PROVISIONAL ANSWER KEY

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Question1:-Which of the following statements regarding the synthesis of thyroid hormones is incorrect?

A:-The direct production of T4:T3 in the approximately 14:1 ratio from the thyroid gland

B:-Selenium is required for thyroid hormone synthesis

C:-Sodium iodide symporter present at the apical surface of thyrocyte actively transports iodide from the circulation

D:-Both organification and coupling reactions are catalyzed by TPO enzyme

Correct Answer:- Option-C

Question2:-Which of the following statements best describes the anatomy of the adrenal gland?

A:-Inferior adrenal artery is a branch of renal artery

B:-Zona glomerulosa makes up approximately 50% of adrenal cortex

C:-Left adrenal gland is smaller in size

D:-All of the above

Correct Answer:- Option-A

Question3:-All are true about corticotrophs except:

A:-Corticotrophs are concentrated around the medial central section of anterior pituitary

B:-The secretory granules are lined up close to the plasma membrane of corticotrophs

C:-Both CRH and AVP stimulate corticotrophs to release ACTH

D:-Corticotrophs secrete ACTH, a 29-amino acid peptide

Correct Answer:- Option-D

Question4:-Which investigation is typically performed to rule out exogenous Cushing's syndrome?

A:-Midnight serum cortisol

B:-8 am fasting salivary cortisol

C:-8 am fasting serum cortisol

D:-Midnight plasma ACTH

Correct Answer:- Option-C

Question5:-The 72-hour fasting test used in the evaluation of hypoglycaemia is characterized by all of the following except:

A:-The patient should not be ambulatory during the test

B:-The fast is ended if the patient has a plasma glucose level < 45 mg/dL with symptoms

C:-The ketones in serum/urine should be monitored during the test

D:-At the end of the fast, 1 mg of glucagon is administered intravenously to assess the change in plasma glucose level

Correct Answer:- Option-A

Question6:-Growth hormone (GH) stimulation testing in the evaluation of a child with short stature is characterized by all of the following except:

A:-Priming with gonadal steroid is required in case of peripubertal children

B:-Stimulated plasma GH level more than 10 ng/ml excludes GH deficiency

C:-GH stimulation testing should be performed in the evaluation of all the children with short stature

D:-In children ≤ 3 years, plasma IGFBP-3 should be measured in addition to GH stimulation test

Correct Answer:- Option-C

Question7:-The dynamic test used to diagnose simple virilizing congenital adrenal hyperplasia due to 21-hydroxylase deficiency in an adult is characterized by all of the following except:

A:-250 mcg cosyntropin is used

B:-Serum 17-OH progesterone is measured at 0 and 30 minutes

C:-LC-MS/MS assay is better than immunoassay

D:-Serum cortisol should be measured simultaneously

Correct Answer:- Option-B

Question8:-The age standardized prevalence of diabetes in India based on IDF 2024 data is approximately:

A:-10%

B:-15%

C:-20%

D:-25%

Correct Answer:- Option-A

Question9:-The prevalence of overweight/obesity among Indian adults based on National Family Health Survey (NFHS 4 & 5) is approximately:

A:-10%

B:-20%

C:-30%

D:-40%

Correct Answer:- Option-D

Question10:-Which of the following statements is not true regarding the epidemiology of thyroid disorders?

A:-Papillary thyroid carcinoma is most common primary thyroid malignancy

B:-Hashimoto's thyroiditis is more common in iodine sufficient area

C:-Autoimmune thyroid disease is a risk factor for primary thyroid lymphoma

D:-Multi nodular goitre is less common in iodine deficient area

Correct Answer:- Option-D

Question11:-More than 95% cases of acromegaly caused by?

A:-GH secreting pituitary adenoma

B:-Somatotroph hyperplasia

C:-Ectopic GHRH secretion

D:-Hypothalamic dysregulation

Correct Answer:- Option-A

Question12:-Which of the following statement is/are correct about clinical features of acromegaly?
(i) Headache is often mild.
(ii) Raynaud's phenomenon is reported in less than 1% of patients.
(iii) Neural enlargement but not the wrist tissue swelling lead to carpal tunnel syndrome.

A:-Only (ii) and (iii)

B:-Only (i) and (ii)

C:-Only (i) and (iii)

D:-None of above (i), (ii) & (iii)

Correct Answer:- Option-D

Question13:- Which of the following statement is / are correct about diagnosis of acromegaly?

A:-Serum growth hormone (GH) Level is most appropriate test for screening.

B:-In healthy subject, serum GH levels initially rise after oral glucose administration

C:-Evoked GH responses to GHRH administration are of diagnostic use.

D:-High IGF1 level correlates with clinical indices of disease activity in acromegaly

Correct Answer:- Option-D

Question14:-Which of the following statement is/are correct about surgical treatment of acromegaly?
(i) Patients with macroadenomas have less improvement in symptoms.
(ii) Within 2 hours of successful resection, metabolic dysfunction starts improving.
(iii) Overall, 85% to 95% of patients achieve normalized IGF1 levels.

A:- Only (ii) and (iii)

B:-Only (i) and (ii)

C:-All of above (i), (ii) & (iii)

D:-Only (i) and (iii)

Correct Answer:- Option-B

Question15:-Which of the following statement is / are correct about dopamine agonists in acromegaly?
(i) It is indicated in patient with mild IFG-1 elevation.

