

ONMedU, Department of Obstetrics and Gynecology. Practical lesson №1. Clinical anatomy and physiology of the female genital organs. Methods of examination of gynecological patients. General semiology in gynecology.

MINISTRY OF HEALTH OF UKRAINE

ODESSA NATIONAL MEDICAL UNIVERSITY

Faculty of international

Department of Obstetrics and Gynecology

 **I APPROVE**
Vice-rector for scientific and pedagogical work
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**METHODICAL DEVELOPMENT FOR PRACTICAL LESSONS
FROM EDUCATIONAL DISCIPLINE**

Faculty of international, course IV

Educational discipline "Obstetrics and gynecology"


Practical lesson № 4. Topic : « Neuroendocrine syndromes in gynecology »


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Approved:

Meeting of the Department of Obstetrics and Gynecology of Odesa National Medical University

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Practical lesson № 4

Topic: “Neuroendocrine syndromes in gynecology”.

Goal: In the structure of gynecological diseases, neuroendocrine syndromes account for up to 15%. Different types of neuroendocrine syndromes lead to high disability, the development of neuropsychiatric complications, disability of women. These complications require a comprehensive approach and joint treatment by doctors of several specialties - gynecologist, endocrinologist, neurologist and others. Therefore, the study of this pathology is of great importance for physicians of any specialty.

Basic concepts: educational (determination of etiological and pathogenetic factors of the main neuroendocrine diseases of the female reproductive system that lead to menstrual and reproductive function in women.); scientific (logical train student clinical thinking and new methods of diagnosis for abnormal uterine bleeding); creative (see the deontological principles of management of patients with neuroendocrine syndromes, given the social aspects of the problem); responsible (develop a sense of legal responsibility for the doctor to adequately carried out therapy.).

Equipment: Professional algorithms, structural-logical schemes, tables, models, power point presentations, video and paper media, results of laboratory and instrumental researches, situational tasks, patients, medical histories.

Training time: 4 hours

I. Organizational activities (greetings, checking the audience, announcing the topic, the purpose of the lesson, motivating students to study the topic).

Neuroendocrine syndromes in gynecology are clinical symptom complexes in which changes in the functional state of the patient's reproductive system are combined with dysfunction of other body systems, which, like the reproductive system, are regulated by the hypothalamic-pituitary nervous system.

The most common neuroendocrine gynecological syndromes that aren't characterized by virilization and hirsutism are the following:

- premenstrual syndrome;
- menopausal syndrome;
- hyperandrogenism;
- hyperprolactinemia syndrome;
- Sheehan's syndrome;
- polycystic ovary syndrome.

II. Control of basic knowledge (written work, written testing, face-to-face interview, etc.) (if necessary):

2.1. Requirements for theoretical readiness of students to perform practical classes:

Knowledge requirements:

- To be able, depending on the patient's complaints, to correctly determine the diagnostic tactics for various neuroendocrine diseases.
- To develop the correct algorithm of examination of patients with polycystic ovary syndrome, hyperprolactinemia, menopausal syndrome, PMS, Sheehan's syndrome.
- Be able to evaluate the data of clinical and laboratory examinations of patients with neuroendocrine diseases.
- On the basis of the anamnesis, the clinic, the conducted differential diagnosis to be able to make the correct diagnosis at the thematic patient.
- Prescribe treatment of patients with neuroendocrine disorders.

List of didactic units:

- Determination of etiological and pathogenetic factors of the main neuroendocrine diseases of the female reproductive system that lead to menstrual and reproductive function in women.
- Basic principles of diagnostic algorithms in patients with various neuroendocrine syndromes.
- Determination of the preliminary clinical diagnosis on the basis of interpretation of data of special inspection at neuroendocrine syndromes.
- Modern principles of treatment of various neuroendocrine syndromes (non-hormonal treatment, hormonal, surgical approaches).

2.2. Questions (tests, tasks, clinical situations) to test basic knowledge on the topic of the lesson:

Questions:

1. Postnatal obesity. Definition. Pathogenesis. Clinic. Treatment.
2. Neurometabolic syndrome. Pathogenesis. Clinic picture. Treatment.
3. Postnatal hypopituitarism (Sheehan's syndrome). Definition. Pathogenesis. Clinic. Treatment.
4. Premenstrual syndrome. Definition. Pathogenesis. Clinic. Treatment.
5. Polycystic ovary syndrome. Definition. Pathogenesis. Clinic. Treatment.
6. Hyperprolactinemia. Definition. Pathogenesis. Clinic
7. Adrenal hyperandrogenia (pubertal and post-pubertal forms of adrenogenital syndrome).
8. Climacteric syndromes. Pathogenesis. Clinic picture. Treatment.

