

DM Endocrinology – Final key

1 All of the following are glycoprotein hormones **except**

- A) LH
- B) FSH
- C) TSH
- D) Estrone**

2 Kallmann syndrome usually presents with

- A) Delayed puberty**
- B) Severe obesity
- C) Retinal pigmentary degeneration
- D) Sexual precocity

3 All of the following are true regarding lymphocytic hypophysitis **except**

- A) It is apparently an autoimmune disease
- B) A pituitary mass effect is common
- C) It is most often seen in post partum period
- D) Trans-sphenoidal surgery is the mainstay of treatment**

4 Acromegaly is characterized by all of the following **except**

- A) Often diagnosed years after onset
- B) Survival is reduced by about 10 years in untreated patients
- C) Brisk GH response following insulin helps in diagnosis**
- D) Trans-sphenoidal surgery is the most appropriate treatment for most

5 Indications of surgery in asymptomatic primary hyperparathyroidism are all **except**

- A) Age > 50 years**
- B) Serum calcium > 1 mg/dl above the upper normal limits
- C) T score < -2.5 at the hip
- D) Creatinine clearance < 60 ml/hour

6 PTH independent hypercalcemia is seen in all **except**

- A) Hypercalcemia of malignancy
- B) Lymphoma
- C) Lithium therapy**
- D) Sarcoidosis

7 APECED mutation is responsible for

- A) Multiple endocrine neoplasia (MEN)
- B) Albright's hereditary osteodystrophy (AHO)
- C) McCune Albright syndrome (MAS)
- D) Polyglandular autoimmunity type1 (PGA-1)**

8 All of the following are features of multiple endocrine neoplasia type 2B (MEN 2B) **except**

- A) Papillary carcinoma of thyroid**
- B) Medullary carcinoma of thyroid
- C) Pheochromocytoma
- D) Mucosal neuroma

9 Causes of ectopic ACTH syndrome include all **except**

- A) Small cell carcinoma of lung
- B) Bronchial carcinoid
- C) Medullary thyroid cancer
- D) Aldosteronoma**

10 The most common karyotype in ovotesticular DSD is

- A) 46, XX**
- B) 46, XY
- C) 46, XX/46, XY mosaicism
- D) 46, XX/47, XXY mosaicism

11 All of the following are important causes of 46, XY DSD **except**

- A) Androgen biosynthetic defects
- B) Partial androgen insensitivity
- C) Deficiency of 5-alpha reductase type 2
- D) Testotoxicosis**

12 Which of the following is a clear benefit of post-menopausal hormone replacement therapy (HRT) with both estrogen and progesterone

- A) Reduced incidence of fracture**
- B) Reduced risk of venous thrombo-embolism
- C) Reduced incidence of breast cancer
- D) Less chance of coronary artery disease

13 Following mutations are associated with isolated hypogonadotrophic hypogonadism **except**

- A) KAL-1
- B) FGF-8
- C) KISS-1
- D) PROP-1**

14 Gonadotropin independent precocious puberty is seen in all of the following **except**

- A) McCune Albright syndrome
- B) Hypothalamic hamartoma**
- C) Familial testotoxicosis
- D) Congenital adrenal hyperplasia

15 Which of the following statements is TRUE regarding pioglitazone

- A) Causes weight loss
- B) Reduces hematocrit**
- C) Safe in heart failure
- D) Contraindicated in renal failure

16 A false positive plasma aldosterone to renin ratio may be seen in patients receiving

- A) Alpha blockers
- B) Beta blockers**
- C) Calcium channel blockers
- D) Angiotensin receptor blockers

