MEDICAL UNIVERSITY - PLEVEN
FACULTY OF MEDICINE

DISTANCE LEARNING CENTRE

THESIS OF LECTURES OF ENDOCRINOLOGY

I. HYPOPITUITARISM , DIABETES INSIPIDUS, ADENOMAS

1. Definition of the diseases
2. Causes of hypopituitarism, manifestations and diagnose of hypopituitarism
3. Treatment of hypopituitarism
4. Oversecretion of pituitary hormones- Acromegaly, Prolactinoma
5. Other syndromes of pituitary oversecretion-ACTH, TSH, FSH and LH
6. The posterior pituitary- Diabetes insipidus

II. PRIMARY HYPERTHYROIDISM –GRAVE'S DISEASE

1. Definition of the diseases
2. Causes of hyperthyroidism
3. Manifestations- signs and symptoms of Grave's disease
4. Diagnose of Grave's disease
5. Treatment of Grave's disease, methods- antihyroid drugs, subtotal thyroidectomy, radioiodine therapy

III. PRIMARY HYPOTHYROIDISM –HASHIMOTO'S THYROIDITIS

1. Definition and of causes of hypohyroidism
2. Manifestations- signs and symptoms of hypothyroidism
3. Diagnose of hypothyroidism
4. Subclinical hypothyroidism
5. Treatment of hypothyroidism
6. Autoimmune thyroid disease- Hashimoto's thyroiditis

IV. PRIMARY HYPERPARATHYROIDISM AND OTHER CAUSES OF HYPERCALCAEMIA

1. Definition and causes of hyperparathyroidism
2. Manifestations of primary hyperparathyroidism

Разработил:	**Одобрил:**	**Утвърдена:**	
Д-р Гинка Раянова гл.асистент Клиника по ендокринология /фамилия, длъжност/	Доц.д-р К.Тодорова, д , Р-л Клиника по ендокринология /фамилия, длъжност/	На Факултетен съвет	Екземпляр № 01
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3. Diagnose of primary hyperparathyroidism
4. Treatment of primary hyperparathyroidism
5. Other causes of hypercalcemia- malignancy, sarcoidosis, hypevitaminosa D, hyperthyroidism, milk-alkali syndrome, thiazide diuretics, Paget's disease
6. Medical treatment of hypercalcemia

V. PRIMARY HYPOPARATHYROIDISM AND OTHER CAUSES OF HYPOCALCIAEMIA

1. Definition and causes of hypoparathyroidism
2. Manifestations of primary hypoparathyroidism- latent tetany
3. Diagnose of primary hypoparathyroidism
4. Treatment of primary hypoparathyroidism
5. Other causes of hypocalcemia- chronic renal failure, intestinal malabsorption, deficiency of vitamin D

VI. PRIMARY HYPERCORTICISM –CUSHING'S SYNDROME

1. Definition and causes of Cushing's syndrome
2. Manifestations of Cushing's syndrome
3. Diagnose and deferential diagnose of Cushing's syndrome
4. Treatment of Cushing's syndrome

VII. PRIMARY HYPOCORTICISM – ADDISON'S DISEASE

1. Definition and causes of Addison's disease
2. Manifestations of Addison's disease
3. Diagnose and deferential diagnose of Addison's disease
4. Treatment of Addison's disease

VIII. PATHOGENESIS AND DIAGNOSE OF DIABETES MELLITUS

1. Definition and classification of diabetes mellitus
2. Pathogenesis of type 1 diabetes mellitus
3. Pathogenesis of pathogenesis of type 2 diabetes mellitus
4. Risk factors in pathogenesis of type 2 diabetes mellitus
5. Diagnosis of diabetes mellitus- criteria, blood glucose, OGTT, HbA1c
6. Impaired fasting glucose, Impaired glucose tolerance
7. Differential diagnosis of diabetes mellitus with other diseases- diabetes insipiduas, symptomatic hyperglycemia

IX. TREATMENT OF TYPE 1 DIABETES MELLITUS AND TYPE 2 DIABETES MELLITUS

1. Modification in diet and an increase in physical activity
2. Education of patience with diabetes mellitus
3. Insulin treatment- insulin preparations, insulin regimens, insulin's dosing

4. Hypoglycaemia
5. Treatment of type 2 diabetes mellitus- oral medication's groups, choice of treatment

THESISS OF EXERCISES OF ENDOCRINOLOGY

I. HYPOPITUITARISM

STUDY GOALS

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of the disease.
2. To know the main methods for prepare the diagnosis.
3. To know the treatment - medication's groups, method to apply, medication's doses, duration of the treatment period.

