Endocrinology. Final tests.

Variant 1

**1. In a healthy person, administration of propylthiouracil (a drug that blocks thyroidal peroxidase activity) is most likely to cause:**

A. exophthalmos

**B. goiter**

C. prognathism

D. hyperthermia

E. tachycardia

**2. Which of the following hormones is LEAST likely to have a nocturnal peak?**

**A. thyroxine (T4)**

B. ACTH

C. cortisol

D. prolactin

E. growth hormone (GH)

**3. In a patient with type I diabetes, the best form of treatment would be administration of:**

A. sulfonylureas

B. metformin

C. acarbose

D. troglitazone

**E. insulin**

**4. A decrease in plasma ionized calcium together with an increase in PTH is most likely to be found in a patient with:**

A. hypoparathyroidism

B. primary hyperparathyroidism

**C. vitamin D deficiency**

D. vitamin D excess

E. calcitonin deficiency

**5. All of the following affect the level of Antidiuretic hormone except**:

* 1. dehydration
  2. nicotine
  3. alcohol
  4. **sugar**

**6. The general function of the posterior pituitary gland is to:**

1. stimulate bone growth
2. **store and later release hormones**
3. control movement of the iris
4. help to produce calcium

**7. The Anterior Pituitary Gland is composed mostly of cells that secrete…**

1. calcium
2. hypophyseal hormones
3. **protein hormones**
4. trophic hormones

**8. The Pituitary Gland is the size of a:**

1. **Pea**
2. cantaloupe
3. grape
4. kiwi

**9. Where is the pituitary gland located?**

1. base of the brain stem
2. **beneath the hypothalamus**
3. in the inner ear
4. the center of the cerebrum

**10. What is another name for the anterior pituitary gland?**

1. actodenysis
2. adenocorticotropic
3. **adenohypophysis**
4. hypothalamus

11**.**  A 24-year-old woman is referred to you by an ophthalmologist who discovered bilateral cataracts. Patient is product of normal pregnancy and delivery. Childhood was uncomplicated, and she has done well at school. During the past 5 years, she has been complaining of decreased visual acuity, tingling and numbness of hands and legs, and constipation. The patient married at age 21, and she had a normal child at age 22. During pregnancy, tingling and numbness of the extremities worsened, and she had several seizure episodes necessitating intravenous calcium administration. Two sisters have been treated for hypocalcemia with vitamin D. The patient takes no medications. The physical examination is unremarkable. Laboratory: the complete blood count, urinanalysis and examination of the stools for ova and parasites are normal; serum calcium is decreased, serum phosphate is increased, serum alkaline phosphatase is normal.

**What is your diagnosis?**

1. Inappropriate PTH secretion.
2. Osteomalacia.
3. Vitamin D deficiency.
4. **Hypoparathyroidism.**
5. Vitamin D intoxication.
6. **Which is the most important test to evaluate the mechanism of the hypocalcemia?**
7. Bone X-rays.
8. Serum magnesium concentration.
9. **Plasma PTH concentration.**
10. Plasma 25-(OH)D.
11. Urinary calcium.
12. **How would you treat this patient?**
13. Intramuscular PTH.
14. Subcutaneous calcitonin.
15. Oral phosphates.
16. **Vitamin D.**
17. Thiazide diuretics.

14**. A patient, 35 years old, a week later after thyroidectomy for thyroid gland** cancer has paraesthesia, muscle fibrillations, convulsions in extremities. **What is the possible diagnosis?**

1. **Primary hypoparathyroidism**
2. Secondary hypoparathyroidism
3. Hypothyroidism
4. Myeloma
5. Distant metastases

15. A patient, 59 years old, consult a doctor with complaints of fast fatigue, muscular weakness, pain in muscles, spine, thirst, poliuria, loss of teeth. A leg fracture has occurred 10 months ago after damage and bad syn­ostosis. The patient has gastric ulcer and nodular goiter in her life history. Menopause has been obtained at 53 years. Complete blood count: erythro­cytes - 3x1012/L, Hb - 100 g/L, leucocytes - 4,4x109/L, ESR - 28 mm/h, se­rum calcium - 2,9 mmol/L, serum phosphate - 0,4 mmol/L. Bone X-ray ex­amination: systemic osteoporosis, subperiosteal resorption of bones, cysts, spine deformation. **Determine possible diagnosis.**