17 The activity of renal 25 (OH) D 1-alpha hydroxylase is increased by

A) Parathormone

B) Calcitriol

C) Calcium

D) Fibroblast growth factor 23

18 Testosterone is converted to dihydrotestosterone in all of the following tissues **except**

A) Genital skin

B) Prostate

C) Liver

D) Spleen

19 Which of the following is not a steroid hormone

A) Testosterone

B) Thyroxine

C) Estradiol

D) Cortisol

20 Which of the following is not a property of steroid hormones?

A) Insoluble in water

B) Bind to glycoprotein carrier molecules

C) Act through nuclear receptors

D) Act through cell membrane receptors

21 All of the following are known carrier glycoproteins **except**

A) Thyroxine binding globulin

B) Cortisol binding globulin

C) Macroglobulin

D) Sex hormone binding globulin

22 Thyroxine binds to all of the following **except**

A) Thyroxine binding globulin

B) Thyrotropin

C) Transthyretin

D) Albumin

23 Which of the following diseases is not caused by a mutation in a G-protein coupled receptor

A) Nephrogenic diabetes insipidus

B) Familial male precocious puberty

C) Retinitis pigmentosa

D) Insulin resistance

24 Which of the following increases prolactin secretion?

A) Cabergoline

B) Quinagolide

C) Metoclopramide

D) Pergolide

25 Laron dwarfism is caused by

- A) Auto- immune destruction of pituitary somatotrophs
- B) Structurally abnormal growth hormone
- C) Antibody against growth hormone
- D) Mutations in the growth hormone receptor**

26 Which of the following is not an adrenal enzyme inhibitor?

- A) Ketoconazole
- B) Metyrapone
- C) Eplerenone**
- D) Trilostane

27 Primary adrenal insufficiency is caused by all of the following **except**

- A) Autoimmune adrenalitis
- B) Adrenal tuberculosis
- C) Adrenal histoplasmosis
- D) Primary pigmented nodular adrenal disease**

28 ACTH secretion from the anterior pituitary is stimulated by

- A) Cyproheptadine
- B) Rosiglitazone
- C) Deflazacort
- D) Desmopressin**

29 Activating mutations in the Gs alpha protein can cause

- A) Hyperthyroidism
- B) Acromegaly
- C) Precocious puberty
- D) Hyperaldosteronism

(Question is deleted)

30 Consumptive hypothyroidism is caused by

- A) Thyroid adenoma
- B) Pituitary adenoma
- C) Hypothalamic hamartoma
- D) Hepatic hemangioma**

31 Which of the following drugs is a GnRH antagonist

- A) Nafarelin
- B) Goserelin
- C) Leuprolide
- D) Cetrorelix**

32 Which of the following is not a recognized side effect of bisphosphonate therapy

- A) Osteonecrosis of the jaw
- B) Hypercalcemia**
- C) Hypocalcemia
- D) Flu like syndrome

33 Which of the following combinations is not correct?

- A) Metabolic syndrome and insulin resistance
- B) Starvation and growth hormone resistance
- C) Renal failure and parathormone resistance
- D) Cushing syndrome and glucocorticoid resistance**

34 Subclinical Cushing syndrome is most often caused by

- A) Autonomous adrenal nodule**
- B) Eutopic ACTH over-production
- C) Ectopic ACTH over-production
- D) Hypothalamic CRH over-production

35 Commonest mode of presentation of primary hyperparathyroidism is

- A) Pathological fracture
- B) Renal stones
- C) Psychiatric disturbances
- D) Detection of hypercalcemia on routine testing**

36 All of the following statements are TRUE regarding primary hyperaldosteronism **except**

- A) Accounts for 5-10% of the hypertensive population
- B) Hypokalemia is not always present at onset
- C) Medical therapy is the treatment of choice for aldosterone producing adenomas**
- D) Adrenal venous sampling may not be essential in all patients under the age of 40

37 Which of the following does not mimic polycystic ovary disease

- A) Cushing's syndrome
- B) Hyperprolactinemia
- C) Hyperthyroidism**
- D) Hypothyroidism

38 Which of the following is the least androgenic progestogen

- A) Medroxy progesterone
- B) Norgestrel
- C) Desogestrel**
- D) Norethisterone

39 Which of the following is not a screening/initial diagnostic test for Cushing's syndrome

- A) Urinary free cortisol
- B) Overnight low dose dexamethasone suppression test
- C) Midnight salivary cortisol
- D) Overnight high dose dexamethasone suppression test**

40 In the treatment of osteoporosis, which of the following acts as an anabolic agent

- A) Bisphosphonates
- B) Selective estrogen receptor modulators
- C) Teriparatide**
- D) Cathepsin K inhibitor