SCHEDULE OF EXERCISE

1. History and observation of patient with diagnose hypopituitarism.
2. Interpretation the patient's laboratory results- biochemical, hormone's levels.
3. Presentation of therapeutically schemes for the treatment of hypopituitarism in different periods- at the start of the disease, with full manifestation, in emergency situation, in panpituitarism, presentation of medication's groups, medication's doses, schemes for accepting.

II. DIABETES IMSIPIDUS

STUDY GOALS

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of the disease.
2. To know the main methods for prepare the diagnosis- hormone's tests, deprivation test, X-Ray study, CT, MRA of hypophisis.
3. To prepare the differential diagnosis with other causes of polyuria and polydipsia- diabetes mellitus, psychogenic form of primary polydipsia.
4. To know the methods of treatment - medication's groups, medication's doses, schemes for accepting, sides effect of medications.

SCHEDULE OF EXERCISE

1. History and observation of patient with diabetes insipidus.

2. Interpretation the patient's laboratory results- deprivation test, hormone's levels.
3. Interpretation the results of X-Ray study, CT, MRI of hypophisis.
4. Presentation of therapeutically schemes and medications for the treatment of diabetes insipidus.

III. ADENOMAS OF PITUITARY GLAND

STUDY GOALS

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of most frequent pituitary adenomas- acromegaly, prolactonoma, incidentaloma.
2. To know the main methods for prepare the diagnosis- hormone's levels, hormone's tests, CT, MRI, X-Ray.
3. To prepare the differential diagnosis with other causes of hyperprolactinemia.
4. To know the methods of treatment- medication's groups, medication's doses, schemes for accepting, surgical treatment- transphenoidal or transcranial adenomectomy, and radiation therapy.

SCHEDULE OF EXERCISE

1. History and observation of patient with pituitary adenoma.
2. Interpretation the patient's laboratory results- hormone's levels, hormone's tests.
3. Interpretation the results of CT, MRI, X-Ray.
4. Using methodological methods to help of exercise- photos from photoalbum.
5. Presentation of therapeutically schemes and medications for the treatment of acromegaly, prolactonoma, hyperprolactinemia.

IV. AUTOIMUNE THYROID DISEASES

STUDY GOALS

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of autoimmune thyroid diseases- Grave's disease, Hashimoto's thyroiditis, thyroid ophthalmopathy.
2. To know the main methods for prepare the diagnosis- hormone's levels, hormone's tests, thyroid echography.
3. To prepare the differential diagnosis with other causes of hyperthyroidism.
4. To know the methods of treatment- antithyroid medication's groups, medication's doses, schemes for accepting, surgical treatment- subtotal thyroidectomy and

radioiodine therapy.

SCHEDULE OF EXERCISE

1. History and observation of patient with autoimmune thyroid diseases.
2. Interpretation laboratory results- hormone's levels, hormone's tests, thyroid antibodies.
3. Prepare thyroid echography of the patients in the cabinet for echography diagnoses.
4. Using methodological methods to help of exercise- photo album with patient's photos and echography's photos.
6. Presentation of therapeutically schemes and medications for the treatment of patient with autoimmune thyroid diseases

V. PRIMARY HYPERTHYROIDISM –GRAVE'S DISEASE

STUDY GOALS

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of primary hyperthyroidism and Grave's disease.
2. To know the main methods for prepare the diagnosis- hormone's levels, hormone's tests, thyroid echography.
3. To prepare the differential diagnosis with other forums of thyrotoxicosis- Grave's disease, toxic adenoma, diffuse and nodular goiter with thyrotoxicosis manifestation.
4. To know the methods of treatment of Grave's disease.