(ii) Efficacy is dependent of prolactin concentration.
(iii) Therapeutics escape occurs with dopamine agonist therapy.

A:-Only (i) and (ii)

B:-All of above (i), (ii) & (iii)

C:-Only (i) and (iii)

D:-Only (ii) and (iii)

Correct Answer:- Option-C

Question16:- Which are significant predictors of postoperative biochemical remission of Acromegaly?
(i) Younger age
(ii) Small tumor size
(iii) Low preoperative GH level

A:-Only (ii) and (iii)

B:-Only (i) and (iii)

C:-All of above (i), (ii) & (iii)

D:-Only (i) and (ii)

Correct Answer:- Option-A

Question17:-Which of the following hormones is Least Likely to be expressed by a plurihormonal pituitary adenoma in a patient with acromegaly?

A:-Antidiuretic hormone (ADH)

B:-ACTH

C:-Alpha subunit

D:-TSH

Correct Answer:- Option-A

Question18:-Which of the following statement is / are correct about panhypopituitarism?
(I) Most common cause is neoplastic adenoma.
(ii) Less common with hormone producing adenoma.
(iii) Never associated with diabetes insipidus.

A:-Only (ii) and (iii)

B:-Only (i) and (ii)

C:-Only (i) and (iii)

D:-All of above (i), (ii), & (iii)

Correct Answer:- Option-A

Question19:-Which of the following statement is / are correct about diagnosis of secondary adrenal insufficiency?
(i) ACTH in patients with secondary adrenal insufficiency is usually low.
(ii) Secondary adrenal insufficiency confirms if serum cortisol is less than 100 nmoL'L.
(iii) Measure serum cortisol at 8:00 am.

A:-Only (ii) and (iii)

B:-Only (i) and (ii)

C:-Only (i) and (iii)

D:-All of above (i, ii, & iii)

Correct Answer:- Option-A

Question20:-Which of the following statement is / are correct about treatment of panhypopituitarism?

A:-Prednisolone is preferred over hydrocortisone

B:-Patients with secondary adrenal insufficiency need small dose of aldosterone replacement

C:-L-thyroxine replacement mimic the normal diurnal variations in free T4.

D:-Women of postmenopausal age with hypogonadotropic hypogonadism do not require hormonal replacement therapy

Correct Answer:- Option-D

Question21:-Which of the following statement is/are correct about mortality in panhypopituitarism?
(i) Young age has a higher standardized mortality ratio.
(ii) Patients with craniopharyngioma have an increased mortality.
(iii) Pituitary radiotherapy is associated with high mortality.

A:-Only (i) and (ii)

B:-All of above (i, ii & iii)

C:-Only (i) and (iii)

D:-Only (ii) and (iii)

Correct Answer:- Option-B

Question22:-Which specific drug is noted for causing hypophysitis in up to 10% of patients treated for malignant melanoma?

A:-Ipilimumab

B:-ACTH

C:-Insulin

D:-PD-1 inhibitor

Correct Answer:- Option-A

Question23:-
Which of the following statement is / are correct about lymphocytic hypophysitis in post-partum?
(i) It occurs in last month of pregnancy.
(ii) Patients commonly present with headache.
(iii) Patient typically have a pre-pregnancy history of viral infection.

A:-Only (ii) and (iii)

B:-Only (i) and (ii)

C:-Only (i) and (iii)

D:-All of above (i, ii, & iii)

Correct Answer:- Option-B

Question24:-Which of the following statement is / are correct about Sheehan syndrome?
(i) Lactation failure is the commonest presentation.
(ii) Initially all patient has adrenal insufficiency.
(iii) Pituitary function is recovered after 5-7 years.

A:-Only (i)

B:-Only (i) and (ii)

C:-Only (ii)

D:-All of above (i, ii & iii)

Correct Answer:- Option-A

Question25:-Which of the following statement is / are correct about pituitary apoplexy?
(i) It occurs in setting of pituitary adenoma.
(ii) Diplopia is a presenting feature.

(iii) Surgery is indicated in all cases

A:-Only (ii) and (iii)

B:-Only (i) and (iii)

C:-Only (i) and (ii)

D:-All of above (i, ii & iii)

Correct Answer:- Option-C

Question26:-A patient with long-term amiodarone use develops thyrotoxicosis. USG Colour Doppler shows reduced vascularity of the thyroid gland. Which of the following is the most likely mechanism?

A:-Jod-Basedow Phenomenon

B:-Destructive thyroiditis

C:-TSH- receptor antibody mediated stimulation

D:-Increased TBG level due to Hepatic enzyme induction

Correct Answer:- Option-B

Question27:-A postmenopausal lady with untreated thyrotoxicosis presents with fragility fracture. Which of the following best explains the skeletal effects?

A:-Increased osteoblastic activity exceeding osteoclastic resorption

B:-Increased RANKL expression leading to enhanced osteoclastogenesis

C:-Decreased sensitivity of osteoclasts to thyroid hormone.