41 Genetic testing in a patient with suspected familial pheochromocytoma-paraganglioma should include looking for mutations in all of the following genes **except**

- A) VHL
- B) SDHB
- C) SDHD
- D) SDHA**

42 Which of the following is not a long acting insulin analogue

- A) Detemir
- B) Glargine
- C) Aspart**
- D) Degludec

43 Which of the following is not a fast acting insulin analogue

- A) Aspart
- B) Lispro
- C) Glulisine
- D) Degludec**

44 All are seen in MEN1 **except**

- A) Insulinoma
- B) Prolactinoma
- C) Hyperparathyroidism
- D) Mucosal neuroma**

45 Which of the following drugs is not effective in the treatment of SIADH (Syndrome of inappropriate ADH secretion)

- A) Lithium
- B) Clarithromycin**
- C) Demeclocycline
- D) Tolvaptan

46 Amiodarone has been associated with all of the following **except**

- A) Autoimmune thyroiditis with hypothyroidism
- B) Autoimmune thyroiditis with hyperthyroidism
- C) Destructive thyroiditis
- D) Thyroid cancer**

47 All of the following drugs interfere with T4 to T3 conversion **except**

- A) Lithium**
- B) Dexamethasone
- C) Propylthiouracil
- D) Propranolol

48 Which of the following is not a cause of high anion gap acidosis

- A) Diabetic ketoacidosis
- B) Renal tubular acidosis**
- C) Lactic acidosis
- D) Uremic acidosis

49 Which of the following statements is correct regarding maturity onset diabetes of the young

- A) Autosomal recessive mode of inheritance
- B) Children of affected person have a 50% chance of developing diabetes**
- C) Disease susceptibility gene resides on chromosome 6
- D) All patients are insulin dependent

50 Which of the following is TRUE regarding intensive insulin therapy?

- A) All diabetics should receive such therapy
- B) It reduces the likelihood of retinopathy in type1 diabetes**
- C) Does not reduce long term complications
- D) Decreases the number of hypoglycemic episodes

51 The most useful test of ovarian estrogen production in a young woman with secondary amenorrhea is

- A) Normal plasma estrone and LH levels
- B) A normal plasma prolactin level
- C) An increase in plasma estradiol following hCG
- D) A positive progesterone withdrawal bleed**

52 Which of the following inhibits growth hormone secretion from the anterior pituitary gland?

- A) Somatostatin**
- B) Growth hormone – releasing hormone (GHRH)
- C) Hypoglycemia
- D) Arginine

53 A 7 year old girl with central precocious puberty due to hypothalamic hamartoma is best managed by

- A) Medroxyprogesterone acetate
- B) Selective estrogen receptor modulator
- C) Androgen receptor blocker
- D) GnRH analog**

54 Which of the following would be the most appropriate screening test for a 40 year old man with suspected acromegaly

- A) Serum TSH
- B) Fasting serum glucose
- C) Insulin-like growth factor (IGF-I)**
- D) IGF binding protein 3 (IGFBP3)

55 Which of the following agents should be the treatment of choice in a 40 year old obese subject with recent onset type2 diabetes with fasting plasma glucose of 220 mg/dl and HbA1c of 7.5%?

- A) Metformin**
- B) Glipzide
- C) Pioglitazone
- D) Acarbose

56 Which of the following would be the most appropriate agent to treat a type2 diabetic with LDL-cholesterol 190 mg/dl and triglyceride 300 mg/dl?

- A) Diet and exercise
- B) Rosuvastatin**
- C) Nicotinic acid
- D) Fibrate therapy

57 Which of the following is the most important pathogenic mechanism of osteogenesis imperfecta?

- A) Excessive deposition of normal collagen fibrils in bone
- B) Inability to convert procollagen to collagen
- C) Mutation in the gene for type I procollagen**
- D) Mutation in the gene for type II procollagen

58 Marfan's syndrome results from a defect in of which of the following proteins?

- A) Fetuin
- B) Parafibromin
- C) Elastin
- D) Fibrillin**

59 Which of the following is the most appropriate treatment for nephrogenic diabetes insipidus?

- A) Hydrochlorothiazide**
- B) Desmopressin
- C) Chlorpropamide
- D) Demeclocycline

