ENDOCRINOLOGY

1. **Cortisol is secreted from where?**
   a. Adrenal Medulla
   b. Adrenal Cortex: ZonaFasiculata
   c. Adrenal Cortex: ZonaReticularis
   d. Adrenal Cortex: Zona Glomerulus
   e. Anterior Hypophysis

2. **Which of these is not secreted from the Anterior Hypohysis?**
   a. Thyroid Stimulating Hormone
   b. Adrenocorticotrophin Hormone
   c. Oxytocin
   d. Follicular Stimulating Hormone
   e. Lutenising Hormone

3. **Diabetes Insipidus is a deficiency of what hormone?**
   a. Atrial Natriuretic Peptide
   b. Vasopressin
   c. Aldosterone
   d. Insulin
   e. Progesterone

4. **Excess prolactin causes:**
   a. Acromegaly
   b. Gynaecomastia
   c. Dwarfism
   d. Anaemia
   e. Early Menopause

5. **Which of the following signs strongly support a diagnosis of pituitary adenoma?**
   a. Carpopedal Spasm
   b. BitemporalHemianopsia
   c. Chvostek's Sign
   d. Tremor
   e. Clubbing

6. **ADH is secreted by the**
   a. Hypothalamus
   b. Posterior lobe of the pituitary
   c. Intermediate Lobe of the pituitary
   d. Anterior lobe of the pituitary

7. **ADH has it greatest influence on the kidneys at**
   a. Cortex
   b. Distal convoluted tubule
   c. Medulla
   d. Proximal convoluted tubule

8. **TSH stimulation in the thyroid causes**
   a. Decreased blood flow
   b. Decrease in gland size
   c. Increased in follicular epithelium
   d. Increase in colloid

9. **A 16 year old female presents to HMC s/p boating accident and closed head injury with anterior table nondisplacedfrontal sinus fracture. Her urine output on day two is 10 liters a day. You tell the family**
   a. This is self limited and prognosis is good
   b. This requires immediate surgery for decompression and fracture repair
   c. This is idiopathic and has a high mortality
   d. This is not my problem as trauma service

10. **In relation to Calcium, phosphorus**
    a. Increases in serum concentration
    b. Decreases in serum concentration
    c. Linked to Magnesium
    d. Linked to albumin

11. **Long term management of hypercalcemia does not include**
    a. Bisphosphonates
    b. Hydration
    c. Calcitonin
    d. Loop diuretics

12. **A 37 year old females is s/p thyroidectomy POD #2 with heart rate of 155, temperature of 102 and altered mentalstatus. Her TSH is 0.01 and T4 is found to be 12.3. First line treatment includes**
    a. Medication targeted at destroying follicular cells
    b. Medication that decreases T4 output in the colloid cells
    c. Medication that prevents conversion of T4 to T3
    d. Medication targeted centrally to prevent the release of TSH

13. **Which medication should be avoided in a thyroid storm**
    a. Bblocker
    b. Glucocorticosteriods
    c. Insulin
    d. ASA

14. **A 45 year old man is s/p total thyroidectomy with numbness in cace and hands and a positveChovstek sign. Theserum calcium is 6.9 the appropiate step is**
    a. D/C with close follow up to home
    b. Check a magnesium STAT
    c. Calcium gluconate 3 gm IV
    d. Oscal with D 4500mg per day

15. **Severe hypothyroidism characterized by dry, puffy skin, somnolence, slow mentation, and hoarseness is known as**
    a. hypoparathryroidsim
    b. myxedema
    c. pheochromocytoma
    d. rickets

16. **Insulin shock is characterized by**
    a. severe hypoglycemia caused by an overdose of insulin
    b. severe hyperglycemia
    c. too little insulin in the bloodstream
    d. an allergic reaction to insulin

17. **Which of the following would be an appropriate medication for someone with hypothyroidism?**
    a. Cymbalta
    b. Levoxyl
    c. Zelnorm
    d. Zithromax

18. Chronic excretion of large amounts of urine of low specific gravity is indicative of
a. diabetes innocens
b. diabetes insipidus
c. diabetes intermittens
d. diabetes mellitus

19. Potassium, sodium, and chloride are
a. catecholamines
b. electrolytes
c. enzymes
d. steroids

20. Enlargement of the bones of the hands, feet, and face due to overproduction of growth hormone is called
a. acromegaly
b. Cushing syndrome
c. polydactyly
d. Addison disease

21. Which of the following is a measure of blood sugar after 4 or more hours of no food?
a. fasting glucose
b. glucose tolerance test
c. microalbumin test
d. thyroid function test

22. Which of the following is transcribed correctly?
a. The patient was diagnosed with type 1 diabetes at 4 years of age.
b. The patient was diagnosed with type I diabetes at 4 years of age.
c. The patient was diagnosed with type I diabetes at 4years of age.
d. The patient was diagnosed with type one diabetes at 4 years of age.