D:-Increased calcitonin secretion from C cells

Correct Answer:- Option-B

Question28:-A 68 years old man has persistent TSH value below 0.1 mIU/L with normal free T4 and total T3. He is asymptomatic otherwise. Which of the following is the most clinically significant long-term risk requiring consideration of treatment?

A:-Development of hypothyroidism

B:-Reduced LDL cholesterol levels

C:-Increased insulin sensitivity

D:-Increased risk of Atrial Fibrillation

Correct Answer:- Option-D

Question29:-Which of the following cellular mechanisms is most accurate reflecting the development of Orbitopathy in Graves' Disease?

A:-Direct cytotoxic T-cell destruction of extraocular muscles

B:-TSH receptor activation on orbital fibroblasts leading to glycosaminoglycan deposition

C:-Deposition of immune complexes in retro-orbital tissues

D:-Overexpression of type 3 deiodinase in orbital fat

Correct Answer:- Option-B

Question30:-A 34 years old lady presents with Thryotoxicosis. Labs show — suppressed TSH, high Free T4, low thyroglobulin, low radioactive iodine uptake. Which is the most likely Diagnosis?

A:-Subacute Thyroiditis

B:-Graves' disease

C:-Factitious thyrotoxicosis

D:-Toxic adenoma

Correct Answer:- Option-C

Question31:-A neonate has congenital hypothyroidism with goiter. Labs show elevated TSH, low T4. Radioiodine uptake is increased. Perchlorate discharge test is positive. Which defect is most likely?

A:-Sodium -iodide symporter (NIS) deficiency

B:-Thyroid peroxidase (TPO) deficiency

C:-Pendrin (PDS) mutation

D:-Thyroglobulin synthesis defect

Correct Answer:- Option-B

Question32:-An infant presents with severe neurodevelopmental delay, hypotonia, high serum T3, low T4 and normal TSH. Which is the most likely defect?

A:-MCT8 transporter mutation

B:-Type 2 Deiodinase deficiency

C:-TSH receptor inactivation

D:-Thyroglohulin gene mutation

Correct Answer:- Option-A

Question33:-A 32 years old lady has TSH 7 mIU/L, normal Free T4 level and Anti TPO positive. Which factor strongly predicts progression to overt hypothyroidism?

A:-Age < 40 years

B:-Female sex

C:-Presence of anti TPO antibodies

D:-Normal freeT4 level

Correct Answer:- Option-C

Question34:-A 7 years old girl presents in the OPD with complaint of menstrual bleeding without commensurate breast development. Her bone age was found to be delayed. On USG, large multicystic ovaries were detected. Which of the following patterns is likely to be expected?

A:-Increased TSH, Reduced free T4

B:-Increased TSH, increased free T4

C:-Reduced TSH, Reduced free T4

D:-Reduced TSH, increased free T4

Correct Answer:- Option-A

Question35:-An elderly patient with known coronary artery disease is diagnosed with TSH 18 mIU/L Which is the most appropriate initial management?

A:-Start low dose and titrate slowly

B:-Full replacement dose (1.6 μg/kg/day)

C:-Start liothyronine

D:-No treatment until symptomatic otherwise

Correct Answer:- Option-A

Question36:-Routine measurement of Calcitonin in patients with Thyroid Nodule is used to detect which of the following?

A:-Papillary Carcinoma of Thyroid

B:-Follicular Carcinoma of Thyroid

C:-Anaplastic Carcinoma of Thyroid

D:-Medullary Carcinoma of Thyroid

Correct Answer:- Option-D

Question37:-A 42-year-old patient presents with a solitary thyroid nodule along with raised free T4 and suppressed TSH value. What will be the most appropriate next step?

A:-Radionuclide Thyroid Scan

B:-Serum Thyroglobulin

C:-FNAC from the nodule

D:-Anti-TPO antibody

Correct Answer:- Option-A

Question38:-Which of the following features is suggestive of malignancy in a thyroid nodule?

A:-Hyperechoic nodule

B:-Presence of Microcalcification

C:-Presence of Macrocalcification

D:-Spongiform nodule

Correct Answer:- Option-B

Question39:-Why FNAC of thyroid is unable to differentiate Follicular Adenoma from Carcinoma of Thyroid?

A:-Poor cellular yield

B:-Lack of appropriate staining

C:-Inability to detect capsular & vascular invasion

D:-Inability to detect nuclear atypia

Correct Answer:- Option-C

Question40:-Which of the following genes is characteristically associated with Medullary Carcinoma of the Thyroid?

A:-PAX8

B:-PPARG

C:-RET

D:-BRAF

Correct Answer:- Option-C

Question41:-Which one of the following synthetic steroids has maximum hypothalamic-pituitary-adrenal axis suppression?

A:-Deflazacort

B:-Methylprednisolone

C:-Fludrocortisone

D:-Dexamethasone

Correct Answer:- Option-D

Question42:-Which one of the following clinical features is least common in Cushing syndrome in a male due to Carney complex?

A:-Growth hormone-secreting pituitary tumors

B:-Gastric schwannomas

C:-Testicular tumors

D:-Cardiac myxoma

Correct Answer:- Option-B

Question43:-Effective non teratogenic drug to control hypercortisolism in pregnancy with Cushing Syndrome

A:-Ketoconazole

B:-Metyrapone

C:-Mitotane

D:-Mifepristone

Correct Answer:- Option-B

Question44:-Which one of the following is **not true** regarding Cushing syndrome due to macronodular hyperplasia?

