MEDICAL UNIVERSITY - PLEVEN
FACULTY OF MEDICINE

DISTANCE LEARNING CENTRE

DEPARTMENT OF CARDIOLOGY, PULMONOLOGY AND ENDOCRINOLOGY

PRACTICAL EXERCISES – THESES

FOR E- LEARNING IN ENDOCRINOLOGY AND METABOLISM

ENGLISH MEDIUM COURSE OF TRAINING

SPECIALTY OF MEDICINE

ACADEMIC DEGREE: MASTER

PROFESSIONAL QUALIFICATION: DOCTOR OF MEDICINE

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PLEVEN, 2017

PRACTICAL EXERCISES – THESES

1. HYPOPITUITARISM

STUDY GOALS

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

SHEDULE OF EXERCISE

1. History and observation of patient with diagnose hypopituitarism.
2. Interpretation the patient's laboratory results- biochemical, hormone's levels.

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

2. DIABETES INSIPIDUS

STUDY GOALS

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

SHEDULE 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.

Presentation of therapeutically schemes and medications for the treatment of diabetes insipidus.

3. ADENOMAS OF PITUITARY GLAND

STUDY GOALS

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

SHEDULE 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.

4. AUTOIMUNE THYROID DISEASES

STUDY GOALS

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

SHEDULE 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 ultrasonography of the patients in the cabinet for ultrasound diagnosis.
4. Using methodological methods to help of exercise- photo album with patient's photos and ultrasound images.
6. Presentation of therapeutically schemes and medications for the treatment of patient with autoimmune thyroid diseases

5. PRIMARY HYPERTHYROIDISM – GRAVE'SDISEASE

STUDY GOALS

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

SHEDULE 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 ultrasonography of the patients with Grave's disease in the cabinet for ultrasound diagnosis.

Using methodological methods to help of exercise- photo album with patient's photos and Presentation of therapeutically schemes and medications for the treatment of patient with Grave's disease.

6. PRIMARY HYPOTHYROIDISM – HASHIMOTO'S THYROIDITIS

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 forprepare the diagnosis- hormone's levels, hormone's tests, thyroid antibodies, thyroid ultrasound imaging.
3. Toprepare the differential diagnosis with other forums of hypothyroidism.
4. To know themethods and medications for treatment of hypothyroidism and Hashimoto's thyroiditis.

SHEDULE 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 ultrasound imaging of the patients with primary hypothyroidism and Hashimoto's thyroiditis in the cabinet for ultrasound diagnosis.

Using methodological methods to help of exercise- photo album with patient's photos and ultrasound images. Presentation of therapeutically schemes and medications for the treatment of patient with primary hypothyroidism and Hashimoto's thyroiditis

7. 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.
2. To know the main methods for the diagnosis - palpitation of thyroid gland, hormone's levels, hormone's tests, thyroid antibodies, thyroid ultrasonography.
3. Differential diagnosis between that tree diseases, and with other thyroid diseases.
4. To know the methods and medications of treatment of thyroid nodules, thyroid cancer, and goiter.

SHEDULE 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.
3. Prepare thyroid ultrasonography of the patients with thyroid nodules, thyroid cancer, and goiter in the cabinet for ultrasounddiagnosis.
4. Using methodological methods to help of exercise- photo album with patient's photos and ultrasound imaging.

Presentation of therapeutical schemes and medications for the treatment of patient with thyroid nodules, thyroid cancer, and goiter

8. PRIMARY HYPERPARATHYROIDISM AND OTHER CAUSES OF HYPERCALCAEMIA

STUDY GOALS

1. To recognize the clinical symptoms of primary hyperparathyroidism and other causes of hypercalcaemia
2. To know the main methods for the diagnosis of primary hyperparathyroidism- serum calcium's and phosphate's levels, ionized calcium's levels, level of parathyroid hormone, parathyroid ultrasonography.
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.

SHEDULE OF EXERCISE

1. History and observation of patients with primary hyperparathyroidism.
2. Interpretation of laboratory results – serum calcium and phosphate, ionized calcium, parathyroidhormone.
3. Prepare parathyroid ultrasonography of the patients with primary hyperparathyroidism.
4. in the cabinet for ultrasound diagnosis.
5. History and observation of patients with other causes of hypercalcaemia.
6. Presentation of therapeutic schemes and medications for the treatment of primary hyperparathyroidism and other causes of hypocalcaemia.

