STUDY GUIDE
for
Endocrine Emergencies

1. Chemical substances released by a gland that controls or affects other glands or body systems are called

   A. endocrines
   B. hormones
   C. polypeptides
   E. ketones

2. The master gland whose function is to control the other endocrine glands is the

   A. pituitary
   B. thyroid
   C. adrenal
   D. endocrine

3. The hormone produced by the posterior pituitary gland that helps control fluid regulation is
   A. antidiuretic hormone
   B. vasopressin
   C. prolactin
   D. A and B

4. Oxytocin, when released, causes
   A. uterine contractions
   B. egg implantation in the uterus
   C. feminization
   D. maturation of the egg

5. You can suppress preterm labor by administering a fluid bolus because
   A. the mother is usually dehydrated
   B. oxytocin release is inhibited
   C. the fluid increase fools the thyroid gland
   D. less ACTh is secreted

6. Graves disease, characterized by insomnia, tachycardia, hypertension, and fatigue is the result of
   A. hyponatremia
   B. hyperadrenalism
   C. hyperthyroidism
   D. hypocalcemia

7. Myxedema, characterized by facial bloating, weakness, altered mental status, and oily skin is caused by

   A. hypothyroidism
   B. hyperadrenalism
   C. hypernatremia
   D. hypocalcemia

8. The parathyroid glands are responsible for regulating blood levels of

   A. glucose
   B. calcium
   C. insulin
   D. ADH

9. Which of the following hormones stimulates the liver to transform its glycogen stores into glucose for immediate use?

   A. Prolactin
   B. Glucagon
   C. Insulin
   D. Somatostatin

10. Which of the following hormones is **NOT** produced by the islets of Langerhans?

   A. Glucagon
   B. Somatostatin
   C. Prolactin
   D. Insulin

11. Insulin is necessary to

   A. facilitate transport of glucose into the cells
   B. produce glucose from muscle tissue
   C. enhance glycogen formation in the liver
   D. promote gluconeogenesis

12. Cathecholamines are released by the

   A. adrenal medulla
   B. adrenal cortex
   C. islets of Langerhans
   D. pancreas

13. The adrenal cortex releases

A. corticosteroids
B. anti-inflammatory agents
C. mineralocorticoids
D. all of the above

14. Oversecretion by the adrenal cortex results in a condition known as

A. Grave's disease
B. myxedema
C. diabetes mellitus
D. Cushing's disease

15. The ovaries are responsible for all of the following except

A. manufacturing estrogen and progesterone
B. preparing the uterus for egg implantation
C. secreting testosterone
D. female sexual development

16. The testes are controlled by the hormone(s)

A. estrogen and progesterone
B. FSH and LH
C. TSH and GH
D. prolactin

17. Which of the following is **NOT** a characteristic of diabetes mellitus?
A. Ketone production
B. Excessive insulin production
C. Osmotic diuresis
D. Associated heart and kidney disease

18. Diabetic ketoacidosis is a direct result of
A. the cells burning inefficient fuels
B. the pancreas secreting excessive insulin
C. the kidneys reabsorbing glucose
D. rapid, deep respirations

19. Insulin shock is a direct result of
A. insufficient insulin levels
B. insufficient blood glucose levels
C. hyperglycemia
D. not taking enough insulin

20. Non-ketotic hyperosmolar coma differs from DKA in that

A. the pancreas produces some insulin
B. ketones are eliminated by the kidneys
C. osmotic diuresis does not occur
D. blood glucose levels do not rise greatly

SCENARIO

Your patient is a 45-year-old male who lies unconscious in bed. His daughter states that he has a long history of diabetes and takes insulin daily. He lives alone and hasn't been seen for a few days. He has no other history. His heart rate is 100; blood pressure 90/60; respiratory rate 40 and deep with a fruity odor; lungs clear, skin warm and dry; chemstrip is 380. He has vomited twice prior to your arrival.

