

Department tests
Endocrinology

1) Cortisol is secreted from where?

- A. Adrenal Medulla
- B. Adrenal Cortex:- Zona Fasciculata
- C. Adrenal Cortex:- Zona Reticularis
- D. Adrenal Cortex:- Zona Glomerulus
- E) Anterior Hypophysis

Answer: D

2) Which of these is not secreted from the Anterior Hypophysis?

- A. Thyroid Stimulating Hormone
- B. Adrenocorticotrophin Hormone
- C. Oxytocin
- D. Follicular Stimulating Hormone
- E) Lutenising Hormone

Answer: C

3) Diabetes Insipidus is a deficiency of what hormone?

- A. Atrial Natriuretic Peptide
- B. Vasopressin
- C. Aldosterone
- D. Insulin
- E) Progesterone

Answer: B

4) Excess prolactin causes:

- A. Acromegaly
- B. Gynaecomastia
- C. Dwarfism
- D. Anaemia
- E) Early Menopause

Answer: B

5) Which of the following signs strongly support a diagnosis of pituitary adenoma?

- A. Carpopedal Spasm
- B. Bitemporal Hemianopsia
- C. Chvostek's Sign
- D. Tremor
- E) Clubbing

Answer: B

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

Answer: B

7) ADH has its greatest influence on the kidneys at

- A. Cortex
- B. Distal convoluted tubule
- C. Medulla
- D. Proximal convoluted tubule

Answer: C

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

Answer: C

9) A 16 year old female presents to HMC s/p boating accident and closed head injury with anterior table non-displaced frontal 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

Answer: C

10) In relation to Calcium, phosphorus

- A. Increases in serum concentration
- B. Decreases in serum concentration
- C. Linked to Magnesium
- D. Linked to albumin

Answer: B

11) Long term management of hypercalcemia does not include

- A. Bisphosphonates
- B. Hydration
- C. Calcitonin
- D. Loop diuretics

Answer: C

12) A 37 year old female is s/p thyroidectomy POD #2 with heart rate of 155, temperature of 102 and altered mental status. 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

Answer: C

13) Which medication should be avoided in a thyroid storm

- A. B-blocker
- B. Glucocorticosteroids
- C. Insulin

D. ASA

Answer: D

14) A 45 year old man is s/p total thyroidectomy with numbness in face and hands and a positive Chovstek sign. The serum calcium is 6.9 the appropriate 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

Answer: C

15) Severe hypothyroidism characterized by dry, puffy skin, somnolence, slow mentation, and hoarseness is known as

A. hypoparathyroidism

B. myxedema

C. pheochromocytoma

D. rickets

Answer: B

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

Answer: A

17) Which of the following would be an appropriate medication for someone with hypothyroidism?

A. Cymbalta

B. Levoxyl

C. Zelnorm

D. Zithromax

Answer: B

18) Chronic excretion of large amounts of urine of low specific gravity is indicative of

A. diabetes insipidus

B. diabetes insipidus

C. diabetes intermittens

D. diabetes mellitus

Answer: B

19) Potassium, sodium, and chloride are

A. catecholamines

B. electrolytes

C. enzymes

D. steroids

Answer: B

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

Answer: A

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

Answer: A

22) Which of the following is transcribed correctly?

- A. The patient was diagnosed with type 1 diabetes at 4 years of ag
- B. The patient was diagnosed with type I diabetes at 4 years of age.
- C. The patient was diagnosed with type I diabetes at 4-years of age.
- D. The patient was diagnosed with type one diabetes at 4 years of age.

Answer: A

23) Elevated glucose levels, especially in obese persons, may be due to

- A. diabetic acidosis
- B. glucose intolerance
- C. insulin resistance
- D. insulin shock

Answer: C

24) Which gland secretes DHEA and cortisol?

- A. pituitary
- B. adrenal
- C. parathyroid
- D. pineal

Answer: B

25) Measurement of T3, T4 and TSH is collectively known as

- A. TFTs
- B. BMP
- C. LFTs
- D. CMP

Answer: A

26) Which of the following is a hypoglycemic medication?