Typical situational tasks:

1. A 24-year-old patient complains of lack of menstruation for 8 months, general weakness, loss of strength, decreased blood pressure, intermittent nausea, decreased libido. Sexual

life from the age of 18, childbirth alone, 1.5 years ago, was complicated by hypotonic bleeding. Menstruation, which resumed 6 months after delivery, was scanty and stopped after 3 months. Objectively: dryness of the skin and mucous membranes, lack of pubic hair and reduced growth in the armpits. St. gynaecologicus: atrophy of the external genitalia and dryness of the vaginal mucosa. The uterus is reduced in size, mobile, painless. Appendages on both sides without features. Selections are scanty.

What is the most possible diagnosis? Answer: Sheehan's syndrome.

2. The patient is 26 years old, complains of significant secretions from the areolas of the mammary glands of colostrum. Pregnancy test - negative. At gynecological research: the uterus is not enlarged, painless, mobile. The appendages are not palpable.

Diagnosis? Answer: hyperprolactinemia.

3. Patient K., 24 years married 5 years, never pregnant. Menstruation from 16 years, the number of discharges - insignificant, 2-3 days, 2-3 months. Over the past 2 years, notes the growth of hair on the face, as well as along the midline of the abdomen. The vaginal examination revealed slightly enlarged non-painful ovaries. The uterus is smaller than normal.

Diagnosis? Answer: PCOS. Primary infertility.

Typical test tasks:

1. Typical symptoms of disease Cushing:
 - A. Moon face.
 - + B All of the above
 - C. Array purple color.
 - D. Pituitary obesity.
 - E. Hirsutism.
2. Neuroendokrinny syndrome are:
 - A. Premenstrual.
 - B. Adrenogenital.
 - +C All of the above
 - D. Climacteric.
 - E. Polycystic ovaries.
3. Violation of urinary organs possible with:
 - + A. menopausal disorders.
 - B. Relative and absolute giperestrogenii.
 - C. papillomatosis of the vulva.
 - D. subserous located myomatoznomu node.
 - E. retotservikalnogo endometriosis.
4. The antenatal clinic appealed sick in '36 with complaints of increased irritability, tearfulness, headaches, palpitations, swelling of the hands and feet, reducing urination,

breast engorgement. These manifestations occur and gradually increase the days prior to menstruation and disappear from its beginning. Menstrual cycle without violations. These complaints celebrate the beginning of the last year. What is the diagnosis?

- A. adreno-genital syndrome
- B. Sheehan Syndrome
- S. syndrome Stein-Loventalya
- D. premenstrual syndrome
- + E. Climacteric Syndrome

5. 24-year-old woman after childbirth addressed to the doctor complaining of lack of menstruation for 6 months. The first pregnancy ended by caesarean section indications: premature detachment of the placenta, fetal intrauterine asphyxia. Blood loss was 2000 ml. The most informative study:

- + A. Determination of gonadotropin.
- B. Determination of prolactin in the blood.
- C. Test with progesterone.
- D. Determining the level of thyroid stimulating hormone.
- E. Determining the level of testosterone in the blood.

6. Patient '30 complains of lack of menses within 2 years after birth. Childbirth complicated by massive bleeding. After birth, the patient noted hair loss, weight loss. In bimanual study of uterine body reduced hypoplastic labia.

Add a causative factor complications:

- A. Age involution hipotalaiychnyh structures
- B. The hereditary factor.
- C. Simultaneous exclusion of ovarian function.
- D. Prolonged stimulation of ovulation.
- + E. Necrotic changes in the adenohipophysis because of hemorrhagic shock delivery.

7. The patient complains of irregular menstrual cycle, significant weight gain, hirsutism, infertility. During bimanual examination the uterus was slightly less than the norm, with both sides determined dense, moving ovary size 4 x 5 x 4 cm, painless.

What kind of pathology should think?

- A. Bilateral ovarian cysts.
- B. Bilateral chronic adnexitis.
- C. Tuberculosis of the uterus.
- + D. Polycystic ovarian disease.
- E. Ovarian endometriosis.

8. Patient '20 addressed to the doctor with complaints of recurrent delay menstruation after the onset of sexual activity for 2 to 4 months. There was excessive hair distribution anterior abdominal wall, breast, lower extremities. Over the past year added weight 14 kg. St. genitalis: conical cervix, mouth was closed, the whole epithelium. The body of the uterus in anteflexio, slightly reduced, movable and painless. On both sides of the uterus palpable ovaries, the size of 4x6 cm, painless, dense. Summary vagina deep. Bold mucous. Possible diagnosis?

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- A. Cushing Syndrome
 - B. ovarian Adenoblastoma
 - C. Simmonds-Sheehan syndrome
 - + D. PCOS
 - E. Adrenogenital syndrome
9. When possible climacteric syndrome disorders:
- A. Vasomotor.
 - B. Emotional and mental.
 - + C All of the above
 - D. The skin and its appendages.
 - E. metabolic disorders.
10. In Cushing's disease often occur:
- A. hypercorticism.
 - B. Hyperinsulinemia.
 - + C. All of the above
 - D. Hypertension.
 - E. Osteoporosis.