1. **Primary hyperparathyroidism**
2. Secondary hyperparathyroidism
3. Postmenopausal osteoporosis
4. Thyroid cancer with metastases in bones
5. Pedjet disease

16. What organs does parathyroid hormone mainly target?

1. bone and intestine
2. thyroid and liver
3. **bone and kidney**
4. thyroid and kidney

17. What is the disease where one of four parathyroid glands becomes an enlarged, benign tumor, producing too much Calcium to maintain good homeostasis?

1. hypoparathyroidism
2. **hyperparathyroidism**
3. parathyroid cancer
4. basophilism

18. Which one is NOT a symptom of hyperthyroidism?

1. feeling hot
2. weight loss
3. shaking
4. **constipation**

19. Which hormone speeds up the body’s metabolism?

1. **Triiodothyronine**
2. Calcitonin
3. Thyroxine
4. All of the Above

20. **Treatment for prediabetes:**

1. Is unnecessary, but the patient should be warned
2. Never include medications
3. Always includes some form of medication
4. **Can delay or prevent type 2 diabetes mellitus**

21. A patient Q., 60 years old, she’s diagnosis Ridel’s thyroiditis during 4 years ago***. Which principle of treatment do you used?***

1. Acetylsalicylic acid
2. Lugol’s solution
3. β-Adrenergic blockers
4. **Surgery**
5. Radioactive iodine (131I)

22. A patient Z., 58 years old has all clinical and laboratory presentation of subacute thyroiditis. ***Which group of drugs is the most suitable in the treatment approach of DeQuervain’s thyroiditis?***

1. Antibiotics and thyroid hormones
2. **Salicylates and corticosteroids**
3. Physiotherapy
4. Surgery
5. β-Adrenergic blockers

23. A female, 72 years old in the grave condition hospitalization on emergency. Objectively: Temperature of the body - 35,8 °C. Blood pressure – 80/50 mmHg, pulse - 56 beats/min, diminished sonor­ity of tones of heart, breathing - 12 /min. A skin is pale, cold, moderate edema of face and extremities. The hairs are liquid, thin, on a head areas of alopecia. ***Most reliable that patient has:***

1. Addisonic crisis
2. **Myxedema coma**
3. Lactacidotic coma
4. Hypoglycemic coma
5. Hypocalcemia

24. At patient M., 29 years old, the asymmetric increase of thyroid gland of the II stage is exposed, a gland is painful at palpation, pain irradi­ates in a left ear and upper jaw. Temperature of the body - 38,7 °C. A week ago carried a tonsillitis. ***Most reliable that patient has:***

1. Fibrotic thyroiditis
2. Diffuse toxic goiter
3. Autoimmune thyroiditis
4. **Subacute thyroiditis**
5. Toxic adenoma of thyroid gland

25. A 53 year old woman came to the polyclinic. She had no symptoms but gave a history of a lump in her neck being noticed by her primary care physician during a routine ‘well-woman’ check. There was no family history of thyroid disease and she had a blameless past medical history. She had not noticed any change in her voice, or difficulty swallowing or breathing. Examination was entirely normal, except thyroid gland enlarged II grade, normal texture, homogenous for a 3 × 2 cm single nodule in the left lower thyroid gland. Blood tests showed that her total T4, free T3, TSH - normal, and thyroid autoantibodies were not present in serum. ***What is the probable diagnosis?***

1. **Nodular goiter**
2. Endemic diffuse nontoxic goiter
3. Diffuse nontoxic goiter
4. Sporadic diffuse nontoxic goiter
5. Diffuse euthyroid goiter

26**.** A 39-year-old female patient complains of dyspnea when walking, palpitation, edemata in the evening. The patient’s height is 164 cm, weight - 104 kg. Objectively: overnutrition. Heart sounds are weak, and tachycardia is present. The menstrual cycle is not broken. Blood sugar is 5,6 mmol/l, ACTH-response tests revealed no alterations. X-ray of the Turkish saddle revealed no pathology. **What disease is it?**