A:-The nodules are pigmented

B:-Nodule sizes are greater than 5 mm in diameter

C:-Genetic cause of inactivating mutations ARMADILLO repeat 5 (ARMC5) have been demonstrated in familial cases

D:-Most cases are explained on the basis of aberrant receptor expression within the adrenal cortex

Correct Answer:- Option-A

Question45:-All the following clinical signs are less discriminatory for the diagnosis of Cushing syndrome except

A:-Central obesity

B:-Buffalo hump

C:-Skin thinning

D:-Facial plethora

Correct Answer:- Option-D

Question46:-Lorenzo oil is useful as a monounsaturated fatty acid, which blocks the synthesis of desaturated very long-chain fatty acids in Adrenoleukodvstrophy. This Lorenz oil is a combination of

A:-Linoleic and palmitoleic acid

B:-Palmitoleic and oleic acid

C:-Oleic acid and erucic acid

D:-Erucic acid and linoleic acid

Correct Answer:- Option-C

Question47:-All the following are true, except one regarding the DAX1 (NR0B1) gene mutations.

A:-NR0B1 gene is expressed in the adrenal cortex, gonads and hypothalamus

B:-Severe cases often manifest with mineralocorticoid deficiency and gradually develop glucocorticoid deficiency

C:-Hypogonadism is only due to low gonadotropin levels

D:-Patients may present with late-onset adrenal failure

Correct Answer:- Option-C

Question48:-Adrenal atrophy and deficiency should be anticipated in any subject who has taken more than the equivalent of 7.5 mg/day of prednisolone for how many weeks?

A:-More than 1 week

B:-More than 2 weeks

C:-More than *3* weeks

D:-More than 4 weeks

Correct Answer:- Option-C

Question49:-Which one of the following is not a feature of Allgrove syndrome?

A:-Adrenal insufficiency due to ACTH deficiency

B:-Achalasia cardia

C:-Alacrima

D:-Mutations in the AAAS gene

Correct Answer:- Option-A

Question50:-Which one of the following lab abnormalities are not seen in primary adrenal insufficiency?

A:-Increase in liver transaminase

B:-Hypocalcemia

C:-Moderate elevation of TSH

D:-Eosinophilia

Correct Answer:- Option-B

Question51:-In a dedicated adrenal protocol CT, adrenal adenoma can be diagnosed with which one of the following?

A:-Absolute washout greater than or equal to 60%

B:-Absolute washout greater than or equal to 20%

C:-Relative washout greater than or equal to 20%

D:-All of the above

Correct Answer:- Option-A

Question52:-All the following are true regarding the adrenal hemorrhage, except one.

A:-Unilateral adrenal hemorrhage is usually caused by a blunt force abdominal trauma

B:-Adrenal vein thrombosis may also cause unilateral adrenal hemorrhage

C:-Unilateral hemorrhage is more often affecting the right gland than the left

D:-Unilateral hemorrhage is usually a result of anticoagulation therapy or a blood dyscrasia

Correct Answer:- Option-D

Question53:-How much percentage of adrenocortical carcinoma in a CT and MRI may show calcification?

A:-10 to 20%

B:-20 to 30%

C:-30 to 40%

D:-More than 50%

Correct Answer:- Option-B

Question54:-Which one of the following imaging is not particularly usefiul in head and neck paragangliomia?

A:-MIBG imaging

B:-Gallium-68 DOTATATE

C:-18F DOPA PET

D:-Gallium-68 DOTANOC

Correct Answer:- Option-A

Question55:-Which one of the following is not true regarding adrenal gland metastasis in radiological imaging?

A:-Adrenal glands are a common site of metastatic disease in patients with malignant neoplasm of epithelial origin

B:- The most common neoplasms that metastasize to the adrenal glands are carcinoma of the lung and breast and melanoma

C:-Small metastases are often heterogenous on contrast-enhanced CT or MRI

D:-Calcification is rare in adrenal metastases

Correct Answer:- Option-C

Question56:- Which one of the following hypoxic pathway (cluster 1) germline mutation gene is associated with pheochromocytoma and paraganglioma?

A:-RET

B:-NF1

C:-VHL

D:-TMEM127

Correct Answer:- Option-C

Question57:-Which one of the following is not true regarding the adrenal incidentaloma?

A:-They occur more frequent in males, most commonly in the fourth and fifth decades

B:-An adrenal mass is uncovered in up to 4% of the patients imaged for non-adrenal disease

C:-Incidentalomas are uncommon in patients younger than 30 years of age

D:-All patients with incidentally discovered adrenal mass should undergo appropriate endocrine screening test

Correct Answer:- Option-A

Question58:-Which one of the following is not true regarding the mitotane medical therapy in adrenocortical carcinoma?

A:-Mitotane has a narrow therapeutic window

B:-Mitotane has an inhibitory effect on steroidogenesis and induces adrenal insufficiency

C:-Mitotane can induce significant tumor regression in upto 25% metastatic ACC

D:-Severe GI side effects like constipation seem to be related to the higher mitotane plasma concentration

Correct Answer:- Option-D

Question59:-QT interval monitoring is required for which one of the following oral steroidogenesis inhibitors?