60 Hypercalcemia in sarcoidosis is caused by which of the following?

- A) Low serum calcitriol
- B) Increased absorption of calcium from the gut**
- C) Normal urine calcium excretion
- D) Increased serum parathyroid hormone level

61 Which of the following is not commonly associated with obstructive sleep apnea syndrome?

- A) Hypertension
- B) Hypoglycemia**
- C) Metabolic syndrome
- D) Obesity

62 Regarding primary hyperparathyroidism, all of the following are true **except**

- A) The commonest cause is a single parathyroid adenoma
- B) Together with malignancy, it accounts for approximately 90% of all cases of hypercalcemia
- C) Lithium may stimulate parathormone secretion
- D) The parathyroids are usually palpable in the neck at presentation**

63 Which of the following statements is TRUE regarding the treatment of Sheehan's syndrome?

- A) Glucocorticoid should not be started until thyroxine has been initiated
- B) Mineralocorticoid replacement must be included
- C) Thyroxine should not be started until glucocorticoid therapy has been initiated or until glucocorticoid deficiency has been excluded**
- D) Growth hormone must be given to all patients on thyroxine

64 The correct treatment options in gestational diabetes after failure of diet therapy is

- A) Acarbose
- B) Insulin**
- C) Sitagliptin
- D) Metformin

65 Obesity is associated with an increased risk for

- A) Hypothyroidism
- B) Cholelithiasis**
- C) Type 1 diabetes mellitus
- D) High HDL cholesterol

66 Which of the following is the most appropriate treatment for Gaucher's disease?

- A) Penicillamine
- B) Desferrioxamine
- C) Imiglucerase**
- D) Nafarelin

67 The best preoperative regimen for a patient with a known pheochromocytoma is

- A) Propranolol alone
- B) Propranolol followed by phenoxybenzamine
- C) Phenoxybenzamine followed by propranolol**
- D) Prazosin alone

68 Which of the following may be a direct consequence of severe magnesium deficiency?

- A) Hypophosphatemia
- B) Hypercalcemia
- C) Hypokalemia**
- D) Hyponatremia

69 Humoral hypercalcemia of malignancy is characterized by which of the following?

- A) Elevated serum PTH
- B) High serum inorganic phosphorus
- C) Low urinary phosphate excretion
- D) Undetectable serum PTH**

70 All of the following hormones are secreted by the anterior pituitary gland **except**

- A) Growth hormone
- B) Prolactin
- C) Oxytocin**
- D) ACTH

71 All of the following can lead to hyperprolactinemia **except**

- A) Cirrhosis
- B) Nipple stimulation
- C) Metoclopramide
- D) Pergolide**

72 Of the following the commonest cause of preventable mental deficiency is

- A) Cretinism**
- B) Beriberi
- C) Scurvy
- D) Rickets

73 Approximately what percentage of circulating T3 comes directly from the thyroid gland

- A) 10%
- B) 20%**
- C) 30%
- D) 40%

74 Which of the following is the primary binding protein for thyroxine in plasma?

- A) Albumin
- B) Transthyretin
- C) Thyroxine binding globulin**
- D) Thyroglobulin

75 Which of the following is the most common cause of hypothyroidism worldwide?

- A) Autoimmune thyroiditis
- B) Iodine deficiency**
- C) Iatrogenic hypothyroidism
- D) Radiation exposure

76 Approximately what percentage of hyperthyroid patients with atrial fibrillation convert to sinus rhythm following treatment of the thyroid state alone?