1. **Alimentary obesity**
2. Climax
3. Pituitary obesity
4. Diabetes mellitus
5. Cushing’s syndrome (primary hypercortisolism)

**27.** A 39-year-old female patient complains of rapid fatigability, drowsiness, dry skin, hair loss, swelling of the face. A month ago, she underwent a surgery for thyrotoxicosis. **The patient has the following gland dysfunction:**

1. Pituitary, due to a tumor
2. **Thyroid (hypothyroidism), due to inadequate operative technique**
3. Adrenal
4. Parathyroid, due to the gland removal during surgery
5. Ovarian, due to a tumor

**28.** A 25-year-old female presented to a women’s welfare clinic and reported the inability to get pregnant within 3 years of regular sexual activity. Examination revealed increased body weight, male pattern of pubic hair growth, excessive pilosis of thighs, dense enlarged ovaries, monophasic basal temperature. **What is the most likely diagnosis?**

1. Adnexitis
2. Adrenogenital syndrome
3. **Polycystic ovarian syndrome**
4. Premenstrual syndrome
5. Gonadal dysgenesis

**29.** A patient with autoimmune thyroiditis accompanied by multinodular goiter underwent the right lobe ectomy and subtotal resection of the left lobe. **What drug should be administered to prevent postoperative hypothyroidism?**

1. **L-thyroxine**
2. Merkazolil
3. Iodomarin
4. Lithium drugs
5. Insulin

**30.** A 49-year-old female patient has type 1 diabetes of moderate severity. The disease is complicated by retinopathy and polyneuropathy. Besides that, repeated analyses of the daily urinary excretion of albumin revealed microalbuminuria (200-300 mg/day). Glomerular filtration rate is 105 ml/min. Blood pressure is within normal range. **Normalization of the following indicator should be the first-priority task in the secondary prevention of diabetic nephropathy**:

1. C-peptide
2. Blood insulin
3. Fasting glucose
4. **Glycosylated hemoglobin**
5. Glycemia 2 hours after a meal

**31.** After having the flu, a 39-year-old male patient with a history of Addison’s disease developed a condition manifested by weakness, depression, nausea, vomiting, diarrhea, hypoglycemia. AP- 75/50 mm Hg. Blood test results: low corticosterone and cortisol, 13-oxycorticosteroids, 17-oxycorticosteroids levels. **What condition developed in the patient?**

1. **Acute adrenal insufficiency**
2. Acute gastritis
3. Acute enterocolitis
4. Collapse
5. Diabetes mellitus

**32.** A 48-year-old patient has the following symptoms: diffuse enlargement of thyroid gland, exophthalmus, weight loss up to 4 kg within 2 months, excessive sweating. Objectively: heart rate 105/min, BP - 180/70 mm Hg. Stool is normal. **What therapy is advisable in the given case?**

1. Potassium iodide
2. **Mercazolil (Thiamazole)**
3. Propranolol
4. Iodomarin
5. Thyroxin

**33.** A 14-year-old girl has been presenting with irritability and tearfulness for about a year. A year ago she was also found to have diffuse enlargement of the thyroid gland (II grade). This condition was regarded as a pubertal manifestation, the girl did not undergo any treatment. The girl’s irritability gradually gave place to a complete apathy. The girl got puffy face, soft tissues pastosity, bradycardia, constipations. Skin pallor and gland density progressed, the skin got a waxen hue**. What disease may be assumed?**

1. **Autoimmune thyroiditis**
2. Diffuse toxic goiter
3. Thyroid carcinoma
4. Subacute thyroiditis
5. Juvenile basophilism

**34.** A 32-year-old woman complains of dizziness, headache, palpitation, tremor. For the last several months she has been under outpatient monitoring for increased arterial pressure. Recently such attacks have become more frequent and severe. Objectively: skin is covered with clammy sweat, tremor of the extremities is present. Heart rate - 110/min, BP - 220/140 mm Hg. Heart sounds are weakened. In blood: WBCs - 9*,*8 · 109/l, ESR - 22 mm/h. Blood glucose - 9,8 millimole/l. **What disease is the most likely cause of this crisis?**