23. Elevated glucose levels, especially in obese persons, may be due to
a. diabetic acidosis
b. glucose intolerance
c. insulin resistance
d. insulin shock

24. Which gland secretes DHEA and cortisol?
a. pituitary
b. adrenal
c. parathyroid
d. pineal

25. Measurement of T3, T4 and TSH is collectively known as
a. TFTs
b. BMP
c. LFTs
d. CMP

26. Which of the following is a hypoglycemic medication?
a. Avandia
b. Ceftin
c. Lipitor
d. Prevacid

27. Overactivity of the thyroid gland is called
a. Addison disease
b. Cushing syndrome
c. hyperthyroidism
d. hypothyroidism

28. Which of the following is a complication of diabetes mellitus?
a. gastropharesis
b. exophthalmos
c. hirsutism
d. moon facies

29. Graves disease is also known as
a. hypothyroidism
b. parathymia
c. hyperinsulinism
d. toxic goiter

30. The "master gland" of the endocrine system, located at the base of the brain, is the
a. apical gland
b. Bartholin gland
c. pituitary gland
d. thyroid gland

31. The combining form gonad/o menas
a. adrenal glands
b. pancreas
c. sex organs
d. thyroid gland

32. Which type of gland secretes hormones directly into the bloodstream rather than into ducts leading to the exterior ofthe body?
a. endocrine gland
b. exocrine gland
c. serous gland
d. target gland

33. Which test is used to evaluate blood glucose levels over the previous 2 months?
a. methemoglobin
b. Creactive protein
c. hemoglobin A1c
d. prolactin

34. Enlargement of the thyroid gland is called
a. bruit
b. goiter
c. moon facies
d. thyroiditis

35. What is a possible diagnosis for a middleage woman with thinning hair, fatigue, irritability, and weight gain?
a. hyperthyroidism
b. hypochondria
c. hypoparathyroidism
d. hypothyroidism

36. Insulin is produced in the
a. gallbladder
b. kidney
c. liver
d. pancreas

37. Which hormone is secreted in the urine of pregnant women?
a. beta hCG
b. oxytocin
c. growth hormone
d. somatotropin

38. Which of the following is secreted by the posterior lobe of the pituitary gland and stimulates contraction of the uterusduring labor?
a. estrogen
b. oxytocin
c. progesterone
d. prolactin

39. The class of drugs referred to as glitazones are used to treat
a. diabetes insipidus
b. noninsulindependent diabetes mellitus
c. infertility
d. hypothyroidism

40. Which of the following is used to treat diabetes mellitus?
a. Humalog
b. Lotrel
c. Lotensin
d. Neuronitn

41. Which of the following hormones stimulates egg production in the ovaries?
a. FSH
b. PSA
c. TSH
d. prolactin

42. Which of the following secrete estrogen and progesterone?
a. adrenal glands
b. pineal glands
c. ovaries
d. testes

43. What is the name of the gland that is composed of a right and left lobe on either side of the trachea?
a. adrenal gland
b. parathyroid gland
c. pituitary gland
d. thyroid gland

44. An excessive or abnormal hair growth, particularly male pattern hair growth on a woman, is called
a. Addison disease
b. cretinism
c. hirsutism
d. testoxicosis

45. Growth hormone
a. Directly stimulates growth of cartilage and bone
b. Levels are subnormal in acromegaly
c. Promotes lipolysis in adipose tissue
d. Enhance protein breakdown in nonvitalorgans
e. Enhance insulinstimulatedglucose uptake by tissue

46. What test is most useful for Killer?
a. TSH concentration
b. Skin biopsy
c. Total T4 or fT4

47. What was your diagnosis?
a. Hypothyroidism (primary, ie thyroid disease)
b. Hypothyroidism (secondary, ie pituitary disease)
c. Hyperthyroidism

48. For most dogs, what is the main hormone that is deficient?
a. Thyroxine (T4)
b. Diiodotyrosine (T2)
c. Triiodothyronine (T3)

49. Where is it produced?
a. Thyroid
b. Cellular conversion
c. Brain

50. What is the active form of thyroid hormone?
a. Triiodothyronine T3
b. Diiodotyrosine (T2)
c. Thyroxine (T4)

51. Where is T3 produced?
a. Equally from thyroid and tissue conversion of T4
b. Small amount from thyroid, and mostly from tissue conversion of T4
c. Mostly from thyroid and small amount from tissue conversion of T4

52. What other form of thyroid hormone is produced in the cells?
a. Diiodotyrosine T2
b. Thyroxine T4
c. Reverse T3

53. What is its function?
a. Negative feedback to thyroid
b. Same function as T3
c. Inactive

54. What is the mechanism for deficiency of thyroid hormones in majority of cases?
a. Bilateral thyroid gland destruction
b. Insufficient precursors for production
c. Insufficient pituitary production of TSH

55. How is the gland destroyed?
a. Infection
b. Traumatic injury
c. Immune mediated

56. What are the most common clinical signs?
a. Lethargy and alopecia
b. Weight gain and PU/PD
c. Alopecia and weight gain

57. Where is the alopecia typically seen?
a. Trunk and belly
b. Base or tip of tail, base of ears, lateral lumbar region
c. Tips of pinnae, base of tail and under chin

58. Other hair coat or skin changes include?
a. Dry hair, Short guard hairs, Fading coat colour
b. Dry hair, Long guard hairs, Fading coat colour
c. Hyperpigmentation, Seborrhea
d. A and C
e. B and C

59. Other common clinical signs include...

a. Weight gain, Hyperthermia, Bradycardia, Infertility, constipation
b. Weight loss, Bradycardia, Constipation
c. Weight gain, Bradycardia, Infertility, Constipation
d. Weight loss, Bradycardia, Infertility, Diarrhoea

60. What nonspecific tests are often abnormal on a haematology and biochemistry profile?

a. Anaemia of chronic disease, increased cholesterol, triglycerides, CK
b. Anaemia of chronic disease, increased urea, creatinine and CK
c. Anaemia of chronic disease, decreased cholesterol and CK, increased liver enzymes

61. What was the first specific diagnostic test you did?

a. Free T4
b. TSH concentration
c. TSH stimulation
d. Total T4
e. A & D

62. Why not measure T3= active form?

a. Too expensive
b. Often below normal in hypothyroid dogs
c. Often below normal in euthyroid sick dogs
d. B & C

63. What does 'euthyroid sick' mean?

a. Any form of thyroid abnormality
b. Synonymous with hypothyroid
c. Decreased TT3, +/TT3and +/fT4in sick (nonhypothyroid) dog