SCHEDULE OF EXERCISE

1. History and observation of patient with Grave's disease.
2. Interpretation laboratory results- hormone's levels, hormone's tests, thyroid antibodies.
3. Prepare thyroid echography of the patients with Grave's disease in the cabinet for echography diagnoses.
4. Using methodological methods to help of exercise- photo album with patient's photos and echography's photos.
5. Presentation of therapeutically schemes and medications for the treatment of patient with Grave's disease.

VI. PRIMARY HYPOTHYROIDISM –HASHIMOTO'S THYRIDITIS

STUDY GOALS

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of primary hypothyroidism and Hashimoto's thyroiditis.
2. To know the main methods for prepare the diagnosis- hormone's levels, hormone's

tests, thyroid antibodies, thyroid echography.

3. To prepare the differential diagnosis with other forums of hypothyroidism.
4. To know the methods and medications of treatment of hypothyroidism and and Hashimoto's thyroiditis.

SCHEDULE OF EXERCISE

1. History and observation of patients with primary hypothyroidism and Hashimoto's thyroiditis.
2. Interpretation laboratory results- hormone's levels, hormone's tests, thyroid antibodies.
3. Prepare thyroid echography of the patients with primary hypothyroidism and Hashimoto's thyroiditis in the cabinet for echography diagnoses.
4. Using methodological methods to help of exercise- photo album with patient's photos and echography's photos.
5. Presentation of therapeutically schemes and medications for the treatment of patient with primary hypothyroidism and Hashimoto's thyroiditis

VII.THYROID NODULES, THYROID CANCER AND GOITER

STUDY GOALS

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of thyroid nodules, thyroid cancer, and goiter.
5. To know the main methods for prepare the diagnosis- palpitation of thyroid gland, hormone's levels, hormone's tests, thyroid antibodies, thyroid echography.
6. To prepare the differential diagnosis between that tree diseases, and with other thyroid diseases.
7. To know the methods and medications of treatment of thyroid nodules, thyroid cancer, and goiter.

SCHEDULE OF EXERCISE:

1. History and observation of patients with thyroid nodules, thyroid cancer, and goiter.
2. Interpretation laboratory results- hormone's levels, hormone's tests, thyroid antibodies.
1. Prepare thyroid echography of the patients with thyroid nodules, thyroid cancer, and goiter in the cabinet for echography diagnoses.
2. Using methodological methods to help of exercise- photo album with patient's photos and echography's photos.
3. Presentation of therapeutically schemes and medications for the treatment of patient with thyroid nodules, thyroid cancer, and goite

VIII. PRIMARY HYPERPARATHYROIDISM AND OTHER CAUSES OF HYPERCALCAEMIA

STUDY GOALS

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of primary hyperparathyroidism and other causes of hypercalcaemia
2. To know the main methods for prepare the diagnosis of primary hyperparathyroidism- serum calcium's and phosphate's levels, ionized calcium's levels, level of parathyroid hormone, parathyroid echography.
3. To prepare the differential diagnosis between primary hyperparathyroidism and other causes of hypercalcaemia
4. To know the methods and medications of treatment of primary hyperparathyroidism.

SCHEDULE OF EXERCISE

1. History and observation of patients with primary hyperparathyroidism.
2. Interpretation laboratory results- serum calcium's and phosphate's levels, ionized calcium's levels, level of parathyroid hormone,
3. Prepare parathyroid echography,of the patients with primary hyperparathyroidism. in the cabinet for echography diagnoses.
6. History and observation of patients with other causes of hypercalcaemia.
7. Presentation of therapeutically schemes and medications for the treatment of primary hyperparathyroidism and other causes of hypocalcaemia.

IX .PRIMARY HYPOPARATHYROIDISM AND OTHER CAUSES OF HYPOCALCAEMIA

STUDY GOALS

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of primary hypoparathyroidism and other causes of hypocalcaemia.
2. To know the main methods for prepare the diagnosis of primary hypoparathyroidism- serum calcium's and phosphate's levels, ionized calcium's levels, level of parathyroid hormone, parathyroid echography
3. To prepare the differential diagnosis between primary hypoparathyroidism and other causes of hypocalcaemia.

4.To know the methods and medications of treatment of primary hypoparathyroidism.

