PHYSIO
ENDOCRINE

2ND YEAR

MCQ adrenal cortex

Harvard
Printing center

Dr/M.M

Written

1. Enumerate function and regulation of aldoseterone ?

2. Def conns syndrome ?

3. Mention anti-inflammatory effect of cortisol ?

4. Mention 5 functions of cortisol ?

5. Mention role of cortisol in stress ?

6. Def cushing syndrome ?

7. Give a short note on mechanism and regulation of cortisol secretion ?

8. Mention 4 symptoms of cushing syndrome ?

9. Mention 4 symptoms of Addison dse ?

10. Def virlism with 4 manifestation ?

MCQ

1. Conn's syndrome Manifestations include *a) Hyperkalemia* *b) hyperkalemic nephropathy* *c) Hypernatremia* *d) Hyponatremia* *e) Metabolic acidosis*	**C**
2. Cortisol regulates the secretion of corticotrophin releasing hormone from the hypothalamus through which of the following? *a) Long loop positive feedback.* *b) Long loop negative feedback* *c) Short loop positive feedback.* *d) Short loop negative feedback.* *e) Ultra-short loop feedback.*	**B**

3. Which of the following is the only organ in which Cortisol increases the protein synthesis *a) The blood* *b) The kidney* *c) The liver.* *d) The muscles.* *e) The skin*	***C***
4. Which of the following is considered as one of Addison disease manifestations? *a) Hypernatremia* *b) Hypervolemia* *c) Hypokalemia* *d) Increase basal metabolic rate* *e) Metabolic acidosis*	***E***
5. Cushing syndrome is: *a) Due to hypersecretion of aldosterone.* *b) Due to hypersecretion of thyroid hormone.* *c) Characterized by an increase in protein synthesis.* *d) Characterized by hyperglycemia.* *e) Characterized by lymphocytosis.*	***D***
6. Cushing syndrome is characterized by all the following except: *a) Hyperglycemia.* *b) Hyperkalemia.* *c) Hypertension and edema.* *d) Purplish abdominal stria.* *e) Muscle wasting and weakness.*	***B***

7. Cortisol has a permissive effect to: *a) Catecholamines* *b) GH.* *c) somatomedins* *d) Insulin* *e) thyroxin*	***A***
8. As regard the effect of steroid hormones on protein metabolism, steroid causes: *a) Muscle wasting and weakness.* *b) bones become stronger due to increased protein content* *c) formation of collagenous tissues* *d) Promotion of healing of wounds.* *e) Decrease Subcutaneous hemorrhage*	***A***
9. Addison disease Manifestations include: *a) Hypokalemia* *b) Metabolic acidosis* *c) Hypernatremia* *d) Hypervolemia* *e) Increase BMR*	***B***
10. AS regard metabolic action of cortisol: *a) It inhibits gluconeogenesis* *b) it increases rate of glucose utilization* *c) Steroid decreases plasma amino acids level.* *d) It increases the capillary permeability.* *e) It has lipolytic effect.*	***E***

11. Disorders of the Adrenocortical Function include: *a) Acromegaly:* *b) Addison's disease* *c) Myxoedema* *d) Acromegaly* *e) Cretinism*	***B***
12. ONE of the following not a Manifestation of cushing: *a) Hypertension* *b) Osteoporosis* *c) purplish striae* *d) Muscle wasting.* *e) Hypoglycemia*	***E***
13. Which of the following are associated with adrenocortical hypofunction? *a) Hyperglycemia.* *b) High BMR.* *c) Redistribution of body fat.* *d) Increased muscle bulk.* *e) Dark pigmentation.*	***E***
14. Aldosterone hormone: *a) Is secreted from zona fasciculata of suprarenal cortex.* *b) Is secreted from the anterior pituitary gland.* *c) Increases plasma calcium level.* *d) Acts through cAMP.* *e) Increases K+ secretion by DCT.*	***E***
15. Aldosterone secretion is increased by: *a) Hypernatremia.*	***C***

b) Hypokalemia. *c) Angiotensin II.* *d) hypercalcemia.*	
16. Aldosterone: *a) Promotes excretion of K+ in distal renal tubules.* *b) Secretion is controlled by plasma free fatty acid level.* *c) Produces hair growth in females.* *d) Causes Na+ reabsorption in the PCT.* *e) Is secreted from the placenta.*	***A***
17. Aldosterone hormone: *a) Stimulates K+ reabsorption by renal tubules.* *b) Inhibits Na+ reabsorption by renal tubules.* *c) Stimulates Ca++ reabsorption by renal tubules.* *d) Is secreted by adrenal medulla.* *e) Is stimulated by angiotensin II.*	***E***
18. Regarding aldosterone: *a) It is secreted from zona glomerulosa of suprarenal cortex.* *b) It decreases K+ and H+ secretion in the kidney.* *c) It decreases Na+ reabsorption in the kidney.* *d) It releases is stimulated mainly by ACTH.* *e) It decreases plasma Na+ concentration.*	***A***
19. Glucocorticoids: *a) Decrease blood glucose level.* *b) Are released mainly under the effect of angiotensin II.* *c) Increase protein synthesis.* *d) Are controlled by TSH.* *e) Decrease lymphocytes.*	***E***