III. Formation of professional skills, abilities (mastering skills, conducting curation, determining the treatment regimen, conducting laboratory research, etc.).

3.1. Content of tasks (tasks, clinical situations, etc.).

Interactive task:

Students of the group are divided into 3 subgroups of 4-5 people each. We work in women's consultation rooms with gynecological patients, we give tasks:

And the subgroup - to make a preliminary diagnosis.

Subgroup II - to make a plan for the management of a gynecological patient.

Subgroup III - assesses the correctness of the answer of subgroups I and II and makes adjustments.

Atypical situational tasks:

A 25-year-old patient complains of no pregnancy, irregular menstruation. Menstruation from 16 years to 3-4 days in 35-40 days. At objective research: the woman with excess weight, displays of hirsutism. Examination of the genitals revealed that the external genitalia were developed properly. At bimanual research the body of a uterus is not increased. On both sides of the uterus palpated enlarged ovaries due to the 4 cm, dense, painless, mobile

Establish a diagnosis.

Polycystic ovary syndrome.

What laboratory research methods should be prescribed?

Hormonal research and tests of functional diagnostics.

What will be the basal temperature?

Single phase.

What determines the treatment of PCOS in women?

From a woman's reproductive intentions.

Atypical test tasks:

1. A 20-year-old patient went to the doctor with complaints of periodic delays in menstruation after the onset of sexual life from 2 to 4 months. There was excessive hair on the anterior abdominal wall, mammary glands. Over the last year she gained 14 kg. St. genitalis: the cervix is conical, the pharynx was closed, the epithelium is intact. The body of the uterus in anteflexio, slightly reduced, mobile, painless. On both sides of the uterus are palpated ovaries, measuring 4x6 cm, painless, dense. Establish a diagnosis.
 - A. Itsenko-Cushing syndrome
 - B. Ovarian adenoblastoma
 - C. Simmonds-Sheehan syndrome
 - D. Stein-Leventhal syndrome*
 - E. Adrenogenital syndrome
2. In case of disease of polycystic ovaries are observed:
 - A. Anovulation.
 - B. Infertility.
 - C. All of the above*
 - D. Bilateral ovarian enlargement.
 - E. Hyperlipidemia.
3. Violation of urinary organs possible with:
 - A. Menopausal disorders. *
 - B. Premenstrual syndrome.
 - C. Papillomatosis of the vulva.
 - D. Subserous myoma.
 - E. Endometriosis.
4. Woman 36 years old came to the doctor with complaints of increased irritability, tearfulness, headaches, palpitations, swelling of the hands and feet, reducing urination, breast engorgement. These manifestations occur and gradually increase the days prior to menstruation and disappear from its beginning. Menstrual cycle without violations. These complaints celebrate the beginning of the last year. What is the diagnosis?
 - A. adreno-genital syndrome
 - B. Sheehan Syndrome
 - C. syndrome Stein-Loventalya
 - D. premenstrual syndrome
 - E. Climacteric Syndrome *

3.2. Recommendations (instructions) for performing tasks (professional algorithms, orientation maps for the formation of practical skills, etc.).

Neuroendocrine syndromes.

1. Postnatal obesity
2. Neurometabolic syndrome, unrelated to pregnancy.
3. Postnatal hypopituitarism (Sheehan's syndrome).
4. Premenstrual syndrome.
5. Polycystic ovaries (polycystic ovaries, primary polycystic ovaries, polycystic ovary syndrome, Stein-Leventhal syndrome – secondary polycystic ovaries).
6. Hyperprolactinemia.
7. Adrenal hyperandrogenia (pubertal and post-pubertal forms of adrenogenital syndrome).
8. Algomenorrhea.
9. Postcastration syndrome.
10. Menopausal disorders

Postnatal obesity – is a specific form of menstrual dysfunction and reproductive function with underlying overweight after pregnancy and delivery, it first was described by V.Serov in 1970, and it is a frequent cause of endocrine infertility and menstrual dysfunction. In 4-5% of patients after terminated pregnancy and delivery obesity with reproductive dysfunction occurs. Reproductive and menstrual dysfunction together with vegetative-metabolic dysfunctions, including increase of body weight, develops during 3-12 months after delivery or terminated pregnancy.

Etiology and pathogenesis. In healthy women after delivery or terminated pregnancy homeostasis is being normalized: hypothalamo-hypophysial adrenal correlation, gonadotropic function of hypothesis and ovulatory cycles in ovaries are restored. In women with unfavorable premorbid profile, characterized by liability of hypothalamic and overhypothalamic structures (hereditary endocrine diseases, obesity, childhood or adolescence infections, and intoxications) hypophysiotropic function of hypothalamus doesn't normalize, clinical picture of PNES develops in them.

Increased discharge of ACTH is characteristic for PNES as a result an amount of cortisol increases; as well as the discharge of prolactin and blood insulin and testosterone level; slight decrease of E2 level and marked decrease of progesterone (absence of ovulation) are present.