- A) 10%
- B) 30%
- C) 50%**
- D) 70%

77 Which of the following is the commonest cause of Cushing's syndrome?

- A) ACTH producing pituitary adenoma**
- B) Adrenocortical adenoma
- C) Adrenocortical carcinoma
- D) Ectopic ACTH syndrome

78 All of the following are features of Conn's syndrome **except**

- A) Alkalosis
- B) Hyperkalemia**
- C) Muscle cramp
- D) Normal serum sodium

79 Which of the following drugs does not interfere significantly with estimation of aldosterone to renin ratio

- A) ACE inhibitor
- B) Beta blocker
- C) Alpha blocker**
- D) Spironolactone

80 Which of the following is not a cause of low rennin hypertension

- A) Chronic consumption of licorice
- B) Apparent mineralocorticoid excess syndrome
- C) Liddle's syndrome
- D) Renovascular hypertension**

81 Which of the following drugs is not effective in the treatment of hirsutism

- A) Cyproterone acetate
- B) Flutamide
- C) Eflornithine hydrochloride
- D) Dehydroepiandrosterone**

82 Polycystic ovary syndrome increases the risk of all of the following **except**

- A) Pheochromocytoma**
- B) Type 2 diabetes
- C) Cardiovascular disease
- D) Endometrial carcinoma

83 Hormone that acts through tyrosine kinetic receptors is

- A) Thyroxin
- B) Parathormone
- C) IGF-1 (Insulin like growth factor – 1)**
- D) TGF β (Transforming growth factor β)

84 Concerning Barr body following statement is correct

- A) Present in Classical Turner's syndrome
- B) It is an example of heterochromatin**
- C) Inactive permanently
- D) Seen in erythrocytes

85 Which laboratory technique is not used for measurement of hormones in blood

- A) Radioimmunoassay
- B) Chromatographic assays
- C) Mass spectrometry
- D) Electrophoretic separation**

86 Which pair of hormones is stimulated by TRH in normal individuals

- A) TSH and LH
- B) TSH and PRL**
- C) TSH and GH
- D) TSH and ADH

87 Which is TRUE for testosterone biosynthesis in the human testes

- A) Δ^5 pathway is predominant**
- B) Δ^4 pathway is predominant
- C) FSH stimulates testosterone synthesis
- D) Sex Hormone Binding Globulin inhibits testosterone synthesis

88 Which condition does not typically cause gynecomastia

- A) 5 α reductase deficiency**
- B) Thyrotoxicosis
- C) Growth hormone therapy
- D) Renal failure

89 Mirror movements are a clinical sign of which disorder?

- A) Kallmann's syndrome**
- B) Klinefelter's syndrome
- C) Turner's syndrome
- D) Cretinism

90 Which of the following factors in circulation given below does not regulate parathyroid gland secretion

- A) Phosphate
- B) Vitamin D
- C) Calcitonin**
- D) Magnesium

91 Osteonecrosis of jaw is seen with

- A) Bisphosphonate therapy**
- B) Hyperparathyroidism
- C) Osteoporosis
- D) Marble bone disease

92 Oncogenic osteomalacia is due to

- A) Hypophosphatemia**
- B) PTHrP – Parathyroid hormone related protein
- C) Vitamin D deficiency
- D) Starvation

93 Mode of inheritance of MEN-2 is

- A) Autosomal recessive
- B) Autosomal dominant**
- C) Polygenic
- D) X-linked

94 This gland helps regulate circadian rhythms, such as sleep-wake cycles and seasonal cycles of fertility in many mammals

- A) Pineal gland**
- B) Thyroid gland
- C) Pituitary gland
- D) Adrenal gland

95 All are causes of osteoporosis **except**

- A) Thyrotoxicosis
- B) Iatrogenic Cushing's Syndrome
- C) Celiac disease
- D) Hypoparathyroidism**

96 The hypothalamus controls the anterior pituitary via

- A) Nerve stimulation
- B) Blood osmotic concentrations
- C) Blood glucose concentrations
- D) Releasing hormones**

97 This hormone acts on the intestines and causes increased calcium absorption

- A) Calcitonin
- B) Calcitriol**
- C) Thyroxine
- D) Pancreatic polypeptide

98 Prostaglandins are synthesized from

- A) Fatty acids**
- B) Cholesterol
- C) Amino acids
- D) Carbohydrates

99 Which is not a source of alkaline phosphatase

- A) Bone
- B) Liver
- C) Intestine
- D) Spleen**

100 All are causes of hypercalcemia **except**

- A) Primary hyperparathyroidism
- B) Sarcoidosis
- C) Vitamin D intoxication
- D) Flourosis**

Note: This is the final key. No further queries or objections from the candidates will be entertained under any circumstances.