A:-Ketoconazole

B:-Metyrapone

C:-Mitotane

D:-Osilodrostat

Correct Answer:- Option-D

Question60:-Which one of the following biochemical markers are highly elevated and is suggestive of adrenocortical carcinoma?

A:-Androstenedione

B:-17-hydroxyprogesterone

C:-DHEAS

D:-Testosterone

Correct Answer:- Option-C

Question61:-A 16-year-old girl was brought to the endocrine OPD for evaluation of primary amenorrhea. History from the mother revealed a spontaneous onset of breast development around the age of 11 years, which progressed normally. Her height is appropriate *for* her family. She was started on cyclic estrogen and progesterone therapy in a previous consultation for 6 months, but no menstrual bleed resulted. She is a very good football player who practices for 3-4 hours a day. Clinical examination showed a fully mature breast (Tanner stage 5) and absence of pubic hair (stage 1 only). Which one of the following diagnoses would be the most appropriate for her?

A:-
Functional amenorrhea secondary to a hypothalamic decrease in GnRH because of high physical activity

B:-Turner syndrome

C:-Complete androgen resistance

D:-Premature ovarian failure

Correct Answer:- Option-C

Question62:-Which one of the following statements is not correct for congenital adrenal hyperplasia caused by 21 alpha hydroxylase deficiency?

A:-It is the most common cause of CAH

B:-Enzyme 21 alpha hydroxylase is located on the endoplasmic reticulum

C:-There are two 21 alpha hydroxylase genes, one active and one nonfunctional

D:-About 90% of the mutant alleles are generated because of de novo point mutations in the active gene

Correct Answer:- Option-D

Question63:-Which one of the following statements about glvcolysis and gluconeogenesis is correct?

A:-All the reactions of glycolysis are freely reversible for gluconeogenesis

B:-Fructose cannot be used for gluconeogenesis in the liver because it cannot be phosphorylated to fructose 6-phosphate

C:-Glycolysis can proceed in the absence of oxygen only if pyruvate is formed from lactate in muscle

D:-Red blood cells only metabolize glucose by anaerobic glycolysis (and the pentose phosphate pathway)

Correct Answer:- Option-D

Question64:-Which one of the following is not a risk factor for type 2 diabetes?

A:-S. HDL< 35 mg%

B:-S. TG > 250 mg%

C:-S. LDL > 160 mg%

D:-Blood pressure > 140/90 mm of Hg

Correct Answer:- Option-C

Question65:-Which of the following statements is correct for the measurement of blood glucose?

A:-Venous whole blood glucose concentration is approximately 10-12% lower than plasma glucose concentration

B:-Glucose measurements do not differ remarkably between plasma and serum samples

C:-Fasting capillary blood glucose is 10-15% higher than fasting venous whole blood glucose

D:-Venous whole blood glucose concentration is approximately 10-12% lower than venous serum glucose concentration

Correct Answer:- Option-A

Question66:-For Continuous glucose monitoring (CGM) in pregnancy with diabetes, what is the recommended target range for blood glucose (mg/dL) for which time-in-range (TIR) is calculated?

A:-60-140

B:-95-120

C:-63-140

D:-70-130

Correct Answer:- Option-C

Question67:-Which of the following enzmes acts as a glucose sensor in the beta cell by controlling the rate of entry of glucose into the glycolytic pathway

A:-Glucokinase

B:-Phosphofructokinase

C:-Glyceraldehyde-3-P dehydrogenase

D:-Pyruvate kinase

Correct Answer:- Option-A

Question68:-A 34-year-old man was brought to the emergency department in an unconscious state with no relatives available for history. His physical condition showed the possibility of a road traffic accident as he was bleeding from the scalp. Review of papers available in his pocket revealed that he is a known diabetic subject taking tablet Glipizide 5 mg and tab Metformin 500 mg, both twice a day. Which one of the following will be the most appropriate step in management in the emergency room?

A:-Collect blood samples, start an intravenous line with saline, care of the scalp wound and detailed examination for any other injury

B:-Collect blood samples, urgent CT scan head, care of bleeding, start IV line and care of airway

C:-Collect blood samples, start IV line with dextrose, urgent CT scan head, care of bleeding. and care of airway

D:-Collect blood samples, urgent CT scan head, if the lab blood glucose is less than 70, start an IV line with dextrose, otherwise start IV saline, care of bleeding, and care of the airway

Correct Answer:- Option-C

Question69:-A 32-year-old female with a known diagnosis of GCK-MODY, who is currently on no drug treatment, is planning a pregnancy. She came to ask for guidance on the management of GCK-MODY during pregnancy. Based on current recommendations and studies in GCK-MODY, which of the following statements is the most appropriate regarding insulin therapy?

A:-Insulin therapy is not needed in the majority of pregnancies affected by GCK-MODY

B:-Initiation of insulin therapy should be based on second-trimester maternal glycemic parameters

C:-Initiation of insulin therapy should be based on the second-trimester fetal growth

D:-Decision for insulin therapy should be based on fetal genotype as assessed by amniocentesis or chorionic villus sampling

Correct Answer:- Option-A

Question70:-Which one of the following lesions seen in a patient with diabetic kidney disease is not a typical glomerular lesion?