SCHEDULE OF EXERCISE

1. History and observation of patients with primary hypoparathyroidism.
2. Interpretation laboratory results- serum calcium's and phosphate's levels, ionized

calcium's levels, level of parathyroid hormone.

3. Prepare parathyroid echography of the patients with primary hypoparathyr in the

cabinet for echography diagnoses.

4. History and observation of patients with other causes of hypocalcaemia.
5. Presentation of therapeutically schemes and medications for the treatment of primary hyperparathyroidism and other causes of hypocalcaemia.

X. PRIMARY HYPERCORTICISM –CUSHING'S SYNDROME

STUDY GOALS:

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of primary hypercriticism – Cushing's syndrome.
2. To know the main methods for prepare the diagnosis of primary hypercriticism- hormone's levels- cortisol, ACTH, rhythm of secretation of cortisol, functional supretin tests.
3. To know the methods- CT, MRI of hypophisis and suprarenal glands.
4. To prepare the differential diagnosis between Cushing's syndrome and Cushing's morbus, and other forms of hypercriticism.
5. To know therapeutically schemes and medications for the treatment of primary hypercriticism – Cushing's syndrome and other forms of hypercriticism

SCHEDULE OF EXERCISE

1. History and observation of patients with primary hypercriticism.
2. Interpretation laboratory results- hormone's levels- cortisol, ACTH, rhythm of secretation of cortisol, functional supretin tests.
3. History and observation of patients with other causes of hypercriticism.
4. Presentation of therapeutically schemes and medications for the treatment of primary hypercriticism and other causes of hypercriticism.

XI. PRIMARY HYPOCORTICISM – ADDISON'S DISEASE

STUDY GOALS:

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of primary hypocriticism – Addison's disease.
2. To know the main methods for prepare the diagnosis of primary hypocriticism hormone's levels- cortisol, ACTH, rhythm of secretation of cortisol, functional stimulating tests.
3. To know the methods- CT, MRI of hypophisis and suprarenal glands.
4. To prepare the differential diagnosis between Addison's disease and other forms of

hypocriticism.

5. To know therapeutically schemes and medications for the treatment of primary hypocriticism – Addison's disease and other forms of hypocriticism.

SCHEDULE OF EXERCISE

1. History and observation of patients with primary hypocriticism.
2. Interpretation laboratory results- hormone's levels- cortisol, ACTH, rhythm of secretation of cortisol, functional stimulating tests.
3. History and observation of patients with other causes of hypocriticism.
4. Presentation of therapeutically schemes and medications for the treatment of primary hypocriticism – Addison's disease and other forms of hypocriticism.

XII. PATHOGENESIS AND DIAGNOSE OF DIABETES MELLITUS

STUDY GOALS:

The students have to know at the end of exercise:

5. To recognize the clinical symptoms of diabetes mellitus.
1. To know definition and classification of diabetes mellitus.
2. To know the pathogenesis of type 1 and type 2 diabetes mellitus.
3. To know criteria and the main methods for prepare the diagnosis of diabetes mellitus, and the categories impaired fasting glucose and impaired glucose tolerance.
4. To prepare the differential diagnosis between type 1 and type 2 diabetes mellitus and other causes of polyuria and polydipsia, and hyperglycemia.

SCHEDULE OF EXERCISE:

1. History and observation of patients with type 1 and type 2 diabetes mellitus.
2. Interpretation laboratory results- blood glucose, HbA1c, OGTT
3. History and observation of patients with impaired fasting glucose and impaired glucose tolerance.

XIII. MANIFESTATION AND ACUTE COMPLICATIONS OF DIABETES MELLITUS

STUDY GOALS:

The students have to know at the end of exercise:

1. To recognize the main clinical symptoms of type1 and type 2 diabetes mellitus.
2. To recognize the clinical symptoms and pathogenesis of acute complications of diabetes mellitus-hypoglycemia, diabetic ketoacidosis, hyperglycemic hyperosmolar nonketotic coma, lacktoacidosis coma.
3. To know the laboratory tests for diagnosis type1 and type 2 diabetes mellitus, and diagnosis of acute complications of diabetes mellitus.