- A. Avandia
- B. Ceftin
- C. Lipitor
- D. Prevacid

Answer: A

27) Overactivity of the thyroid gland is called

- A. Addison disease
- B. Cushing syndrome
- C. hyperthyroidism
- D. hypothyroidism

Answer: C

28) Which of the following is a complication of diabetes mellitus?

- A. gastropharesis
- B. exophthalmos
- C. hirsutism
- D. moon facies

Answer: A

29) Graves disease is also known as

- A. hypothyroidism
- B. parathymia
- C. hyperinsulinism
- D. toxic goiter

Answer: D

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

Answer: C

32) Which type of gland secretes hormones directly into the bloodstream rather than into ducts leading to the exterior of the body?

- A. endocrine gland
- B. exocrine gland
- C. serous gland
- D. target gland

Answer: A

33) Which test is used to evaluate blood glucose levels over the previous 2 months?

- A. methemoglobin
- B. C-reactive protein
- C. hemoglobin A1c
- D. prolactin

Answer: C

34) Enlargement of the thyroid gland is called

- A. bruit
- B. goiter
- C. moon facies
- D. thyroiditis

Answer: B

35) What is a possible diagnosis for a middle-age woman with thinning hair, fatigue, irritability, and weight gain?

- A. hyperthyroidism
- B. hypochondria
- C. hypoparathyroidism
- D. hypothyroidism

Answer: D

36) Insulin is produced in the

- A. gallbladder
- B. kidney
- C. liver
- D. pancreas

Answer: D

37) Which hormone is secreted in the urine of pregnant women?

- A. beta hCG
- B. oxytocin
- C. growth hormone
- D. somatotropin

Answer: A

38) Which of the following is secreted by the posterior lobe of the pituitary gland and stimulates contraction of the uterus during labor?

- A. estrogen
- B. oxytocin
- C. progesterone
- D. prolactin

Answer: B

40) Which of the following is used to treat diabetes mellitus?

- A. Humalog
- B. Lotrel
- C. Lotensin
- D. Neuronitn

Answer: A

41) Which of the following hormones stimulates egg production in the ovaries?

- A. FSH
- B. PSA
- C. TSH
- D. prolactin

Answer: A

42) Which of the following secrete estrogen and progesterone?

- A. adrenal glands
- B. pineal glands
- C. ovaries
- D. testes

Answer: C

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

Answer: D

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. testotoxicosis

Answer: C

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 non-vital organs
- E) Enhance insulin-stimulated glucose uptake by tissue

Answer: C

46) What test is most useful for Killer?

- A. TSH concentration
- B. Skin biopsy
- C. Total T4 or fT4

Answer: C

47) What was your diagnosis?

- A. Hypothyroidism (primary, ie thyroid disease)
- B. Hypothyroidism (secondary, ie pituitary disease)
- C. Hyperthyroidism

Answer: A

48) For most dogs, what is the main hormone that is deficient?

- A. Thyroxine (T4)
- B. Diiodotyrosine (T2)
- C. Triiodothyronine (T3)

Answer: A

49) Where is it produced?

- A. Thyroid
- B. Cellular conversion
- C. Brain

Answer: A

50) What is the active form of thyroid hormone?

- A. Triiodothyronine T3
- B. Diiodotyrosine (T2)
- C. Thyroxine (T4)

Answer: A

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

Answer: B

52) What other form of thyroid hormone is produced in the cells?

- A. Diiodotyrosine T2
- B. Thyroxine T4
- C. Reverse T3

Answer: C

53) What is its function?

- A. Negative feedback to thyroid
- B. Same function as T3
- C. Inactive

Answer: C

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

Answer: A

55) How is the gland destroyed?

- A. Infection
- B. Traumatic injury
- C. Immune mediated

Answer: C

56) What are the most common clinical signs?

- A. Lethargy and alopecia
- B. Weight gain and PU/PD
- C. Alopecia and weight gain

Answer: A

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

Answer: B

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

Answer: E

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

Answer: C

60) What non-specific 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

Answer: A

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

Answer: E

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

Answer: D

63) What does 'euthyroid sick' mean?