64. Which of the following may affect the measurement of T4 & T3?

a. Phenobarbital
b. Metacam, carprofen
c. Prednisolone
d. General anaesthetic
e. Clomipramine
f. All of the above

65. What did you use as hormone replacement therapy?

a. Triiodothyroine T3
b. Thyroxine T4
c. Reverse T3

66. Which of the following are signs of overdosing?

a. Clinical signs of overdosing do not occur with T4 therapy
b. Nervousness, restlessness, panting, tachycardia, PU/PD
c. Lethargy, dullness, inappetance

67. How common is secondary (pituitary dependent. or tertiary (hypothalamic. hypothyroidism in dogs?

a. Common
b. Rare
c. Never occurs

68. How would you distinguish between primary, secondary and tertiary hypothyroidism?

a. Measure TSH
b. Biopsy gland
c. Give TRH and measure T4
d. All of the above

69. How common is hypothyroidism in dogs?

a. Rare
b. Relatively common
c. Similar occurrence to other endocrinopathies

70. How common is hypothyroidism in cats?

a. Rare
b. Most common endocrinopathy
c. Similar occurrence to other endocrinopathies

71. What are the most likely diseases for PU/PD & alopecia?

a. Diabetes mellitus, Hyperadrenocorticism, GH responsive alopecia
b. Hyperadrenocorticism, Diabetes mellitus
c. Chronic renal failure, hypoadrenocorticism, hepatic neoplasia

72. What are the steps needed to diagnose hyperA?

a. Look for adrenal tumour, if negative look for pituitary tumour
b. Confirm hyperA but it is not possible to determine whether aetiology is pituitary or adrenal
c. Confirm hyperA then differentiate between pituitary and adrenal dependent

73. What test/s can be used to confirm/ deny hyperA?

a. Low dose dexamethasone suppression test
b. High dose dexamethasone suppression test
c. ACTH concentration
d. ACTH stimulation test
e. Both A and D

74. What are the causes of HyperA

a. Neoplasia + iatrogenic (exogenous steroids)
b. Neoplasia + iatrogenic + immune mediated
c. Neoplaia + iatrogenic + diet

75. What is the primary hormone in excess in a pituitary tumour?

a. ACTH
b. Cortisol
c. TSH

76. What is the primary hormone in excess in an adrenal tumour

a. ACTH
b. Cortisol
c. TSH

77. What are the major effects of excess cortisol?

a. Catbolic + immunosuppression
b. Catabolic + anabolic
c. Catabolic + immune stimulation

78. Which of the following could be used to determine PDH vs AT?

a. 4 hour sample in the LDD
b. High dose dexamethasone suppression test
c. Ultrasound &/ or xrayof adrenals
d. ACTH concentration
e. All of the above

79. What is the rationale for using radiography?

a. Different adrenal size

b. Identify other abdominal problems
c. Mineralisation of the adrenals

80. What are the implications of a pituitary tumour?
a. Most are large tumours that will kill the dog due to space occupation in the brain
b. Most are small tumours, but dog is likely to die from metastasis.
c. Most are small tumours; tumour invasion and metastasis rarely cause death

81. How would you test for iatrogenic hyperA?
a. ACTH stimulation
b. Low dose dexamethasone suppression test
c. High dose dexamethasone suppression test
d. ACTH concentration

82. What was your final diagnosis for Sheena?
a. Pituitary dependent hyperadrenocorticism + bacterial cystitis
b. Adrenal dependent hyperadrenocorticism + renal failure
c. Adrenal dependent hyperadrenocorticism + cystitis

83. What treatment would you recommend?
a. Surgery
b. Euthanasia
c. No treatment is necessary

84. What test/s should be performed prior to surgery?
a. Chest radiograph and abdominal ultrasound
b. Chest radiograph and brain MRI or CT scan
c. Chest radiograph and cardiac ultrasound

85. If surgery was not an option?
a. Euthanasia
b. Drug therapy
c. No treatment necessary

86. What drugs?
a. Mitotane +/prednisoloneor trilostane
b. Mitotane +/prednisoloneor selegiline/ Ldeprenyl
c. Ketoconazole +/prednisoloneor selegiline/ Ldeprenyl

87. How do you assess the response to treatment?
a. Feed and water intake
b. ACTH stimulation test
c. Both of the above

88. Choose the intermediateactinginsulin(s.:
a. Lispro
b. Aspart
c. Regular
d. NPH
e. Glargine

89. The main mechanism of _____ is to block TH iodination; also prevent peripheral conversion of T4 >T3.
a. Propylthiouracil
b. Methimazole
c. Triiodothyronine
d. Iodine
e. Potassium thiocyanate
f. Betablockers
g. Radioactive iodine (I131)

90. The main indication for _____ is intravenous calcium replacement for hypocalcemia.
a. Calcium gluconate
b. Calcium carbonate
c. Calcium citrate
d. Raloxifene
e. Bisphosphonates ("dronate")
f. Calcitonin
g. Denosumab
h. Teriparatide

91. Monoclonal antibody that binds to Her2/neu receptor on breast cancer cells
a. Estrogen replacement
b. Gonadotropins
c. Tamoxifen
d. Anastrozole
e. Trastuzumab
f. Goserelin

92. Glipizide has the following main sideeffects:
a. Hypoglycemia
b. Lactic acidosis
c. Weight gain
d. Hepatotoxicity
e. CV toxicity
f. Nausea and vomitting
g. Pancreatitis
h. EB. Most are small tumours, but dog is likely to die from metastasis.
i. C. Most are small tumours; tumour invasion and metastasis rarely cause death