20. Glucocorticoids: *a) Inhibit histamine release by mast cells and basophils.* *b) Stimulate ACTH secretion from anterior pituitary.* *c) Stimulate lipogenesis.* *d) Increase capillary permeability.* *e) Decrease the number of RBCs and neutrophils.*	***A***
21. Excess glucocorticoids (cortisol) lead to: *a) Stimulation of lymphocytes.* *b) Increased allergy.* *c) Increased inflammatory response to allergic reaction.* *d) Osteoporosis.* *e) Decreased RBCs.*	***D***
22. A decrease in cortisol secretion would produce: *a) Increased cellular protein catabolism in the liver.* *b) High systolic arterial blood pressure.* *c) Increased secretion of ACTH.* *d) Hyperglycemia.* *e) A fall in serum potassium level.*	***C***
23. Which of the following is not produced by hypersecretion of cortisol: *a) Increased rate of protein breakdown in the skin.* *b) A major fall in plasma protein level.* *c) Atrophy of skeletal muscles.* *d) Increased tubular reabsorption of sodium.* *e) Decreased formation of antibodies.*	***B***

24. Cortisol hormone is: *a) Mainly a lipolytic hormone.* *b) Stimulated by angiotensin II.* *c) Inhibited by ACTH.* *d) Mainly an anabolic hormone.* *e) A hypoglycemic hormone.*	***A***
25. Cortisol: *a) Destroys the inflammatory agents.* *b) Inhibits the action of histamine.* *c) Lowers the blood pressure.* *d) Stimulates antibodies production.* *e) Prevents the release of histamine.*	***E***
26. A patient having addison's disease will have: *a) Hypotension, hyperglycemia and skin pigmentation.* *b) Hypertension, hypoglycemia and skin pigmentation.* *c) Hypotension, hypoglycemia and skin pigmentation.* *d) Hypotension, hypoglycemia and hypernatremia.* *e) Hypotension, hyperglycemia and hyponatremia.*	***C***
27. Hyper secretion of cortisone leads to: *a) Hypoglycemia.* *b) Lipolysis.* *c) Increased muscle bulk.* *d) Increased BMR.* *e) Increased protein synthesis in most tissues.*	***D***

28. The secretion of adrenal androgens is controlled by: *a) ACTH.* *b) LH.* *c) FSH.* *d) ketosteroids.* *e) Estrogens.*	***A***
29. Cortisol increases blood glucose by: *a) Increasing gluconeogensis alone.* *b) Increasing gluconeogensis and decreasing glucose utilization.* *c) Increasing gluconeogensis and glucose utilization.* *d) Decreasing glucose utilization alone.* *e) Decreasing gluconeogensis and glucose utilization.*	***B***
30. A 45-year-old male with cushingoid appearance, elevated serum and urinary cortisol, very low serum ACTH, no suppression of cortisol with small amount of Dexamethasone, the most likely diagnosis is: *a) Pituitary adenoma.* *b) Hypothalamic tumor.* *c) pheochromocytoma.* *d) Adrenal tumor.* *e) Addison syndrome.*	***D***
31. The cells secreting mineralocorticoids are present in: *a) Zona interna* *b) Zona glomerulosa* *c) Zona reticularis* *d) Zona pellucida* *e) Zona fasciculata*	***B***
32. One of the following hypothalamic hormone control adrenal cortex	***E***

secretion: *a) TSH* *b) FSH* *c) LH* *d) MSH* *e) ACTH*	
33. Conn's syndrome Manifestations include: *a) Hyperkalemia* *b) hyperkalemic nephropathy* *c) Hypernatremia* *d) Hyponatremia* *e) Metabolic acidosis*	***C***
34. The most inner zone of adrenal cortex is: *a) Zona fasciculate* *b) Zona glomerulosa* *c) Zona interna* *d) Zona pellucida* *e) Zona reticularis*	***E***
35. Hyperkalemia stimulates the secretion of: *a) Glucagon.* *b) Cortisol* *c) Aldosterone.* *d) Epinephrine.* *e) Insulin*	***C,E***