- A. Any form of thyroid abnormality
- B. Synonymous with hypothyroid
- C. Decreased TT3, +/- TT3 and +/- fT4 in sick (non-hypothyroid) dog

Answer: C

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) F. All of the above

Answer: F

65) What did you use as hormone replacement therapy?

- A. Triiodothyroine T3
- B. Thyroxine T4
- C. Reverse T3

Answer: B

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

Answer: B

67) How common is secondary (pituitary dependent. or tertiary (hypothalamihypothyroidism in dogs?

- A. Common
- B. Rare
- C. Never occurs

Answer: B

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

Answer: D

69) How common is hypothyroidism in dogs?

- A. Rare
- B. Relatively common
- C. Similar occurrence to other endocrinopathies

Answer: B

70) How common is hypothyroidism in cats?

- A. Rare
- B. Most common endocrinopathy
- C. Similar occurrence to other endocrinopathies

Answer: A

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

Answer: B

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

Answer: C

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

Answer: E

74) What are the causes of HyperA

- A. Neoplasia + iatrogenic (exogenous steroids)
- B. Neoplasia + iatrogenic + immune mediated
- C. Neoplasia + iatrogenic + diet

Answer: A

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

- A. ACTH
- B. Cortisol
- C. TSH

Answer: A

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

- A. ACTH
- B. Cortisol
- C. TSH

Answer: B

77) What are the major effects of excess cortisol?

- A. Catabolic + immunosuppression
- B. Catabolic + anabolic
- C. Catabolic + immune stimulation

Answer: A

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 x-ray of adrenals
- D. ACTH concentration
- E) All of the above

Answer: E

79) What is the rationale for using radiography?

- A. Different adrenal size
- B. Identify other abdominal problems
- C. Mineralisation of the adrenals

Answer: C

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

Answer: C

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

Answer: A

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

Answer: C

83) What treatment would you recommend?

- A. Surgery
- B. Euthanasia
- C. No treatment is necessary

Answer: A

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

Answer: A

87) How do you assess the response to treatment?

- A. Feed and water intake
- B. ACTH stimulation test
- C. Both of the above

Answer: C

88) Choose the intermediate-acting insulin(s.):

- A. Lispro
- B. Aspart
- C. Regular
- D. NPH
- E) Glargine

Answer: D

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

Answer: A

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”)

Answer: A

91) Monoclonal antibody that binds to Her2/neu receptor on breast cancer cells

- A. Estrogen replacement
- B. Gonadotropins
- C. Tamoxifen
- D. Anastrozole
- E) Trastuzumab

Answer: E

92) Glipizide has the following main side-effects:

- A. Hypoglycemia
- B. Lactic acidosis
- C. Weight gain
- D. Hepatotoxicity
- E) CV toxicity

Answer: A

93) Partial estrogen agonist (SERM) in breast tissue – used to treat and prevent ER-positive breast cancer

- A. Estrogen replacement
- B. Gonadotropins
- C. Tamoxifen
- D. Anastrozole
- E) Trastuzumab

Answer: C

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

Answer: B

95) The main mechanism of _____ is symptomatic relief of hyperthyroidism.

- A. Propylthiouracil
- B. Methimazole
- C. Beta-blockers
- D. Iodine
- E) Potassium thiocyanate

Answer: C

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”)

Answer: B

97) _____ treat osteoporosis by inhibiting (killing) osteoclasts.

- A. Calcium gluconate
- B. Calcium carbonate
- C. Calcium citrate
- D. Raloxifene
- E) Bisphosphonates (“-dronate”)

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

- A. Propylthiouracil
- B. Methimazole
- C. Triiodothyronine
- D. Iodine
- E) Potassium thiocyanate

Answer: C

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

- A. Glizipide
- B. Metformin
- C. Sitagliptin
- D. Exenatide
- E) Pioglitazone/Rosiglitazone

Answer: A

100) Choose the slow-acting insulin(s):

- A. Lispro
- B. Aspart
- C. Regular
- D. NPH
- E) Glargine

Answer: E

101) GnRH analog that can suppress fertility if given continuously

- A. Estrogen replacement
- B. Gonadotropins
- C. Tamoxifen
- D. Anastrozole
- E) Trastuzumab

Answer: B

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

- A. Propylthiouracil
- B. Methimazole
- C. Triiodothyronine
- D. Iodine
- E) Potassium thiocyanate

Answer: D

103) Metformin has the following main side-effects:

- A. Hypoglycemia
- B. Lactic acidosis
- C. Weight gain
- D. Hepatotoxicity
- E) CV toxicity

Answer: B

104) _____ is indicated for use in emergent hypercalcemia to quickly reduce serum calcium; given in combination with bisphosphonates which take ~48 hours to reduce serum calcium.