In women with PNES the blood testosterone level is within the upper norm, the cortisol level is above norm. Carbohydrate metabolism is disturbed; hypoglycemia is developed – from considerably marked tendency to considerably marked decrease of glucose tolerance. Lipid metabolism is disturbed: blood concentration of low-density lipids cholesterol, triglyceride, and atherogenicity index are elevated.

Women with PNES have characteristic family anamnesis: obesity, diabetes mellitus or diabetic states, hypertension. Usually patients admit changeable menstrual cycle, tendency to delay of menstruation, overweight since childhood, frequent ARVI. Persistent infectious diseases (measles, parotitis, rubella) were characteristic for such woman in pubertal and

postpubertal period. The major anamnesis sign in anamnesis of PNES is rapid increase of body weight (more than 8-10 kg) after delivery or terminated pregnancy. Pregnancy and delivery usually run with underlying gestosis, bleeding and other complications and are the starting point for obesity, dysfunction of cycle, infertility and hypertrichosis.

Clinico-diagnostic criteria - the major clinical signs of PNES are obesity, (weight and height index is higher than 30), anovulatory hypofunction of ovaries, moderate hypertrichosis, tendency to hypertension, hyperglycemia. In addition to endocrine and metabolic dysfunctions the symptoms of hypothalamic (diencephalic) dysfunctions are characteristic for PNES: headache, quick fatigability, vertigo, polyuria, polyphagia, and hyperthermia. The intensity of hypertension and hyperglycemia depend on the term of the disease duration.

The look of patients PNES has a row of typical treats which make diagnosis easy to make. The circumference of breast and intertrochanteric body diameter are enlarged because of obesity. These morphotype changes are caused by co-called cushingoid distribution of fatty tissues in the area of thoracic girdle and underbelly, climacteric tubercle. There are stretches of pale- and intensive pink color on the skin of abdomen, thighs hips. Hypertrichosis is usually slightly marked, there are other signs of hyperandrogenia; seborrhea adipose, acne eruption on the skin of face, back and breast. Menstrual dysfunction by oligomenorea type is usually admitted.

10-12% of women have acyclic uterine bleedings, which seldom tend to be profuse. Despite oligomenorea and even amenorrhea quite often in the endometrium of PNES patients occur marked proliferative changes. The rate of glandular-cystic hyperplasia achieves 40%, recurrent glandular-cystic hyperplasia – 8%, atypical hyperplasia – 22%. Every 5th woman has changes in the mammary glands tissue, the rate of fibroso-cystic mastopathy is up to 22%. Laparoscopic analysis detected two types of gross distortion in ovaries of PNES Patients: the first one – the ovaries are not enlarged with smooth capsule with no signs of ovulation and yellow bodies; the second one – enlarged and round (3-4 cm on average) ovaries with smooth covering, thickened whitish capsule with numerous small blue vesicles 2-4 mm in diameter visual under it. Both the first and the second types of the distortion are strictly correlated with the disease duration; the second type occurs in women with the duration more than 3 years. Thus, in women with untreated PNES? Secondary polycystic ovaries are gradually forming (so-called polycystic ovaries of hypothalamic genesis).

Change of eating behavior (its centers are located in ventromedial and lateral nucleus nucleuses of hypothalamus, which have numerous links with CNS structures and hypothalamus itself through neurotransmitters) plays the main part in the development of obesity in the PNES patients. Hyperinsulinemia, which is characteristic for PNES, is an important factor in the development of hypothalamic obesity. Hypertrichosis isn't usually considerably marked: on the face only stock isolated hairs; hirsute of abdominal raphe and inner area of thighs may be more intensive.

Transient hypertension, hypertonic disease, hyperglycemia and diabetes mellitus, as well as biliary tracts diseases and metabolic polyarthritis are more common in women with PNES than in the rest of population.

The increase of ACTH, insulin and testosterone level have comparatively constant character, also there is a tendency to the elevation of prolactin and LH amounts. The amount of PSH, estrogens remain within norm, the progesterone level is decreased.

Typical anamnesis, the peculiarities of the disease course and even the appearance of the patient are very important for diagnosis making.

Woman which on the basis of anamnesis and clinical manifestations are likely to be PNES diagnosed undergo the next diagnostic procedures:

1. Turkish saddle and skull X-ray estimating the hypothesis bed and its diameters measuring, registration of the signs of intracranial pressure and hyperostosis;
 - a. EEH with functional load (light, sound, dosed hyperventilation);
 - b. Evaluation of the glucose tolerance in glucose load (1g per kg) ;
 - c. measuring of blood ACTH, prolactin, cortisol, testosterone, urine 17-KC;
2. Endometrium biopsy (even with underlying amenorrhea);
 - a. USE (ultrasonography) of ovaries for measuring their diameters;
 - b. Laparoscopy of ovaries for measuring their diameters and macrostructure, biopsy sample for histologic analysis.