93. Partial estrogen agonist (SERM) in breast tissue usedto treat and prevent ERpositivebreast cancer
a. Estrogen replacement
b. Gonadotropins
c. Tamoxifen
d. Anastrozole
e. Trastuzumab
f. Goserelin

94. The main mechanism of _____ is to block TH iodination; contraindicated in pregnancy due to possibly teratogenicity.
a. Propylthiouracil
b. Methimazole
c. Triiodothyronine
d. Iodine
e. Potassium thiocyanate
f. Betablockers
g. Radioactive iodine (I131)

95. The main mechanism of _____ is symptomatic relief of hyperthyroidism.
a. Propylthiouracil
b. Methimazole
c. Triiodothyronine
d. Iodine
e. Potassium thiocyanate
f. Betablockers
g. Radioactive iodine (I131)

96. The main indication for _____ is dietary calcium supplementation; need to take with a meal and can take less.

a. Calcium gluconate
b. Calcium carbonate
c. Calcium citrate
d. Raloxifene
e. Bisphosphonates ("dronate")
f. Calcitonin
g. Denosumab
h. Teriparatide
i. Calcitriol

97. A 57-year-old woman, presents with dull grey-brown patches in her mouth and the palms of her handwhich she has noticed in the last week. She has also noticed she gets very dizzywhen rising from a seated position and is continually afraid of fainting. The mostlikely diagnosis is:

a. Addison's disease
b. SIADH
c. Conn's syndrome
d. Waterhouse–Friderichsen syndrome
e. 17-hydroxylase deficiency

98. The main mechanism of _____ is to replace thyroxine (T4).

a. Propylthiouracil
b. Methimazole
c. Triiodothyronine
d. Iodine
e. Potassium thiocyanate
f. Betablockers
g. Radioactive iodine (I131)

99. The main mechanism of _____ is closing K+ membrane channels on beta cells which triggers inulin release.

a. Glizipide
b. Metformin
c. Sitagliptin
d. Exenatide
e. Pioglitazone/Rosiglitazone

100. Choose the slowactinginsulin(s):

a. Lispro
b. Aspart
c. Regular
d. NPH
e. Glargine

101. GnRH analog that can suppress fertiltiy if given continuously

a. Estrogen replacement
b. Gonadotropins
c. Tamoxifen
d. Anastrozole
e. Trastuzumab
f. Goserelin

102. The main mechanism of _____ is to block secretion of preformed thyroid hormone.

a. Propylthiouracil
b. Methimazole
c. Triiodothyronine
d. Iodine
e. Potassium thiocyanate
f. Betablockers
g. Radioactive iodine (I131)

103. Metformin has the following main sideeffects:

a. Hypoglycemia
b. Lactic acidosis
c. Weight gain
d. Hepatotoxicity
e. CV toxicity
f. Nausea and vomitting
g. Pancreatitis
h. Edema

104. _____ is indicated for use in emergent hypercalcemia to quickly reduce serum calcium; given in combnation withbisphosphonates which take ~48 hours to reduce serum calcium.

a. Calcium gluconate
b. Calcium carbonate
c. Calcium citrate
d. Raloxifene
e. Bisphosphonates ("dronate")
f. Calcitonin
g. Denosumab
h. Teriparatide
i. Calcitriol

105. This main mechanism of _____ is to act as an analog of incretin (GLP1)

which increases glucose dependent insulinsecretion and reduces glucagon release.

a. Glizipide
b. Metformin
c. Sitagliptin
d. Exenatide
e. Pioglitazone/Rosiglitazone

106. The main mechanism of _____ is to inhibit DPP4.

a. Glizipide
b. Metformin
c. Sitagliptin
d. Exenatide
e. Pioglitazone/Rosiglitazone

107. The main mechanism of _____ is killing thyroid cells.

a. Propylthiouracil
b. Methimazole
c. Triiodothyronine
d. Iodine
e. Potassium thiocyanate
f. Betablockers
g. Radioactive iodine (I131)

108. The main mechanism of _____ is inhibition of gluconeogenesis in the liver.

a. Glizipide
b. Metformin
c. Sitagliptin
d. Exenatide
e. Pioglitazone/Rosiglitazone

109. The main indication for _____ is vitamin D replacement.

a. Calcium gluconate

b. Calcium carbonate
c. Calcium citrate
d. Raloxifene
e. Bisphosphonates ("dronate")
f. Calcitonin
g. Denosumab
h. Teriparatide
i. Calcitriol

110. The main mechanism of _____ is to increase insulin sensitivity in peripheral tissue.
a. Glizipide
b. Metformin
c. Sitagliptin
d. Exenatide
e. Pioglitazone/Rosiglitazone

111. The main mechanism of _____ is to inhibit iodide transport.
a. Propylthiouracil
b. Methimazole
c. Triiodothyronine
d. Iodine
e. Potassium thiocyanate
f. Betablockers
g. Radioactive iodine (I131.

112. Aromatase inhibitor used in postmenopausal women with breast cancer to block peripheral estrogen production.
a. Estrogen replacement
b. Gonadotropins
c. Tamoxifen
d. Anastrozole
e. Trastuzumab
f. Goserelin

113. _____ is used to treat hypogonadism or ovarian failure, menstrual abnormalities; risk of endometrial cancer, bleeding, vaginal clear cell adenocarcinoma, thrombi formation
a. Estrogen replacement
b. Gonadotropins
c. Tamoxifen
d. Anastrozole
e. Trastuzumab
f. Goserelin

114. _____is a selective estrogen receptor modulator and is indicated for treatment of osteoporosis and prevents breastcancer.
a. Calcium gluconate
b. Calcium carbonate
c. Calcium citrate
d. Raloxifene
e. Bisphosphonates ("dronate")
f. Calcitonin
g. Denosumab
h. Teriparatide
i. Calcitriol