21. This patient is most likely suffering from

A. hypoglycemia
B. insulin shock
C. hyperglycemia
D. non-ketotic hyperosmolar coma

22. His problem probably resulted from

A. taking his insulin and not eating enough
B. not taking his insulin
C. taking his insulin and overeating
D. recent illness

23. His hypotension and dehydrated look result from
A. osmotic diuresis
B. overproduction of ketones
C. increased insulin levels
D. increased ADH release

24. His respiratory pattern is known as
A. Cheyne-Stokes
B. Kussmaul's
C. Graves
D. Biot's

25. This respiratory pattern occurs as the body attempts to
A. increase insulin production
B. correct metabolic acidosis
C. decrease hypoxia from insulin shock
D. produce more ketonic acids

26. The fruity breath results from in the expired air.

A. glucose
B. insulin
C. ketones
D. glucagon

27. His chemstrip reads 380 because

A. he cannot transport glucose into his cells
B. he cannot transform glycogen into glucose
C. he is hypoglycemic
D. he is in insulin shock

28. Classic early signs of this disease include all of the following except

A. polydipsia
B. polyuria
C. polyphagia
D. polyphasia

29. Emergency prehospital treatment for this patient includes

A. crystalloid fluid infusion
B. 50% dextrose IV
C. glucagon IM
D. naloxone IV

SCENARIO

Your patient is a 39-year-old female who collapsed in a supermarket and lies unconscious on the floor. She is alone and no one is available to provide you with a history. She has no medications in her purse, except for some Glucotabs. She is wearing a bracelet that states she is diabetic. Her heart rate is 110; her blood pressure is 100/70; her respiratory rate is 28 and shallow; skin cool and clammy; lungs clear; chemstrip 40.

30. This patient is most likely suffering from

A. hypoglycemia
B. insulin shock
C. hyperglycemia
D. A and B

31. This patient's condition could have resulted from any of the following except

A. taking her insulin, not eating enough
B. not taking her insulin
C. too much exercise/activity
D. recent illness

32. Her unconsciousness is due to

A. cerebral hypoxia
B. cerebral hypoglycemia
C. ketoacidosis
D. osmotic diuresis

33. Prehospital management of this patient includes

A. insulin SC
B. 250 ml of Lactated Ringer's
C. 50% dextrose IV
D. naloxone IV

34. If an accurate chemstrip cannot be obtained, management should include all of the following except

A. thiamine IV
B. 50% dextrose IV
C. insulin SC
D. naloxone IV

35. Exocrine glands are

A. glands that secrete hormones.
B. glands whose secretions reach a target via ducts.
C. ductless glands that communicate with epithelial surfaces.
D. glands whose secretions reach a target without the use of ducts.
E. None of the above.

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37. Which of the following glands (or pairs of glands) has both exocrine and endocrine functions?
    A. the ovaries
    B the testes
    C. the adrenal glands
    D. the pancreas
    E. the thyroid gland

38. Epinephrine and norepinephrine are secreted by the
    A. ovaries.
    B. adrenal glands.
    C. testes.
    D. thyroid gland.
    E. kidneys.

39. The metabolism of calcium and phosphorus is controlled by the pea-shaped
    A. ovaries or testes.
    B. adrenal glands.
    C. pituitary gland.
    D. thyroid gland.
    E. parathyroid gland.

40. Luteinizing hormone (LH) affects the activity of the

    A. ovaries or testes.
    B. adrenal glands.
    C. pituitary gland.
    D. thyroid gland.
    E. parathyroid gland.

41. The adrenal glands are located

    A. at the base of the brain.
    B. in the center of the brain.
    C. anterior and lateral to the trachea.
    D. on top of each kidney.
    E. below each kidney.

42. The pituitary gland is located

    A. at the base of the brain.
    B. in the center of the brain.
    C. anterior and lateral to the trachea.
    D. on top of each kidney.
    E. below each kidney.

43. The thyroid gland is located
    A. at the base of the brain.
    B. in the center of the brain.
    C. anterior and lateral to the trachea.
    D. on top of each kidney.
    E. below each kidney.

44. Alpha cells within the islets of Langerhans secrete
    A. glucagon.
    B. glycogen.
    C. glucose.
    D. insulin.
    E. None of the above.

45. Beta cells within the islets of Langerhans secrete
    A. glucagon.
    B. glycogen.
    C. glucose.
    D. insulin.
    E. None of the above.