Central points in diagnostics are:

- 1) Typical onset of the disease: progressing development of body weight after pregnancy termination, or delivery causing oligomenorea and hypertrichosis;
- 2) Secondary anovulatory infertility;
- 3) Characteristic fatty tissue distribution with marked fatty accumulations in the area of abdomen and pectoral girdle;
- 4) Symptoms and signs indicating the tendency of diencephalic brain structures to pathological process: polyphagia, polydipsia, polyuria, tendency to hypertension, hyperthermia, headache, sleep, and mood and attention disturbances.

Differentiated diagnostics is performed with the Cushing's disease. The consultation of endocrinologist is necessary. Differentiated diagnostics is also carried out with primary polycystosis of ovaries, constitutive obesity.

Neurometabolic endocrine syndrome isn't associated with pregnancy.

Clinical researches showed the symptoms characteristic for PNES sometimes develop in women who have never had either pregnancy and delivery or sexual life. Menstrual, reproductive, Neurometabolic endocrine dysfunction with underlying obesity were described in women with puberty dysfunction, associated with puberty basophilism, diencephalic syndrome or hypothalamic syndrome of puberty period. Neuroendocrine syndrome with menstrual and reproductive dysfunction with underlying obesity and hypertrichosis, which developed after various both acute and chronic stressful effects.

Pathogenesis. After neuroinfection, especially in puberty period the rhythm of hypophysotropic releasing-hormones (corticoliberin –RH ACTH) and luliberine (RH LH), as well as neurotransmitters (dopamine, serotonin, and endorphin) is disturbed. As a result

of stress the discharge of endorphin is increased while the synthesis of dopamine is decreased, that leads to Hyperprolactinemia.

That leads to anovulatory dysfunction of ovaries with the development of relative hypergesterogenia with underlying hypoprogesteronemia, hypercriticism.

Clinical manifestations. Comparable with PNES.

Treatment. Strict criteria of treatment effectiveness depending on the treatment targets should be distinguished:

- 1) Body weight decrease;
- 2) Functional recovery of menstruation without stimulators of ovulation;
- 3) Functional recovery of ovulatory menstruations with stimulation of ovulation;
- 4) Pregnancy as an indicator of reproductive system normal functioning.

Reducing diet, targeted on the decrease of body weight is the first stage of therapy. This stage is necessary invariably for all the women without reference to the ultimate target of the therapy: recovery of fertility, menstrual cycle regulation, inhibition of hypertrichosis. Diet therapy aims in negative energetic balance by reduction of caloric intake to 1200-1800 ccl based on the principles of balanced diet. The diet must:

- Activate ferment systems of lipolysis and inhibition of lipogenesis systems (5-6time meals, replacing animal fat by vegetable one);
- Reduction of intake of quickly absorbed sugars (insulinigenic substances: sugar, honey, comfiture, pastry);
- To provide satiety by low-calorie but considerable amount of food (vegetables, sugarless fruits).
- Normalization of GIT functioning: magnesium hydroxide, with antacid, absorbing and laxative action;
- Up to 3 fasting days per week, depending on the stage of obesity.

Starvation treatment isn't indicated because the majority of patients suffer from hyperglycemia. Drugs are prescribed in strict accordance with the character of metabolic and endocrine dysfunctions. The effectiveness of such neuromediator metabolism regulators as (NMMR) chloracon and diphenin is caused by the change in serotonin and dopamine receptors, normalization of dopamine secretion and in relatively cortisol secretion rate. Bromocriptin (parlodel) also belongs to NMMR; it normalizes the secretion of dopamine. NMMR together with reducing diet normalizes metabolism and lead to loss of body weight to 8-10 kg. Approximately in 40-50 % of women undergone to this therapy regular ovulatory menstrual cycle and fertility are restored

If clomiphene turns to be ineffective surgical treatment is indicated (wedge resection or thermocauterization of ovaries).

In such category of patients often appears a necessity of treatment of hyperplastic processes of endometrium.

For the normalization of endometrium structure, especially in women seeking for the possibility of pregnancy, clomiphene may be used with the purpose of ovulation stimulation, formation of yellow body and production of endogenic progesterone. Clomiphene therapy proved to be effective only after body weight decrease (10-15% of the

weight before treatment). Thus hyperplastic endometrial processes therapy should be started with synthetically gestagen, norsteroids or combined estrogen-gestagen drugs, taking into consideration their contraindications.

Oncological wedge resection of ovaries is also recommended to the women with recurrent or atypical hyperplasia of endometrium.

So, the therapy is targeted on normalization of the functioning of the most important glands of inner secretion (pancreatic, adrenal, and ovarian) and disturbed metabolism by maximally using the effects of dietary, pharmacological and surgical methods.

Post-delivery hypopituitarism (Sheehan's disease).