A:-Mesangial expansion

B:-Diffuse thickening of the GBM

C:-Podocyte loss

D:-Armani-Ebstein lesion

Correct Answer:- Option-D

Question71:-Which one of the following statements is not correct about diabetic macular edema?

A:-It may be present in both non-proliferative and proliferative diabetic retinopathy

B:-It always requires focal LASER surgery, as early as possible

C:-The clinical definition of macular edema is retinal thickening within two-disc diameters of the center of the macula

D:-Fluorescein angiography is the investigation of choice

Correct Answer:- Option-B

Question72:-According to the International Working Group on the Diabetic Foot (IWGDF) risk stratification system, which of the following statements is true regarding the management of diabetic foot?

A:-History of foot ulcer or amputation (minor or major) or kidney failure puts the patient in a high ulcer risk category

B:-Presence of foot deformity is essential for the high-risk ulcer category

C:-Loss of protective sensation (LOPS) and peripheral artery disease (PAD), both, should be present for the high-risk ulcer category

D:-All subjects in the high-risk ulcer category should undergo formal vascular evaluation and angiography as soon as possible

Correct Answer:- Option-A

Question73:-Which one of the following statements is not correct about diabetic neuropathy?

A:-Individuals who have had type 1 diabetes for 5 years and all individuals with type 2 diabetes should be assessed annually for autonomic neuropathy

B:-Cardiovascular Autonomic Neuropathy (CAN) is associated with mortality independent of other cardiovascular risk factors

C:-The common symptoms induced by the involvement of small fibers include loss of protective sensation (LOPS)

D:-Impaired hypoglycemia awareness is not directly linked to autonomic neuropathy

Correct Answer:- Option-C

Question74:-Which one of the following criteria is not true about the definition of resolution of diabetic ketoacidosis (DKA)?

A:-Achieving a plasma ketone < 0.6

B:-Blood pH ≥ 7.3

C:-Serum bicarbonate>18 mmol/L

D:-Normalization of anion gap

Correct Answer:- Option-D

Question75:-Which one of the following statements is not correct about autoimmune type 1 diabetes?

A:-Individuals who have a single IA-2 autoantibody should be monitored less frequently than multiple-autoantibody—positive individuals, as they have a low risk of progressing through type 1 diabetes stages

B:-For single non-IA-2 antibody positivity, progression risk is more heterogeneous and depends on age, antibody type, and other risk factors

C:-Among children with a persistent single islet autoantibody, the 10-year cumulative risk of progression to clinical type 1 diabetes is ~14 —15%.

D:-Type 1 diabetes has strong HLA associations, with linkage to the DQB1 and DRB1 haplotypes

Correct Answer:- Option-A

Question76:-Phosphatidylinositol-3-kinase (PI3K) inhibitors are now used to treat hormone receptor-positive (HR+), human epidermal growth factor receptor-2--negative (HER2—), PIK3CA-mutated advanced breast cancer. Diabetes is a frequently observed adverse event with PI3K inhibitors (PI3Ki). Which patients are at higher risk of developing diabetes while receiving PI3K inhibitor therapy?

A:-Age ≥ 70 years

B:-Obesity with BMI ≥ 30 kg/m^2

C:-Concurrently receiving glucocorticoids

D:-Patients receiving PI3K inhibitors at higher doses and for longer durations

Correct Answer:- Option-D

Question77:-Which one of the following is not associated with increased risk of progression to clinical type 1 diabetes among individuals with islet autoantibodies?

A:-Lower levels of physical activity

B:-Higher glycemic index eating patterns

C:-Total sugar intake

D:-Smoking

Correct Answer:- Option-D

Question78:-A 57-year-old male presented with a history of sustained D5 fracture following a fall from a bike. He had no history of prior fractures or other risk factors. On evaluation, his biochemical investigations showed creatinine, calcium, phosphorus, iPTH and vitamin D levels were within normal limits. The DXA scan showed T-scores of-2.3 in the spine and -1.3 in the hip. Which of the following indicates severe grade of osteoporosis?

A:-D5 fracture with T score spine (-2.1) and Hip (-1.2)

B:-T score spine (-3.5) and Hip (-2.6) without any fracture

C:-T score spine (-3.2) and Hip (-2.6) with trochanteric femur fracture

D:-T score spine (-3.8) and Hip (-3.1) with metatarsal fracture

Correct Answer:- Option-C

Question79:-Odanacatib is an osteoporosis drug that inhibits the Cathepsin K pathway. It has a significant impact on improving BMD and preventing fragility and fractures. Which of the following is one of the important side effects of Odanacatib compared to placebo detected in clinical trials?

A:-Elevation of liver enzymes

B:-Stroke

C:-Development of new metastatic lesions

D:-Occurrence of purpuric and ecchymotic lesions at the injection site

Correct Answer:- Option-B

Question80:-A 65-year-old lady a case of metastatic left-sided breast carcinoma, who had previously been treated with surgery and chemo-radiotherapy two years prior. She is presently on

an aromatase inhibitor -Letrozole. She sustained a fracture at the D-l 1 vertebrae following a fall in the washroom. She had a history of CAD, post-PTCA status eight months before. On evaluation, her DXA scan showed Spine BMD of -3.4 and neck of femur BMD of -2.8. Which of the following is the most appropriate treatment for her?