46. The form in which carbohydrate (sugar) is stored within the liver is called

    A. glucagon.
    B. glycogen.
    C. glucose.
    D. insulin.
    E. None of the above.

47. The free form of carbohydrate (sugar) in the blood is called

    A. glucagon.
    B. glycogen.
    C. glucose.
    D. insulin.
    E. None of the above.

48. The hormone produced in the pancreas that stimulates an increase in blood sugar is called

    A. glucagon.
    B. glycogen.
    C. glucose.
    D. insulin.
    E. None of the above.

49. The hormone responsible for allowing blood sugar to enter the cell is called

A. glucagon.
B. glycogen.
C. glucose.
D. insulin.
E. None of the above.

50. _____develops when there is too much insulin available in the blood.

A. Hyperglycemia or diabetic ketoacidosis
B. Hypoglycemia or diabetic ketoacidosis
C. Hyperglycemia
D. Hypoglycemia
E. Hyperglycemia, hypoglycemia, or diabetic ketoacidosis

51. The onset of _____is slow, requiring 12 to 24 hours before significant signs and symptoms are apparent.
A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hyperglycemia
D. hypoglycemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

52. Excessive fluid intake and urine output is associated with
A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hypermagnesemia
D. hypoglycogenemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

53. An altered mentation or decreased level of consciousness in any patient may indicate a life-threat secondary to
A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hyperglycemia
D. hypoglycemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

54. A rapid onset of signs and symptoms is associated with
A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hyperglycemia
D. hypoglycemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

55. An abnormally large food intake with complaints of excessive hunger is associated with

A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hyperglycemia
D. hypoglycemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

56. Complaints of abdominal pain are associated with

A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hyperglycemia
D. hypoglycemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

57. Complaints of headache are associated with

A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hyperglycemia
D. hypoglycemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

58. Tachycardia is associated with
A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hyperglycemia
D. hypoglycemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

59. Cool, diaphoretic skin is associated with
A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hyperglycemia
D. hypoglycemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

60. Warm, dry skin is associated with
A. hyperglycemia or diabetic ketoacidosis
B. hypoglycemia or diabetic ketoacidosis
C. hyperglycemia
D. hypoglycemia
E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

61. Kussmaul's respirations are associated with
    A. hyperglycemia or diabetic ketoacidosis
    B. hypoglycemia or diabetic ketoacidosis
    C. hyperglycemia
    D. hypoglycemia
    E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

62. A fruity, acetone-like breath odor is associated with

    A. hyperglycemia or diabetic ketoacidosis
    B. hypoglycemia or diabetic ketoacidosis
    C. hyperglycemia
    D. hypoglycemia
    E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

63. Seizures may be precipitated by

    A. hyperglycemia or diabetic ketoacidosis
    B. hypoglycemia or diabetic ketoacidosis
    C. hyperglycemia
    D. hypoglycemia
    E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

64. Hypokalemia is frequently associated with
    A. hyperglycemia or diabetic ketoacidosis
    B. hypoglycemia or diabetic ketoacidosis
    C. hyperglycemia
    D. hypoglycemia
    E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

65. Alcohol abuse is frequently associated with
    A. hyperglycemia or diabetic ketoacidosis
    B. hypoglycemia or diabetic ketoacidosis
    C. hyperglycemia
    D. hypoglycemia
    E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

66. Nonketotic hyperosmolar coma is associated with
    A. hyperglycemia or diabetic ketoacidosis
    B. hypoglycemia or diabetic ketoacidosis
    C. hyperglycemia
    D. hypoglycemia
    E. hyperglycemia, hypoglycemia, or diabetic ketoacidosis

67. The medical term for an abnormally large food intake (complaint of excessive hunger) is
    A. polytrophia.
    B. polyphagia.
    C. polyopsia.
    D. polyfrasia.
    E. polygastria.

68. The medical term for an excessive urine output is

    A. polyhydruria.
    B. polysaccharose.
    C. polygastria.
    D. polydipsia.
    E. polyuria.

69. The medical term for an abnormally large fluid intake (complaint of excessive thirst) is

    A. polyhydrosis.
    B. polydipsia.
    C. polyhydruria.
    D. polyuria.
    E. polygastria.

70. Cushing's disease is caused by a hypersecretion of glucocorticoids by the

    A. Kidneys
    B. Adrenal glands
    C. Pituitary gland
    D. Thyroid gland
    E. Parathyroid glands