This disease is known since the end of XIX century, but scientifically the connection between profuse delivery bleeding and the following hypofunction of frontal part of hypothalamus was grounded only in 1937 by H. Sheehan. Till the middle of 80s about 1500 cases was described, but real number is unknown, as it may course in masked form, like a hypofunction of thyroid gland or even like a hypotonic vegetative-vascular dystonia. Sheehan's disease incidence is 0,1%, but after profuse post-delivery or post-abortion hemorrhage it rates to 40%. Sheehan's disease develops in every 4th woman after delivery blood-loss to 800ml, in every 2nd -1000ml, and in 2/3 of women if the blood-loss was up to 4000ml.

Pathogenesis. Sheehan's syndrome develops as a result of necrotic changes in hypothalamus, which follow the revulsion, intravascular coagulation in the frontal part of hypothalamus or bacterial shock in delivery or abortion. Specifics of hypothalamus blood supply, the weight of frontal part of which during pregnancy becomes 2 times larger, as well as belladonna preparations widely used in the process of labor and hemorrhages contribute to these changes. The frequency of gestosis in woman with Sheehan's disease in pregnancy period makes it possible to think that they are the factor. The frequency of gestosis in the period of pregnancy in women with Sheehan's syndrome, which is the gestosis-predisposing factor, as a tendency to intravascular coagulation in pregnant with severe form of gestosis is well-known. Furthermore, the fact that physiological decrease of ACTH discharge occurs after pregnancy, also contributes to hypothalamus ischemia. Clinical manifestations of Sheehan's disease directly depend on the level of hypothalamus injury level. A lot of scientists consider a marked disease to develop if 80% of adenohypophysis tissue is damaged. But in several cases post-mortem examination showed about 5mm of hypothalamus frontal part to be damaged, but there was no clinical symptomatology while alive. In addition there is information about patients which had marked post-delivery pituitarism, and post-mortem examination showed only slight injury of hypothalamus.

Repetitive labors are considered to cause Sheehan's disease (the interval not less than 2 years).

Clinico-diagnostic criteria - it may be characterized by various level of endocrine glands hypofunction – first of all of that of thyroid, renal and sex. There are such forms of Sheehan's disease, depending on the insufficiency of hypophysial tropic hormones:

1) Global form – with clinical manifestations of TTH, gonadotropin, AKTH. The course of the disease may be slight or severe;

2) Partial form – with gonadotropic, thyrotrophic, adrenocorticotrophic function insufficiency;

3) combined gonadotropic and thyrotrophic function insufficiency; combined thyrotrophic and adrenocorticotrophic.

Kalinichenko and co-authors (1987) consider three forms of syndrome necessary to be distinguished: light, average and severe. Light form is characterized by headache, rapid fatigability, chill, tendency to hypotension. In such patients the function of thyroid gland and glucocorticoid function of adrenal gland are decreased. Average form is characterized by depression of ovarian hormonal (oligomenorea, anovulatory infertility) and thyroid gland (pastosity, tendency to hydro's, brittle nails, xerodermia, fatigability, hypotension with tendency to loss of consciousness, it should be added that various combinations of these symptoms are possible) function. Severe form is characterized by the symptoms of hypophysial total hypofunction with the marked insufficiency of gonadotropin (persistent amenorrhea, hypotrophy of genitals and mammary glands), thyrotrophic hormone (myxedema, loss of hair), ACTH (hypotension, adynamia, fatigability, hyperpigmentation of skin). In this form the weight usually decreases, and in other it increases because of pastosity and tendency to hydro's caused by hypofunction of thyroid gland. A hardly treated by common therapeutic methods anemia is also characterized for Sheehan's disease.

Diagnosis. The basic point of diagnosing is characteristic anamnesis and connection of the disease onset with a bleeding or septic shock in the delivery or abortion process. V. Serov and co-authors (1984) consider that breast engorgement after delivery and agalactia are the characteristic signs. In hormonal analyses different stages of decrease of tropic hormones are observed, so the level of peripheral hormones is increased, so is increased the level of peripheral hormones in blood. There also occurs hypoglycemia and hypoglycemic type of sugar curve in glucose loading. The level of urine 17 – KC is decreased.

Differentiated diagnosis is differentiated with nervous anorexia, hypophysial tumor, Addison's disease, and myxedema. Characteristic anamnesis of patients – bleeding or septic shock - helps a lot in making the diagnosis.

Treatment. Substitutive therapy, glucocorticoid and thyrotrophic drugs in clinical implications of the hypofunction of the same glands are prescribed. There exists an opinion, that it is better to use cortisone and prednisolone then dexasone and dexamethasone, as the last ones have a marked anticorticotrophic property, in such a way inhibiting the production of ACTH by hypothesis, which has already been decreased. Prednisolone is recommended twice a day in 5mg doses during 2-3- weeks, one course of treatment per 2-3 months, with regard to the clinical picture. In amenorrhea or oligomenorea cyclic hormone therapy is recommended to women before 40. After 40 androgens are used, due to their anabolic effect: methyl testosterone in once a day in 5mg, one course of treatment per 2-3 months; androgens are quite effective in anti-plead therapy. Such anabolic drugs as retabolil, methylandrostenediol and etc. turned to be effective. B, E, PP -group vitamins; biostimulators – aloe, Fibs (20-30 intramuscular injections) are necessary. Nutrition must be complete, with no protein deficiency. Anemia oriented iron drugs controlled by the blood analysis are indicated.