A:-Romosozumab

B:-Odanacatib

C:-Denosumab

D:-Abaloparatide

Correct Answer:- Option-C

Question81:-A 55-year-old lady presented with a history of recurrent renal calculi for 5 years. She also had a history of depression for one year on medications. Her mother also had a history of renal calculi. On evaluation, found to have calcium of 11.2 mg% (N-8.8 -10.2mg%), phosphorus 2.3 mg/dl (N-2.5-4.5 mg/dl), iPTH of 140 pg/ml (N-18.4-80.1 pg/ml), 25 (OH)D -12.9 ng/ml (N- 20-100 ng/ml). Further investigation showed a left inferior parathyroid adenoma. Which of the following is an indication for parathyroid surgery in her?

A:-Age > 50 years

B:-Presence of Depressive symptoms

C:-BMD, T score

D:-Family history of renal calculi

Correct Answer:- Option-C

Question82:-A 34-year-old lady presented with nausea, vomiting, weakness and altered behaviour for one day. She had no prior significant diseases; she is on intermittent supplementation for myalgia and body pain. On evaluation, the patient was found to have serum calcium 14.2 mg% (N-8.8-10.2 mg%), phosphorus 5.6 mg% (2.5- 4.5 mg%), creatinine 1.45 mg% and iPTH <5 pg/ml. What is the preferred next investigation to establish the diagnosis?

A:-PTHrP

B:-24-hour urinary Calcium

C:-25 (OH) D

D:-1,25 (OH) D

Correct Answer:- Option-C

Question83:-A 23-year-old presented with a history of high serum calcium level with serum calcium of 14.5 mg% (N-8.8- 10.2 mg%), iPTH of 820 pg/ml. On examination, a lesion 3 × 2 cm is palpable on the left side of the neck region near the inferior pole of the thyroid. On evaluation, he was found to have hypertensive and polycystic kidney disease. A 4DCT scan showed a cystic

parathyroid adenoma. Which of the following genetic mutations is the most likely cause?

A:-Menin

B:-Cyclin D1

C:-VD

D:-CDC-73

Correct Answer:- Option-D

Question84:-A 10-year-old boy presented with a history of recurrent episodes of seizures since the age of seven. He is currently requiring 3 anti-epileptic medications. Recently, he was admitted with a history of fever. On evaluation, low calcium, low iPTH, and low vitamin D were detected, whereas phosphorus was elevated. All these features are suggestive of hypoparathyroidism. Which of the following genetic disorders is not associated with developmental abnormalities of the parathyroid glands?

A:-CHARGE syndrome

B:-Kenny- Caffey Syndrome

C:-William syndrome

D:-Barakat syndrome

Correct Answer:- Option-C

Question85:-A 12-year-old girl presented with features of hypocalcemia. On examination, the patient was found to have short stature, a rounded face and short 4th metacarpals. Biochemical investigation showed low calcium and elevated iPTH, suggestive of pseudohypoparathyroidism (PHP). Which of the following statements is NOT TRUE about PHP?

A:-PHP1A is due to the mutation in the GNAS of the maternal allele

B:-PHP1A is also associated with TSH resistance

C:-PHP type-2 has a normal cAMP response to PTH

D:-PHP1B associated with the mutation of the paternal allele of the GNAS gene

Correct Answer:- Option-D

Question86:-A 14-year-old boy presented with a history of poor development of secondary sexual features. On evaluation. the patient was found to have micropenis, cleft lip, scoliosis, dental agenesis, skeletal defect and ectrodactyly. Hormonal investigations showed low LH, FSH and Testosterone. What is the most probable genetic abnormality in this case?

A:-FGFR1

B:-SXO-10

C:-Prokineticin receptor-2

D:-Anosmin 1

Correct Answer:- Option-A

Question87:-A 15-year-old boy presented with poor development of secondary sexual characteristics. On examination, testicular volume was < 2 ml, and SPL was 3 cm with no axillary or pubic hair There was no anosmia or hyposmia on clinical examination. Which of the following tests is associated with reversible GnRH deficiency?

A:-NR0B1

B:-TAC3

C:-ANOS1

D:-SOX10

Correct Answer:- Option-B

Question88:-A 6-year-old boy presented with the development of precocious puberty features, characterised by penile enlargement and the appearance of pubic hair for one year. He had no prior history of adrenal insufficiency or genital ambiguity. On examination, he has an SPL of 5 cm and a testicular volume of 4 ml, SMR P3A3. Blood pressure was 140/80 mmHg. Which of the following deficiencies is most likely the cause?

A:-3 Beta HSD

B:-17 Beta hydroxylase

C:-11 Beta Hydroxylase

D:-21 Hydroxylase

Correct Answer:- Option-C

Question89:-A 6-year-old boy presented with a history of gelastic seizure for 3 years, a history of enlargement of phallic size, the appearance of pubic hair and aggressive behaviour for one year. On examination, the child had polydactyl and bifid epiglottis. MRI of the brain is suggestive of a 1.5 x 1cm lesion in the hypothalamic region. Which of the following condition is associated with the above manifestation?