115. The main indication for _____ is dietary calcium supplementation; don't need to take with a meal but have to takemore.
a. Calcium gluconate
b. Calcium carbonate
c. Calcium citrate
d. Raloxifene
e. Bisphosphonates ("dronate")
f. Calcitonin
g. Denosumab
h. Teriparatide
i. Calcitriol

116. _____ is a monoclonal antibody that binds RANKL and inhibits osteoclast differentiation.
a. Calcium gluconate
b. Calcium carbonate
c. Calcium citrate
d. Raloxifene
e. Bisphosphonates ("dronate")
f. Calcitonin
g. Denosumab
h. Teriparatide
i. Calcitriol

117. T4 is converted to T3 by _____.
a. TBG
b. thyroglobulin
c. peripheral tissue

118. Adrenal hemorrhage and insufficiency due to Neisseria meningitidis is called _____.
a. Addison's
b. Cushing's
c. Conn's
d. Waterhouse Friderichsen syndrome

119. Subacute thyroiditis causes chronic hyperthyroidism.
a. True
b. False

120. GnRH, oxytocin, ADH, and TRH signal via...
a. cAMP
b. cGMP
c. IP3
d. Cytosolic steroid receptor
e. Nuclear steroid receptor
f. Tyrosine (MAP) kinase pathway
g. JAK/STAT pathway

121. Insulin and IGF1signal via...
a. cAMP
b. cGMP
c. IP3
d. Cytosolic steroid receptor
e. Nuclear steroid receptor
f. Tyrosine (MAP) kinase pathway
g. JAK/STAT pathway

122. Refractory hyperparathyroidism due to chronic renal disease; very elevated PTH and elevated Ca2+
a. Primary hyperparathyroidism
b. Secondary hyperparathyroidism
c. Tertiary hyperparathyroidism

123. Amylin a neuroendocrine hormone, which is deficient in Type1 DM Type DM in secreated form.
a. Pancreatic beta cell
b. Brain

c. Exocrine Pancrease
d. Kidney

124. Average reduction of HbA1C by DPP4 inhibitor is-
a. .9%
b. .8%
c. .7%
d. 1%

125. Colesevolam in addition to glucose lowering action also reduces maximum-
a. LDL
b. HDL
c. TG
d. VLDL

126. Up until studies from edmontom the islet cell transplantation the result of Type 1A diabetic patient.
a. <10% where insulin independent at 1years
b. <5% where insulin independent <1years
c. >30% where insulin independent at 1years
d. >20% where insulin independent at 1years

127. HIRATA syndrome or insulin autoimmune syndrome is seen mostly in.
a. Europian Population
b. Asian Population
c. American Population
d. African Population

128. Patient of Type 2 DM should be encouraged to do resistance exercise of all group of muscle at least.
a. 2 times a week
b. 3 times a week
c. Once a week
d. 5 days a week

129. The possible mechanism of Glucocorticoid induced insulin resistance is
a. Activation of PPARα
b. Activation of PPAR γ
c. Inhibition of PPARα
d. Inhibition of PPAR γ

130. Insulin increases the entry of glucose into-
a. All tissues
b. Renal tubular cells
c. The mucosal cell of small intestine
d. Skeletal Muscle cell

131. A meal rich in proteins containing amino acids that stimulates insulin secretion but low in carbohydrates does not cause hypoglycaemic because-
a. A meal compensatory increase T4 secreation
b. Glucagon secreation is also stimulated by meal.
c. The amino acid in the meal is converted to glucose.

132. Transient neonatal diabetes resolves between
a. 6-12 months of life
b. 8-12 months of life
c. 10-12 months of life
d. 8-1- months of life

133. In minimal weight gain strategy , the weight neutral pharmacotherapy are all expect-
a. AGI
b. Colesevelam
c. DPP4 Inhibitor
d. GLP1 Agonist

134. Minimal progressive Beta cell loss strategy best co-prescription with metformin is
a. Thaiazolidinediones
b. GLP1 Agonist
c. DPP4 Inhibitor
d. Sulfunileurea

135. Clinical situation to be ruled out in earlier renal failure in Type2 DM is
a. Enhanced atherosclerotic and bilaterial renal arterial stenosis.
b. Renal tubular Acidosis
c. Renal Papillary necrosis
d. UTI

136. In overt diabetic nephropathic patients the target BP should be.
a. <125/75mmHg
b. <135/85 mmHg
c. <120/80 mmHg
d. <130/80 mmHg

137. Insulin neurities by definition should be present for less then-
a. 6 month
b. 3 month
c. 2 month
d. 1 month

138. A 60-year-old man visits his GP complaining of tiredness. He has noticed weightloss over the last six months and irritation of the tip of his penis which appearsinflamed on examination. He mentions he has been visiting the toilet more oftenthan usual and feeling thirsty. The most appropriate investigation would be:
a. Oral glucose tolerance test
b. Measurement of glycatedhaemoglobin
c. Random plasma glucose test
d. Water deprivation test
e. Measurement of triglyceride levels

139. A 33-year-old obese woman complains of tiredness. She has recently given birthtoa healthy baby boy and is enjoying being a mother. However, she is becoming morereliant on her partner for support as she always feels exhausted and often becomesdepressed. The patient has a poor appetite and often does not finish her meals, despite this she has gained 5 kg in the last 2 weeks. The most likely diagnosis is:
a. Postpartum depression
b. Eating disorder
c. Hyperthyroidism
d. Hypothyroidism
e. Occult malignancy