4. To prepare the differential diagnosis between acute complications of diabetes mellitus
5. To know therapeutically schemes and medications for the treatment of acute complications of diabetes mellitus

SCHEDULE OF EXERCISE

1. History and observation of patients with type 1 and type 2 diabetes mellitus.
2. History and observation of patients with acute complications of diabetes mellitus.
3. Interpretation laboratory results- blood glucose, serum and urine ketenes, acidosis, serum levels of potassium, sodium, phosphorus.
4. Presentation of therapeutically schemes and medications for the treatment of acute complications of diabetes mellitus.

XIV.CRONIC COMPLICATIONS OF DIABETES MELLITUS

STUDY GOALS:

The students have to know at the end of exercise:

1. To recognize the main clinical symptoms of chronic complications of type1 and type 2 diabetes mellitus.
2. To know the classification of chronic complications of diabetes mellitus.
3. To know the pathogenesis of chronic complications of diabetes mellitus.
4. To know the diagnostic criteria for chronic complications of diabetes mellitus.
5. To prepare differential diagnosis between peripheral neuropathy and macrovascular atherosclerosis- peripheral vascular disease.
6. To know therapeutically schemes and medications for the treatment of chronic complications of diabetes mellitus

SCHEDULE OF EXERCISE

1. History and observation of patients with type 1 and type 2 diabetes mellitus and chronic complications- retinopathy, nephropathy, neuropathy, coronary artery disease, peripheral vascular disease.
2. Interpretation laboratory results- blood glucose, miroalbuminuria, proteinuria.
3. Presentation of therapeutically schemes- control of hypertension, dietary-limitation protein intake, and medications for the treatment of chronic complications of diabetes mellitus.

XV. TREATMENT OF TYPE 1 DIABETES MELLITUS AND TYPE 2 DIABETES MELLITUS

STUDY GOALS:

The students have to know at the end of exercise:

1. To know modification in diet and changes of physical activity in diabetes mellitus.
2. To know insulin forms- insulin preparations, their onset, peak, duration of action.
3. To know oral antihyperglycemic drugs- classes, their action.
4. To prepare therapeutically schemes in type 1 and type 2 diabetes mellitus.

SCHEDULE OF EXERCISE:

1. History and observation of patients with type 1 and type 2 diabetes mellitus.
2. Presentation of insulin forms and therapeutically schemes in insulin in type 1 diabetes mellitus.
3. Presentation of medications and therapeutically schemes with insulin in type 2 diabetes mellitus.
4. Presentation of therapeutically schemes with insulin in type 2 diabetes mellitus.
5. Presentation of therapeutically schemes with insulin and oral drugs in type 2 diabetes mellitus

XVI. POLYCYSTIC OVARY SYNDROME

STUDY GOALS:

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of polycystic ovary syndrome.
2. To know the pathophysiology of polycystic ovary syndrome.
3. To know laboratory results for diagnose- hormone's levels, OGTT, insulin's levels, insulin resistance.
4. To prepare differential diagnosis between polycystic ovary syndrome and other androgen excess syndromes.
5. To know medications and therapeutically schemes for the treatment of patients with polycystic ovary syndrome.

SCHEDULE OF EXERCISE:

1. History and observation of patients with polycystic ovary syndrome.
2. Interpretation laboratory results- hormone's levels- FSH, LH, testosterone, OGTT, insulin's levels, insulin resistance.
3. Presentation of medications and therapeutically schemes in patients with polycystic ovary syndrome.

XVII. MALE HYPOGONADISM

STUDY GOALS:

The students have to know at the end of exercise:

1. To recognize the clinical symptoms of male hypogonadism.
2. To know the main causes for male hypogonadism- hypogonadotropic and hypergonadotropic syndromes.

3. To know laboratory results for diagnose- hormone’s levels- FSH, LH, testosterone.
4. To know medications and therapeutically schemes for the treatment of patients with male hypogonadism.

SCHEDULE OF EXERCISE:

1. History and observation of patients with male hypogonadism.
2. Interpretation laboratory results- hormone’s levels- FSH, LH and testosterone.
3. Presentation of medications and therapeutically schemes in patients with male hypogonadism.