36. Regarding aldosterone: *a) It is secreted from zona glomerulosa of suprarenal cortex.* *b) It decreases K+ and H+ secretion in the kidney.* *c) It decreases Na+ reabsorption in the kidney.* *d) It releases is stimulated mainly by ACTH.* *e) It decreases plasma Na+ concentration.*	***A***
37. Primary hyperaldosteronism characterized by : *a) Decreased Na and increased K conc in blood* *b) Expansion of ECF volume* *c) Muscle weakness due to hypotention* *d) Metabolic acidosis* *e) Depressed sexual function*	***D***
38. The secretion of ACTH : *a) Mainly from adrenal cortex* *b) Inhibited in stress conditions* *c) Controlled by hypothalamic inhibitory hormones* *d) In excessive amounts is the cause of skin pigmentation in Addison dse* *e) If absent , aldosterone is completely inhibited*	***D***
39. About aldosterone : *a) Most important glucocorticoid* *b) Play a major role in regulating ECF volume* *c) Help Na secretion and K reabsorption from renal tubules* *d) Control the synthesis of 1,25 di-hydroxy-cholicaciferol* *e) Essential for milk ejection from mammary gland*	***B***

40. Which of the following is associated with parallel changes in cortisol and aldosterone secretion : *a) Addison dse* *b) Cushing syndrome (adrenal tumor)* *c) A low sodium diet* *d) Administration of converting enzyme inhibitor*	***A***
41. 59 year old woman develop osteoporosis , hypertention , hirstism and hyperpigmentation . magnetic resonance imagining indicate that pituitary gland not enlarged , which of the following is most consistent with these finding : *a) Pituitary ACTH secreting tumor* *b) Ectopic ACTH secreting tumor* *c) Inappropriate high secretion rate of CRH* *d) Adrenal adenoma* *e) Addison dse*	***B***
42. Selective destruction of zona glomerulosa would produce deficiency of : *a) Aldosterone* *b) Androstendiones* *c) Cortisol* *d) Dehydroepiadresterone* *e) Testosterone*	***A***
43. 46 year old woman has hirstism , hyperglycemia and obesity. muscle wasting and increased circulating level of ACTH , the most appropriate cause of these symptoms is : *a) Addison dse* *b) Pheochromocytoma* *c) Primary overproduction of ACTH =Cushing dse* *d) Treating with exogenous glucocorticoid* *e) Hypophysectomy*	***C***

44. Cushing syndrome is characterized by: *a) Hypotension.* *b) Hypoglycemia.* *c) Tremors of the hand.* *d) Moon face.*	***D***
45. Cushing syndrome is characterized by all the following EXCEPT: *a) Muscle wasting and weakness.* *b) Purplish abdominal stria.* *c) Hypertension and edema.* *d) Hyperglycemia.* *e) Hyperkalemia.*	***E***
46. An adrenal tumor secreting DHEA (dehydroepiandrosterone) leads to: *a) True hermaphroditism in a newly born girl* *b) Virilization (virilism) in an adult female* *c) Precocious pseudopuberty in a female child* *d) Feminization of an adult male.* *e) Early true puberty in a male child*	***B***
47. A 40- year- old woman is placed on a high-potassium diet for several weeks. Which of the following hormonal changes is most likely to occur? *A) Increased secretion of dehydroepiandrosterone* *B) Increased secretion of cortisol* *C) Increased secretion of aldosterone* *D) Increased secretion of adrenocorticotropic hormone* *E) Decreased secretion of corticotropin-releasing hormone*	***C***
48. virilization is caused by excessive secretion of: *a) Glucagon*	***D***

b) Aldosterone *c) Melanocyte stimulating hormone* *d) Dehydroepiandrosterone from the adrenal cortex*	
49. Regarding adrenal androgens all following are correct except: *a) Promote physical growth in pubertal phase* *b) Stimulate the appearance of pubic and axillary hair in females.* *c) Include dehydro-epiandrosterone and andro-stenedione.* *d) Their secretion is controlled by pituitary gonadotropins.* *e) Their androgenic activity is weaker than that of testosterone.*	***D***
50. Which of the following would be associated with parallel changes, in aldosterone and cortisol secretion? *A) Addison's disease* *B) Cushing's disease* *C) Cushing's syndrome (adrenal tumor)* *D) A low sodium diet* *E) Administration of a converting enzyme inhibitor*	***A***
51. Adrenal androgen is responsible for : *a. appearance of acne* *b. breast development* *c. enlargement of testis* *d. ovulation* *e. spermatogenesis*	***A***