Patients with severe form of Sheehan's disease are ultimately treated in endocrinological dispensary. The prophylaxis of the disease includes professional therapeutically management of pregnant with gestosis, timely therapy, professional labor management with the bleeding prevention, and finally adequate resuscitation in labor bleedings, abortions and septic shock.

Premenstrual syndrome (PMS).

It is a complicated complex of symptoms, occurring in premenstrual days and is performed in form of CNS malfunctioning, caused by exo- or endogenic factors secondary to gained or inherited liability of hypothalamo-hypophysial-ovarian system. Usually the PMS symptoms develop 2-3 days before menses and pass just after menses onset or on its first days.

PMS frequency ranges differently in different age periods. At the age of 19-20 this syndrome occurs nearly in 20% of patients, after 30 to 47%, and after 40-49 in women with regular menstruations – up to 55%. It is more common in women of intellectual work.

Pathogenesis. A great number of grounding theories (hormonal, "hydrointoxication", psychosomatic dysfunction) reflect the fact that it is difficult and poorly studied.

PMS classification

Classification after ICD-10

N94 – pain and other conditions, connected with female genitals and menstrual cycle, premenstrual syndrome

PMS classification by clinical complex of symptoms and clinical manifestations of premenstrual dysfunction

- premenstrual syndrome
- Genuine premenstrual syndrome
- premenstrual dysphoretic dysfunctions
- Premenstrual magnification

Classification by the stage of severity:

-Light – development of 3-4 symptoms 2-10 days before menstruation with 1-2 brightly marked:

-Severe form – 5-12 symptoms, 3-14 days before, with 2-5 brightly marked

Classification by stages of development of PMS

- Compensated stage- PMS symptoms development in lutein phase of menstrual cycle and their neutralizing after menstruation onset without progressing with time;

- Sub compensated stage – the course of the disease is worsened with time, symptoms develop till the end of menstruation;

- Decompensated stage – severe course – PMS clinics still persists after the end of menstruation, the spans between patient's normal condition and symptoms become shorter.

Clinico-diagnostic criteria: PMS is a complicated complex of symptoms, characterized by various psychopathologic, vegeto-vascular and endocrine metabolic dysfunctions, developing in the lutein phase of MC.

Depending on the symptoms prevailing in the clinical picture four main forms of PMS are distinguished: neuropsychic, hydroptic, cephalic, critical. Although such definition is nominal to some extent, anyway in the clinical practice it is quite important both for short characteristics of PMS specific symptoms and for therapeutic correction management.

In most cases symptoms develop in the second phase of menstrual cycle, 7-10 days before menstrual bleeding.

Syndrome has several names:

- a) -Premenstrual tension (PMT);
- b) Premenstrual syndrome (PMS);
- c) Premenstrual tension syndrome(PMTS);
- d) Cyclic syndrome (CS).

Cyclic syndrome is the most exact definition, as it is known the complex of symptoms characteristic for premenstrual syndrome may replace cyclic course in women with irregular menstruations, as well as in the prepubertal, postmenopause period and in patients with inborn or post hysterectomy ametria. But the term PMS is the most widespread both in native and foreign literature.

Any system and organ of women's' organism may dysfunction in premenstrual days. But the most common symptoms are:

□ Tension, hydroids and pain in mammary glands; Headaches; Dizziness; Body weight decrease; Abdominal discomfort: abdominal distention, diarrhea, constipation; Thirst; Nausea, vomiting; Change of appetite: hunger for alcohol, spicy food, sweets; Pains throughout the body or in limbs, back, joints, lumbar region; Hyperesthesia of different parts of the body; Lethargy; Sleeplessness; Depression; Exhaustion; Aggression.

As a rule all the symptoms progress up till the onset of menstruation and stop with the beginning of bleeding or few hours before it. When classifying the symptoms by disorder of function of certain system the next symptoms may be distinguished:

Psychological dysfunction:

- Frequent changes of mood;
- Irritability;
- Inability to concentrate;
- Loss and deterioration of memory;
- Unfriendliness and aggression;
- Fatigue;
- Lethargy;
- Sleeplessness;
- Fear;
- Melancholy;
- Reasonless crying or laugh;
- Suicidal thoughts;
- Libido change.

Neurological symptoms:

- Headaches, migraine;

- Dizziness;
- Lurch;
- Hyperesthesia;
- Dysmenorrhea;
- Asthma;
- Rhinitis;
- Increase or development of cerebral seizures;
- Electric encephalogram shows increased irritability.