- A. Calcium gluconate
- B. Calcitonin
- C. Calcium citrate
- D. Raloxifene
- E) Bisphosphonates (“-dronate”)

Answer: B

105) This main mechanism of _____ is to act as an analog of incretin (GLP-1) which increases glucose dependent insulin secretion and reduces glucagon release.

- A. Glizipide
- B. Metformin
- C. Sitagliptin
- D. Exenatide
- E) Pioglitazone/Rosiglitazone

Answer: D

106) The main mechanism of _____ is to inhibit DPP-4.

- A. Glizipide
- B. Metformin
- C. Sitagliptin
- D. Exenatide
- E) Pioglitazone/Rosiglitazone

Answer: C

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

- A. Propylthiouracil
- B. Methimazole
- C. Triiodothyronine
- D. Radioactive iodine (I131)
- E) Potassium thiocyanate

Answer: D

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

- A. Glizipide
- B. Metformin
- C. Sitagliptin
- D. Exenatide
- E) Pioglitazone/Rosiglitazone

Answer: B

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

- A. Calcitriol
- B. Calcium carbonate
- C. Calcium citrate
- D. Raloxifene
- E) Bisphosphonates (“-dronate”)

Answer: A

110) The main mechanism of _____ is to increase insulin sensitivity in peripheral tissue.

- A. Glizipide
- B. Metformin
- C. Sitagliptin
- D. Exenatide
- E) Pioglitazone/Rosiglitazone

Answer: E

111) The main mechanism of _____ is to inhibit iodide transport.

- A. Propylthiouracil
- B. Methimazole
- C. Triiodothyronine
- D. Iodine
- E) Potassium thiocyanate

Answer: E

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

Answer: D

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

Answer: A

114) _____ is a selective estrogen receptor modulator and is indicated for treatment of osteoporosis and prevents breast cancer.

- A. Calcium gluconate
- B. Calcium carbonate
- C. Calcium citrate
- D. Raloxifene
- E) Bisphosphonates (“-dronate”)

Answer: D

115) The main indication for _____ is dietary calcium supplementation; don't need to take with a meal but have to take more.

- A. Calcium gluconate
- B. Calcium carbonate
- C. Calcium citrate
- D. Raloxifene
- E) Bisphosphonates (“-dronate”)

Answer: C

116) _____ is a monoclonal antibody that binds RANKL and inhibits osteoclast differentiation.

- A. Calcium gluconate
- B. Calcium carbonate
- C. Denosumab
- D. Raloxifene
- E) Bisphosphonates (“-dronate”)

Answer: C

117) T4 is converted to T3 by _____.

- A. TBG
- B. thyroglobulin
- C. peripheral tissue

Answer: C

118) Adrenal hemorrhage and insufficiency due to Neisseria meningitidis is called _____.

- A. Addison's
- B. Cushing's
- C. Conn's
- D. Waterhouse-Friderichsen syndrome

Answer: D

119) Subacute thyroiditis causes chronic hyperthyroidism.

- A. True
- B. False

Answer: B

120) GnRH, oxytocin, ADH, and TRH signal via...

- A. cAMP
- B. cGMP
- C. IP3
- D. Cytosolic steroid receptor

E) Nuclear steroid receptor

Answer: C

121) Insulin and IGF-1 signal via...

A. cAMP

B. Tyrosine (MAP) kinase pathway

C. IP3

D. Cytosolic steroid receptor

E) Nuclear steroid receptor

Answer: B

122) Refractory hyperparathyroidism due to chronic renal disease; very elevated PTH and elevated Ca²⁺

A. Primary hyperparathyroidism

B. Secondary hyperparathyroidism

C. Tertiary hyperparathyroidism

Answer: C