1. Essential hypertension
2. Preeclampsia
3. **Pheochromocytoma**
4. Primary hyperaldosteronism
5. Diabetic glomerulosclerosis

**35.** An 8-year-old boy, who has been suffering from diabetes mellitus for 3 years, was delivered to a hospital in a condition of hyperglycemic coma. **Primary dose of insulin should be prescribed basing on the following calculation:**

**A. 0,1-0,2 units/kg of body mass per hour**

**B.** 0,05 units/kg of body mass per hour

1. 0,2-0,3 units/kg of body mass per hour
2. 0,3-0,4 units/kg of body mass per hour
3. 0,4-0,5 units/kg of body mass per hour

**36.** During examination a patient is unconscious, his skin is dry and hot, face hyperemia is present. The patient has Kussmaul’s respiration, there is also smell of acetone in the air. Symptoms of peritoneum irritation are positive. Blood sugar is 33 millimole/l. **What emergency actions should be taken?**

1. Intravenous infusion of glucose along with insulin
2. Introduction of long-acting insulin
3. Intravenous infusion of neohaemodesum along with glutamic acid
4. **Intravenous infusion of short-acting insulin**
5. Intravenous infusion of sodium chloride saline

**37.** A woman consulted a therapeutist about fatigability, significant weight loss, weakness, loss of appetite. She has been having amenorrhea for 8 months. A year ago she born a full-term child. Haemorrhage during labour made up 2 l. She got blood and blood substitute transfusions. **What is the most probable diagnosis?**

1. Stein-Leventhal syndrome
2. Shereshevsky-Turner’s syndrome
3. Homological blood syndrome
4. **Sheehan’s syndrome**
5. Vegetovascular dystonia

**38.** A 24-year-old patient complains of gaining body mass and increased appetite. Objectively: built of hypersthenic type, body mass index is 33,2 *kg/m*2, waist circumference is 100 cm. Waist to hips circumference ratio is 0,95. **What is the provisional diagnosis?**

A. **Alimentary constitutive obesity, I stage, android type**

1. Itsenko-Cushing hypothalamic obesity, II stage, gynoid type
2. Alimentary constitutive obesity, III stage, gynoid type
3. Alimentary constitutive obesity, II stage, android type
4. Itsenko-Cushing hypothalamic obesity, I stage, android type

**39.** During a surgical operation necessitated by the patient’s suffering from autoimmune thyroiditis with concomitant multinodular goiter the right lobe was removed and subtotal resection of the left lobe was performed. **What should be prescribed to the patient for postoperative hypothyroidism prevention?**

1. Mercazolil (Thiamazole)
2. Iodomarin (Potassium iodide)
3. Lithium preparations
4. Insulin
5. **L-thyroxin**

**40.** A 54-year-old patient has been suffering from diabetes mellitus for 5 years, with diet being his only treatment. Within the last half a year he lost 7 kg of body weight, complains of thirst, vertigo when raising from bed, decrease of erectile function, frequent stool, especially at night. Objectively: malnutrition, dry skin. BP in lying position is 160/90 mm Hg; BP in standing position is 170/85 mm Hg. No edemas. Fasting plasma glucose level is 12 mmol/l. Glycated hemoglobin accounts for 11%. Albumin excreted with urine is 20 mg per day. **The most likely diagnosis is**:

1. **Diabetes mellitus type 2 with visceral neuropathy**
2. Diabetes mellitus type 1 with ketoacidosis
3. Diabetes mellitus type 1 with encephalomyelopathy
4. Diabetes mellitus type 2 with nephropathy
5. Diabetes mellitus type 2 with polyneuropathy

**41.** A 35-year-old female patient has gained 20 kg weight within a year with the normal diet. She complains of chill, sleepiness, dyspnea. The patient’s mother and sister are corpulent. Objectively: height - 160 cm, weight - 92 kg, BMI - 35,9. Obesity is uniform, there are no striae. The face is amimic. The skin is dry. The tongue is thickened. Heart sounds are muffled. Heart rate - 56/min, BP - 140/100 mm Hg. The patient has constipations, amenorrhea for 5 months. TSH - 28 mkME/l (normal rate - 0,32-5). Craniogram shows no pathology. **What is the etiology of obesity?**