9. PRIMARY HYPOPARATHYROIDISM AND OTHER CAUSES OF HYPOCALCAEMIA

STUDY GOALS

1. To recognize the clinical symptoms of primary hypoparathyroidism and other causes of hypocalcaemia.
2. To know the main methods forprepare the diagnosis of primary hypoparathyroidism- serum calcium's and phosphate's levels, ionized calcium's levels, level of parathyroid hormone, parathyroid ultrasound imaging
3. Differential diagnosis between primary hypoparathyroidism and other causes of hypocalcaemia.
4. To know the methods and medications of treatment of primary hypoparathyroidism.

SHEDULE OF EXERCISE

1. History and observation of patients with primary hypoparathyroidism.
2. Interpretation of laboratory results- serum calcium and phosphate levels, ionized calcium's level, parathyroid hormone level.
3. Prepare parathyroid ultrasonography of the patients with primary hypoparathyroidism
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

10. PRIMARY HYPERCORTICISM –CUSHING'S SYNDROME

STUDY GOALS:

1. To recognize the clinical symptoms of primary hypercriticism – Cushing's syndrome.
2. To know the main methods for the diagnosis of primary hypercriticism-hormone's levels- cortisol, ACTH, rhythm of secretation of cortisol, functional supression tests.
3. To know the methods- CT, MRI of hypophisis and suprarenal glands.
4. Differential diagnosis between Cushing's syndrome and Cushing's disease, 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

SHEDULE OF EXERCISE

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

11. PRIMARY HYPOCORTICISM – ADDISON'S DISEASE

STUDY GOALS:

1. To recognize the clinical symptoms of primary hypocorticism – Addison's disease.
2. To know the main methods for the diagnosis of primary hypocorticism

Hormones' levels- cortisol, ACTH, rhythm of secretation of cortisol, functional stimulating tests.

3. To know the methods- CT, MRI of hypophisis and suprarenal glands.
4. 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 hypocorticism.

SHEDULE OF EXERCISE

1. History and observation of patients with primary hypocoriticism.
2. Interpretation of laboratory results- hormone's levels- cortisol, ACTH, rhythm of secretion of cortisol, functional stimulating tests.
3. History and observation of patients with other causes of hypocriticism.

Presentation of therapeutically schemes and medications for the treatment of primary hypocoriticism – Addison's disease and other forms of hypocriticism.

12. PATHOGENESIS AND DIAGNOSE OF DIABETES MELLITUS

STUDYGOALS:

1. To recognize the clinical symptoms of diabetes mellitus.
2. To know definition and classification of diabetes mellitus.
3. To know the pathogenesis of type 1 and type 2 diabetes mellitus.
4. To know criteria and the main methods diagnosis of diabetes mellitus,

and the categories impaired fasting glucose and impaired glucose tolerance.

5. Differential diagnosis between type 1 and type 2 diabetes mellitus and other causes of polyuria, polydipsia, and hyperglycemia.

SHEDULE OF EXERCISE:

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

History and observation of patients with impaired fasting glucose and impaired glucose tolerance.

13. MANIFESTATION AND ACUTE COMPLICATIONS OF DIABETES MELLITUS

STUDY GOALS:

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. Toprepare 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

SHEDULEOFEXERCISE

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. Interpretationlaboratoryresults- blood glucose, serum and urine ketenes, acidosis, serum levels of potassium, sodium, phosphorus.

Presentation of therapeutic schemes and medications for the treatment of acute complications of diabetes mellitus.

14. CHRONIC COMPLICATIONS OF DIABETES MELLITUS

STUDY GOALS:

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. Differential diagnosis between peripheral neuropathy and atherosclerosis- peripheral vascular disease.
6. To know therapeutically schemes and medications for the treatment of chronic complications of diabetes mellitus

SHEDULE 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 of laboratory results- blood glucose, microalbuminuria, proteinuria.

Presentation of therapeutic schemes - control of hypertension, dietary-limitation protein intake, and medications for the treatment of chronic complications of diabetes mellitus.

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

STUDYGOALS:

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. Medical treatment in type 1 and type 2 diabetes mellitus.

SHEDULE 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

16. POLYCYSTIC OVARY SYNDROME

STUDY GOALS:

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.

SHEDULE OF EXERCISE:

1. History and observation of patients with polycystic ovary syndrome.
2. Interpretationlaboratory 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.

17. MALE HYPOGONADISM

STUDY GOALS:

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 how to interprete laboratory results for diagnose- hormone's levels- FSH, LH, testosterone.
4. To know medications and therapeutic schemes for the treatment of patients with male hypogonadism.

SHEDULE OF EXERCISE:

1. History and observation of patients with male hypogonadism.
2. Interpretation of laboratory results- hormone's levels- FSH, LH and testosterone.
3. Medical treatment in patients with male hypogonadism.