26) choose the odd hormone: cortisol (only one not secreted from pituitary)
- ✓ 27) doesn't affect bone formation: aldosterone
- ✓ 28) cortisol permissive effect on : glucagon
- ✓ 29) most important hormones for growth in-utero: GH and IGF-I
- ✓ 30) false about osteoporosis: occurs in females only
- ✓ 31) enhances GH secretion? fasting
- ✓ 32) increase both GH and insulin release? protein intake
- ✓ 33) definition of paracrine
- ✓ 34) ADH is released from supra-optic, oxytocin released from paraventricular nucleus
- ✓ 35) hormone not released by stress: somatostatin
- ✓ 36) false about calcium metabolism : PTH and VIT D have same effect ?
- ✓ 37) effect of alcohol on ADH? decreases its secretion
- ✓ 38) main site of action for aldosterone? proximal tubule
- ✓ 39) concentration of glucose in diabetes? 300

- ✓ 40) hormone which doesn't play any role in growth: glucagon, it is also the major hyperglycemic hormone (another question)
- ✓ 41) renal threshold of glucose in plasma? 180mg/dl
- ✓ 42) most important hormone for CNS growth: thyroid
- ✓ 43) hormone associated with gigantism, dwarfism and pituitary acromegaly?: GH
- ✓ 44) not regulated by hypothalamic-pituitary portal system: ADH
- ✓ 45\_ not true about the dehydration effects of insulin deficiency: tubular reabsorption of fluid increases
- ✓ 46) false about t4? binds directly to DNA in nucleus of target cells?
- ✓ 47) which of the following is most essential for life? (thyroid or epinephrine? ), some claim it's aldosterone ...
- ✓ 48) which does not take place during thyroid hormone synthesis? one tyrosine combines with 4 iodine
- ✓ 49) which of the following characterizes diabetes type 1 but not 2? lack of insulin
- ✓ 50) most abundant thyroid hormone produced is : t4 and most potent? t3
- ✓ 51) calcitonin function? helps regulate homeostasis of Ca and P
- ✓ 52) the Tm of glucose for a diabetic patient is ? increased
- ✓ 53) although the adrenal cortex secretes \_\_\_\_ different hormones, 95% of mineral corticoids are from \_\_\_\_, 3, aldosterone
- ✓ 54\_ which of the following doesn't stimulate cAMP? insulin
- ✓ 55) not true about aDH: carried by capillaries to gland
- ✓ 56) true about obesity? all of the above

- ✓ 57) which of the following enhances formation of active vitamin D? PTH
- ✓ 58) if you eat 4 sugar-glazed donuts which hormone would you expect to rise? insulin
- ✓ 59) about PTH correction: hypercalcemia stimulates it
- ✓ 60) hypothalamus inhibits the release of? Prolactin