1. Hypo-ovarian
2. Hypothalamic-pituitary
3. **Hypothyroid**
4. Alimentary and constitutive
5. Hypercorticoid

**42.** A 40-year-old female patient complains of having a bulge on the anterior surface of neck for 5 years. Objectively: Heart rate - 72 bpm, arterial pressure - 110/70 mm Hg, in the right lobe of thyroid gland palpation reveals a mobile 4x2 cm node, the left lobe is not palpable, the basal metabolic rate is 6%. **What is the most likely diagnosis?**

1. **Nodular euthyroid goiter**
2. Nodular hyperthyroid goiter
3. Riedel’s thyroiditis
4. Mixed euthyroid goiter
5. The median cervical cyst

**43.** A 41-year-old patient with Addison’s disease had influenza. After that he developed adynamia, depression, nausea, vomiting, diarrhea and hypoglycemia. BP is 75/50 mm Hg. Blood test: decreased content of corticosterone, hydrocortisone, 13-oxycorticosteroids, 17-oxycorticosteroids. **What condition has developed in the patient?**

1. Acute gastritis
2. Acute enterocolitis
3. **Acute adrenal gland insufficiency**
4. Collapse
5. Diabetes mellitus

**44.** A 23-year-old woman after stress has developed thirst, polydipsia, polyuria, weight loss, increasing fatigue. Later she developed nausea and somnolence, lost consciousness and was hospitalised. Glycemia is 27 mmol/l, acetone in urine is sharply positive. Treatment for ketoacidotic coma was initiated. **When would it be advisable to start preventive treatment of hypoglycemia by introduction of 5% glucose solution?**

1. 2 hours after beginning of insulinotherapy
2. When patient becomes conscious
3. After glycemia rate becomes normal
4. **After glycemia rate drops to 13-14 mmol/l**
5. If glycemia decreases with the rate over 5 mmol/l per hour

**45.** A 15-year-old patient complains of excessive body weight, headache, irritability, rapid fatigability. Significant increase of body weight occurred at the age of 14. Objectively: weight is 90 kg; height is 160 sm, proportional body built. Fatty tissue is distributed evenly. There are thin pink striae (stretch marks) on the thighs, abdomen and mammary glands. BP - 145/90 mm Hg. **Provisional diagnosis is:**

1. **Pubertate dyspituitarism**
2. Alimentary constitutive obesity
3. Somatoform autonomic dysfunction
4. Itsenko-Cushing’s disease
5. Cushing’s syndrome
6. The patient 39 year old cannot get pregnant for 8 years. She was advised to go to an endocrinologist. The examination revealed proptosis, tremor of eyelids, tachycardia. **What endocrine gland has been damaged?**
7. **The thyroid**
8. Pancreas
9. Genital
10. The adrenal gland
11. Epiphysis
12. The patient 30 years old complains of the severe thirst, dry mouth, which appeared after a strong nervous shock. Laboratory examination revealed an increase of blood sugar to 10 mmol/l. **What endocrine gland has struck?**
13. The thyroid
14. Genital
15. The adrenal gland
16. Epiphysis
17. **Pancreas**
18. The patient 30 year old was diagnosed the diabetes insipidus by the physician. **What gland does not function?** 
    1. The thyroide
    2. **The pituitary gland**
    3. The genital
    4. The adrenal gland
19. The epiphysis
20. The mother whose son grew up to 18cm over the summer was admited to the doctor. The examination of a boy of 12 years: height is 180 cm, weight is 68 kg. **What endocrine gland is functioning poorly?** 
    1. The thyroid
    2. Genital
    3. **Pituitary gland**
    4. The adrenal gland
    5. Epiphysis
21. The mother of the 9 years old girl came to the endocrinologist. Her daughter complains of mammary glands enlargement, bloody vaginal discharge, the increased of hair growth on the body and around genitals. **What endocrine gland inhibits the precocious puberty?**
22. **Epіphysіs cerebrі**
23. Hypophysіs cerebrі
24. The thyroіd gl.
25. The suprarenal gl.
26. The parathyroіd gl.