A:-Neurofibromatosis Type-1

B:-Von Hippel-Lindau syndrome

C:-Williams-Beuren syndrome

D:-Pallister-Hall syndrome

Correct Answer:- Option-D

Question90:-Which of the following parameters is NOT included for determining predicted height in Greulich and Pyle's method?

A:-Mid-parenteral height

B:-Current height

C:-Bone Age

D:-Chronological age

Correct Answer:- Option-A

Question91:-Which of the followings NOT TRUE about IGF-1 /IGFSP3 testing and interpretation in a child with suspected growth hormone deficiency-GHD?

A:-Serum IGF-1 is affected by the degree of sexual maturation

B:-IGF-1 has poor sensitivity below 5 years of age

C:-IGF-1 has specificity of ≥ 90% in childlren 10 years

D:-In Infancy, IGFBP3 is useful in the diagnosis of GHD

Correct Answer:- Option-C

Question92:-A 23-year-old presented with a history of tendon xanthoma and cutaneous planar xanthomas on the hands, wrists and elbows. Family history of father died of CAD at 34 years of age. Blood investigations showed LDL-C of 1560 mg% and, another occasions, 1356 mg%. All these findings are suggestive of Familial Hypercholesterolemia. Genetic testing showed an LDL receptor mutation with non-detectable LDL receptor activity. Which of the following drugs is not the preferred treatment in this case?

A:-Lomitapapide

B:-Evolocumab

C:-Mipomersan

D:-Evinacumab

Correct Answer:- Option-B

Question93:-A 24-year-old presented with a history of tendon Edition xanthoma at the ankle, elbow and knee regions. Blood investigations showed LDL-C of 450 mg% and on other occasions 480 mg%, suggestive of hypercholesterolemia. The CBC and peripheral blood smear showed anisocytosis, poikilocytosis, and megathrombocytes. USG showed moderate

splenomegaly: What is the diagnosis?

A:-Sitosterolemia

B:-Familial hypercholesterolemia — Heterozygote

C:-Abetalipoproteinemia

D:-Familial Chylomicron syndrome

Correct Answer:- Option-A

Question94:-A 33-year-old presented with a history of renal calculi. His biochemical investigations showed calcium of 11.2 (N-8.8- 10.2) mg%, iPTH of 110 pg/mt Parathyroid scintigraphy was normal. CT abdomen showed a pancreatic lesion of size 3 x 2 cm. Dermatological examination revealed collagenoma lesions on the neck and the upper chest. Which of the following functional pancreatic neuroendocrine tumours is common in this setting?

A:-Insulinoma

B:-Gastrinoma

C:-VIPoma

D:-Glucagonoma

Correct Answer:- Option-B

Question95:-Which of the following is NOT TRUE about the management of primary hyperparathyroidism in MEN-1?

A:-Surgery is recommended for all adults, irrespective of calcium level

B:-Subtotal (3-3.5 glands) removal is recommended

C:-Imaging studies for the localisation of an abnormal gland are not always essential

D:-Simultaneous transcervical thymectomy reduces the risk of thymic NET

Correct Answer:- Option-A

Question96:-A 5-year-old child presented with a history of mucocutaneous candidiasis noticed since the neonatal period. She is currently admitted with a history of seizures and biochemical investigations suggestive of primary hypoparathyroidism. On examination, the child has vitiligo, alopecia, nail dystrophy and enamel hypoplasia suggestive of APS-l. Which of the following is NOT TRUE about APS-l?

A:-Onset at Infancy

B:-Equal gender incidence

C:-Multiple family members affected

D:-AIRE gene mutation

Correct Answer:- Option-C

Question97:-Which of the following antibodies is the most preferred screening test for the-diagnosis of Autoimmune polyglandular syndrome -I(APS-I)?

A:-Anti-TPO

B:-21 hydroxylase antibody

C:-Anti-parietal cell antibody

D:-Anti-interferon, antibody

Correct Answer:- Option-D

Question98:-Which of the following tests is least useful for detecting large deletions, duplications, and rearrangements?

A:-Sanger sequencing

B:-FISH

C:-MLPA

D:-Chromosomal microarray

Correct Answer:- Option-A

Question99:-In a Mendelian genetic disorder the phenomenon of recurrent mutations of the same gene but different Edition molecular forms and location are known as

A:-Locus heterogeneity

B:-Phenotypic heterogeneity

C:-Allelic heterogeneity

D:-Copy number variation heterogeneity

Correct Answer:- Option-C

Question100:-A 42-year-old male presented with uncontrolled hypertension for 5 years. He had no prior history of hypokalemic weakness, stroke or CAD. Biochemical investigation showed PAC of 15 ng/dl and PRA of 1.2 ng/ml/hr. CT abdomen showed a 2 x 1 cm lesion on the left side, a bulky adrenal on the right side. He was suggested to undergo adrenal venous sampling (AVS). Which of the following is NOT TRUE about the interpretation of the AVS test?

A:-Use continuous cosyntropin infusion during the procedure

B:-Use Cortisol- corrected aldosterone one differertiate between unilateral and Bilateral disease

C:-Use Aldosterone to metanephrines ratio to avoid interference by cortisol co- production

D:-Use Aldosterone to DRC ratio for better interpretation

Correct Answer:- Option-D