140. A 28-year-old woman has noticed a change in her appearance; most notably herclothes do not fit properly and are especially tight around the waist. Her faceappears flushed and more rounded than usual, despite exercising regularly andeating healthily her weight has steadily increased over the last 3 weeks. On visitingher GP, he notices her blood pressure

has increased since her last visit and she hasbruises on her arm. She is especially worried about a brain tumour. The mostappropriate investigation would be:

a. Low-dose dexamethasone test
b. High-dose dexamethasone test
c. Urinary catecholamines
d. Computed tomography (CT) scan
e. Urinary free cortisol measurement

141. A 49-year-old man presents with a history of difficulty sleeping. He reports feelingincreasingly tired and general weakness which he attributes to his poor sleeppattern. Additionally, the patient has noticed he has gained weight and sweats veryeasily. On examination, the patient has coarse facial features. The most likely diagnosis is:

a. Hyperthyroidism
b. Cushing's disease
c. Acromegaly
d. Hypothyroidism
e. Diabetes

142. A 42-year-old woman presents with visual disturbances. She reports having doublevision which was intermittent initially but has now become much more frequent.Inaddition, she becomes breathless very easily and experiences palpitations. Onexamination, raised, painless lesions are observed on the front of her shins and finger clubbing. The most likely diagnosis is:

a. De Quervain's thyroiditis
b. Thyroid storm
c. Phaeochromocytoma
d. Graves' disease
e. Plummer's disease
f. Goitre

143. A 16-year-old girl presents to her GP complaining of a swelling in her neck whichshe has noticed in the last 2 weeks. She has felt more irritable although this is oftentransient. On examination, a diffuse swelling is palpated with no bruit onauscultation. The most likely diagnosis is:

a. Hyperthyroidism
b. Simple goitre
c. Riedel's thyroiditis
d. Thyroid carcinoma
e. Thyroid cyst

144. A 22-year-old woman complains of dizziness and feeling light-headed. She worksin an office and most frequently experiences this when standing up to visit thetoilet. She has never fainted. The patient has lost 5 kg, but attributes this to eatingmore healthily. She has noticed a recent scar on the back of her hand which has started to turn very dark. The most appropriate investigation is:

a. Synacthen test
b. Low-dose dexamethasone test
c. Cortisol measurement
d. Urinary free cortisol measurement
e. Abdominal ultrasound (US) scan

145. A 29-year-old man presents with a 4-week history of polyuria and extreme thirst.The patient denies difficulty voiding, hesitancy or haematuria, although the urineis very dilute. The patient does not believe he has lost any weight and maintains agood diet. No findings are found on urine dipstick. The most appropriateinvestigation is:

a. Serum osmolality
b. Fasting plasma glucose
c. Urinary electrolytes
d. Magnetic resonance imaging (MRI) scan of the head
e. Water deprivation test

146. A 69-year-old man presents with confusion. His carers state that over the lastmonth he has become increasingly lethargic, irritable and confused. Despitemaintaining a good appetite, he has lost 10 kg in the last month. Blood results areas follows:

Sodium 125 mmol/L

Potassium 4 mmol/L

Urea 3

Glucose (fasting) 6 mmol/L

Urine osmolality 343 mmol/L

The most likely diagnosis is:

a. Hypothyroidism
b. Dilutionalhyponatraemia
c. Addison's disease
d. Acute tubulointerstitial nephritis
e. Syndrome of inappropriate anti-diuretic hormone (SIADH)

147. A 54-year-old woman presents to her GP complaining of a change in her breathingsound. She first noticed numbness, particularly in her fingers and toes, threemonths ago but attributed this to the cold weather. Her partner now reports hearinga high pitched, harsh sound while she is sleeping. Her BMI is 27. While measuring blood pressure, you notice the patient's wrist flexing. The most likely diagnosis is:

a. Obstructive sleep apnoea
b. Hypocalcaemia
c. DiGeorge syndrome
d. Guillain–Barré syndrome
e. Raynaud's syndrome

148. A 39-year-old man presents with a three-month history of depression. The patientrecently lost a family member and around the same period began to feel unwellwith constipation and a depressed mood. He has started taking analgesia for asharp pain in his right lower back that often radiates towards his front. The most appropriate investigation is:

a. Serum parathyroid hormone
b. Serum thyroid stimulating hormone
c. Colonoscopy
d. Fasting serum calcium
e. MRI scan

149. A 47-year-old woman presents to clinic after being referred from her GP forconsistently elevated blood pressure. Her last reading was 147/93. The female doesnot report any symptoms but recently lost her job and attributes the elevatedreading to stress. Her blood tests are as follows:

Sodium 146

Potassium 3.4

Glucose (random) 7.7

Urea 4

The most appropriate investigation is:

a. CT scan
b. 24-hour ambulatory blood pressure
c. Abdominal ultrasound scan

d. Aldosterone–renin ratio
e. Glucose tolerance test

150. A 65-year-old woman complains of panic attacks. She has recently retired as aschool teacher, but 2–3 times a week she suffers extreme anxiety, becomes short ofbreath and sweats excessively. Elevated catecholamines are detected in the urine.

The most appropriate medical treatment is:

a. Phenoxybenzamine alone
b. Prolopanolol alone
c. Phenoxybenzamine followed by propanolol
d. Sodium nitroprusside
e. Propanolol followed by phenoxybenzamine

151. A 47-year-old woman complains of weight loss. She has a family history of type 1 and type 2 diabetes but has never been diagnosed herself despite the finding of islet cell antibodies. In the last few months, however, she has noticed progressively increasing polyuria and poydipsia and 5 kg of weight loss. Her fasting plasma glucose is 8 mmol/L and urine dipstick shows the presence of ketones. The most likely diagnosis is:

a. Type 1 diabetes
b. Non-ketotic hyperosmolar state
c. Type 2 diabetes
d. Occult malignancy
e. Latent autoimmune diabetes of adults (LADA)

152. A 50-year-old Asian man is referred to the diabetes clinic after presenting with polyuria and polydipsia. He has a BMI of 30, a blood pressure measurement of 137/88 and a fasting plasma glucose of 7.7 mmol/L. The most appropriate first-line treatment is:

a. Dietary advice and exercise
b. Sulphonylurea
c. Exenatide
d. Thiazolidinediones
e. Metformin

153. A 55-year-old diabetic woman presents with altered sensations in her hands and feet. She finds it difficult to turn pages of books and discriminating between different coins. When walking, the floor feels different and she likens the sensation to walking on cotton wool. The most likely diagnosis is:

a. Autonomic neuropathy
b. Diabetic amyotrophy
c. Acute painful neuropathy
d. Symmetrical sensory neuropathy
e. Diabetic mononeuropathy

154. A 29-year-old woman is referred to a diabetic clinic for poor diabetes management.She was diagnosed with type 1 diabetes at the age of 12 and prescribed actrapidinsulin injections. Recently, the patient has been suffering fluctuations in herplasma glucose levels and her previously well-controlled glycatedhaemoglobin has risen to 8.1 per cent. The patient admits she has recently been avoiding using herinjections. On examination, the patient has a raised, smooth lump that is firm onpalpation at the lower abdomen. The most likely diagnosis is:

a. Worsening of diabetes
b. Lipohypertrophy
c. Injection scarring
d. Lipoma
e. Injection abscess

155. A 15-year-old girl complains of headaches which started 6 weeks ago. Theheadaches initially occurred 1–2 times a week but now occur up to five times aweek, they are not associated with any neurological problems, visual disturbances,nausea or vomiting. The girl also reports a white discharge from both of her nipples. She has not started menstruating. The most appropriate investigation is:

a. Lateral skull x-ray
b. CT scan
c. MRI scan
d. Thyroid function tests
e. Serum prolactin measurement

156. A 7-year-old girl presents with red striae which her mother noticed around herabdomen. The girl also has plethoric cheeks and, on her back, several faint, irregularbrown macules are observed. The mother is particularly concerned about the earlybreast development that seems apparent on her daughter. Serum phosphate isdecreased. The most likely diagnosis is:

a. Paget's disease of the bone
b. McCune–Albright syndrome
c. Cushing's disease
d. Hypopituitarism
e. Neurofibromatosis

157. An 18-year-old man presents to clinic worried about his scant pubic hairdevelopment. Examination reveals undescended testes and plasma testosterone,luteinizing hormone and follicle stimulating hormone were found to be low. Akarytotype test was 46, XY. The patient was otherwise well, but during neurologicalexamination struggled during the olfactory test. The most likely diagnosis is:

a. Hypogonadotropichypogonadism
b. Klinefelter's disease
c. Androgen insensitivity syndrome
d. 5-alpha reductase deficiency
e. Kallman's syndrome

158. A 47-year-old woman is referred to the endocrine clinic complaining of a twomonthhistory of tiredness. Despite wearing several items of clothing, the patientappears intolerant to the room temperature. She has noticed an increase in weight,particularly around her waist. The most appropriate investigation is:

a. Radioiodine scan
b. Thyroid stimulating hormone (TSH)
c. Total tetraiodothyronine level (T4)
d. Tri-iodothyronine level (T3)
e. Ultrasound scan of the neck

159. A 58-year-old woman presents with an acutely painful neck, the patient has afever, blood pressure is 135/85 mmHg and heart rate 102 bpm. The patient explainsthe pain started 2 weeks ago and has gradually become worse. She also notespalpitations particularly and believes she has lost weight. The symptoms subsideand the patient presents again complaining of intolerance to the cold temperatures.The most likely diagnosis is:

a. Thyroid papillary carcinoma
b. Plummer's disease
c. De Quervain's thyroiditis
d. Hyperthyroidism
e. Thyroid follicular carcinoma

160. A 6-year-old girl presents to accident and emergency with severe abdominal pain,nausea and vomiting. On examination, the patient is tachypnoeic, capillary refill is3 seconds and she has a dry tongue. While listening to the patient's lungs,

youdetect a sweet odour from her breath. The most likely diagnosis is:

a. Diabetic ketoacidosis
b. Non-ketotic hyperosmolar state
c. Gastroenteritis
d. Pancreatitis
e. Adrenal crisis

161. A 45-year-old Asian man is diagnosed with Cushing's disease in India. He undergoesa bilateral adrenalectomy and recovers well from the operation. On his return to theUK one year later, he complains of a constant dull headache, peripheral visualdisturbances and increasing pigmentation of the skin creases of both hands. Themost likely diagnosis is:

a. Ectopic ACTH secreting tumour
b. Prolactinoma
c. Nelson syndrome
d. Addison's disease
e. Side effects from iatrogenic steroid intake

162. A 29-year-old woman is found unconscious by her partner and rushed to accidentand emergency. She is a type 1 diabetic and has maintained excellent glucosecontrol using insulin injections. Blood biochemistry results demonstrate amoderately raised level of insulin, no detectable C-peptide and very low bloodglucose. Her partner mentions she is a lawyer and has been working particularlyhard in the last week, eating quick meals and occasionally missing meals. The mostlikely diagnosis is:

a. Hyperosmolar coma
b. Diabetic ketoacidosis
c. Insulin overdose
d. Hypoglycaemic coma
e. Autonomic neuropathy

163. A 49-year-old man has recently been diagnosed with type 2 diabetes and is beingcarefully monitored. He has been advised to maintain a healthier diet and lifestyle,he attends a follow-up clinic and claims to have been following the diet stringentlysince his last appointment three months ago. The most appropriate investigation is:

a. Random plasma glucose
b. Fasting plasma glucose
c. Urine dipstick
d. Glycatedhaemoglobin
e. Weight measurement

164. A 41-year-old man has been recently diagnosed with type 2 diabetes and has beenfollowing a plan of lifestyle measures to improve his diet and increase his level ofexercise. On returning to clinic, his BMI is 23, fasting plasma glucose 9.0 mmol/L,blood pressure 133/84 mmHg and HbA1c of 7.1 per cent. The most appropriatetreatment option is:

a. Metformin
b. Sulphonylurea
c. Insulin
d. Exenatide
e. Further diet and exercise

165. A 33-year-old man complains of a tingling sensation in his hands for severalmonths which occasionally awakens him during sleep. The patient has noticed hehas gained weight and no longer wears his wedding ring as it has become too tight. You notice the patient is sweating while speaking to you and has quite a large jaw, furrowed tongue and large hands. His blood pressure reading is 142/91 mmHg. Themost appropriate investigation would be:

a. MRI scan of the pituitary
b. Glucose tolerance test
c. Growth hormone levels
d. Thyroid function tests
e. Serum prolactin levels

166. A 19-year-old woman presents with concerns about changes to her facialappearance, in particular her nose and jaw seem quite large, she is also quite sweatyand despite using antiperspirants is finding it difficult to control and is afraid ofembarrassment at university. A glucose tolerance test is performed and found to be raised. The most appropriate management would be:

a. Trans-sphenoidal surgery
b. Octreotide
c. Bromocriptine
d. Pituitary radiotherapy
e. Pegvisomant

167. A 29-year-old man presents to his GP complaining of being constantly thirsty, tiredand visiting the toilet more often than usual during the last 4 days. He has noticedhis clothes have become more baggy and he now needs to tighten his belt. Hisparents both have diabetes requiring insulin therapy. A fasting plasma glucose result is most likely to be:

a. 9.0 mmol/L
b. 6.0 mmol/L
c. 16.3 mmol/L
d. 5.0 mmol/L
e. 3.0 mmol/L

168. A 22-year-old woman is found unconscious in her room by her boyfriend andbrought into accident and emergency. A urine dipstick is positive for glucose andketones and blood analysis shows the following results:

pH 6.9

***P*CO2 3.0 kPa**

***P*O2 13 kPa**

Sodium 144 mmol/L

Potassium 5.0 mmol/L

Urea 11

Glucose 20

Chloride 100

Bicarbonate 2.9

The most likely anion gap is:

a. 180
b. 118
c. 139.2
d. 46.1
e. 28

169. A 37-year-old man presents with symptoms of an acute headache, vomiting,malaise and visual disturbance. A neurological examination reveals a bitemporalsuperior quadrantanopia. A CT scan shows a hyperdense area within the pituitarygland. The most likely diagnosis is:

a. Kallman syndrome
b. Septo-optic dysplasia
c. Sheehan's syndrome

d. Empty sella syndrome
e. Pituitary apoplexy

170. A 38-year-old woman presents to clinic complaining of changes in her appearanceand weight gain. She has recently been through a divorce and attributed her weightgain to this. However, despite going to the gym her clothes are still tight, especiallyaround her waist, her face seems puffy and flushed. The most likely diagnosis is:

a. Hyperthyroidism
b. Cushing's disease
c. Acromegaly
d. Hypothyroidism
e. Diabetes

171. A 60-year-old diabetic man recovering from sepsis after collapsing at home wastreated with appropriate antibiotics after blood culture and aggressive fluidmanagement with 0.9 per cent saline for 2 days for hypotension. Although bloodpressure returned to normal, the patient had the following abnormal biochemical blood results:

pH 7.32

PCO2 5.2

PO2 11.1

Sodium 147 mmol/L

Potassium 3.5 mmol/L

Chloride 119 mmol/L

Bicarbonate 19.5

The most likely diagnosis is:

a. Diabetic ketoacidosis
b. Lactic acidosis
c. Conn's syndrome
d. Renal tubular acidosis type 1
e. Hyperchloremic acidosis

Endocrinology - Answers

1. d
2. c
3. b
4. b
5. b
6. b
7. c
8. c
9. c
10. b
11. c
12. c
13. d
14. c
15. b
16. a
17. b
18. b
19. b
20. a
21. a
22. a
23. c
24. b
25. a
26. a
27. c
28. a
29. d
30. c
31. c
32. a
33. c
34. b
35. d
36. d
37. a
38. b
39. b
40. a
41. a
42. c
43. d
44. c
45. c
46. c
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51. b
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54. a
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56. a
57. b
58. e
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68. d
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72. c
73. e
74. a
75. a
76. b
77. a
78. e
79. c
80. c
81. a
82. c
83. a
84. a
85. b
86. a
87. c
88. d
89. a
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92. c
93. c
94. b
95. f
96. b
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100. e
101. b
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103. b
104. f
105. d
106. c
107. g
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112. d
113. a
114. d
115. c
116. g
117. c
118. d
119. b
120. c
121. f
122. c
123. a: williums endo page 1416
124. c: williums endo page 1416
125. a: williums endo page 1416
126. a: williums endo
127. b: williums endo
128. b: williums endo page 1389
129. a: williums endo page 1389
130. d: ganongs physiology 451
131. b: ganongs physiology 451
132. a: williums endo page-1375
133. d: williums endo page-1419
134. a: williums endo page 1419
135. a: williums endo page 1496
136. a: williums endo page 1498
137. a: williums endo page 1504
138. c
139. d
140. e
141. c
142. d
143. b
144. a
145. e
146. e
147. b
148. d
149. b
150. c
151. e
152. a
153. d
154. b
155. e
156. b
157. e
158. b
159. c
160. a
161. c
162. d
163. d
164. b
165. b
166. a
167. a
168. d
169. e
170. c
171. e