Dermatologic symptoms:

- Acne;
- Hives;
- Fever;
- Pruritus;
- Pigmentation of face and trunk;
- Dryness or abnormally fatty skin of face and scull;
- Pain in bones, joints, back;
- Anemia of muscles;
- Symptoms of arthritis - pains, edema;

Gastrointestinal symptoms:

- Deterioration of appetite, even bulimia and anorexia;

- Nausea, vomiting;
- Abdominal distention;
- Evacuation disorders

Renal symptoms:

- Accumulation of liquid as a result of renal dysfunction;
- Change of urine amount

Anti PMS treatment includes:

1. Medicated and non-medicated therapy:
2. Non-medicated therapy:
 - a. work and rest regimen normalization;
 - b. dosed physical activity;
 - c. psychotherapy;
 - d. physiotherapy, massage;

Dietary pattern normalization: The principles of healthful and dietary meals in PMS:

1. Controlled daily caloric intake - 1200 -1500 kilocalories:
 - 30 % proteins;
 - 20 % -fats;
 - 50 % -carbohydrates
2. Dietary regimen: meals in small portions, 5-6 times per 24 hours. This regimen lets fat tissue metabolism be normalized and prevent the decrease the amount of blood sugar level.

3. The next products must be excluded: salt, tinned foods, frozen fruits and vegetables, strong cheese, smoked meats, pickled products, chips; simple carbohydrate; saturated fatty acids, animal fats; alcohol, which reduces vitamins and minerals reserves and disturbs carbohydrate metabolism in organism; tea, coffee, cacao, cola - coffeeincontaining products, that may cause anxiety, irritation, tension in mammary glands.

4. It is useful to include such products to the diet:

A, B, C, E group vitamins (for every day intake)

-vitamin A-10-15mg; vitamin B -25 -50 mg; (without B6 vitamin); vitamin E -100 -600 mg; vitamin C -100 mg; vitamin D -100 mg; Mg, K, Ca- macroelements, which take part in the nervous system regulation (including CNS), in water-electrolytic balance maintenance and in processes of microrelaxation; Zn, Se microelements, acting as antioxidants; polyunsaturated fatty, sunflower, peanut oils, pout liver, unsalted roe; juices, carrot and lemon first of all;herbal teas.

Drug therapy of PMS is differentiate and is carried out depending on the level of severity and disease course. The groups of drugs are enumerated in order of prescription recommended to apply.

3.3. Requirements for the results of work, including before registration.

- Collect general and special history, an allocation of a typical case-patient data.
- To appoint examination- Analysis and discussion of the results of the patient's examination.
- Show the phantom method of physical examination on organ systems.
- Show on phantom gynecological examination.
- Demonstrate phantom performance tests of functional diagnostics, fractional diagnostic curettage of the uterus.
- Multimedia presentation on the topic of the lesson (review of literature using modern sources; videos, etc.).

3.4. Control materials for the final stage of the lesson: tasks, tasks, tests, etc.

Atypical situational tasks:

1. A 14-year-old patient was admitted to the gynecological department with complaints of heavy bloody discharges from the genital tract. From the anamnesis: menstruations since the age of 15, for the first 4 months they were regulated (3-4 days every 28 days), moderate, painless. She became ill 8 days ago, when after a 3 month absence, bloody discharge appeared that further increased. She does not have a sexual life. Hemoglobin - 92 gr/l. During the rectal examination, pathology of the internal genitals was not revealed.

What is the most rational method of hemostasis for bleeding in this case?

2. Patient M., 53 years old, complains of smearing bleeding within 12 days. Menstruations from 14 years, 3-5 days, 31 days, were regular. Last 3 years of menstruation irregular, there are delays for 2-3 months. In gynecological

examination: vaginal mucosa and cervix without pathological changes. In bimanual examination - the body of the uterus is not painful, mobile, normal size.

Determine algorithm of the doctor's actions.

3. A 49-year-old patient consulted the gynecological department with complaints of bleeding from the genital tract. Anamnesis: menstruations since the age of 14, regulated immediately (4–5 days every 28 days), moderate, painless. In the past 2 years intervals between menstruations were 2–3 months. 15 days ago after a two-month absence of menstruation, the bleeding started which continues till now. Hemoglobin - 100 gr/l. During bimanual examination pathology of the internal genitals was not revealed.

Establish the diagnosis.

Test tasks KROK-2:

1. A 36 year old patient came to the female consultation with complaints of increased irritability, tearfulness, headache, and palpitation, edema of the hands and feet, decreased urination, engorgement of the mammary glands. These symptoms occur and gradually increase some days before menstruation and disappear at the beginning of menstruation. The menstruation cycle is not dysfunctional. The listed complaints began last year. What is the diagnosis?
- A. Climacteric syndrome
 - B. Shihane syndrome (postnatal hypopituitarism)
 - C. Premenstrual syndrome*
 - D. Stein-Leventhal syndrome
 - E. Adrenogenital syndrome
1. A 20 year old patient complains of periodic menstruation delays for 2-4 months during the last 2 years. She noticed excessive hair growth on the anterior abdominal wall, mammary glands, and lower extremities. During the last year she gained 14 kg weight. Speculum examination: cervix is conic, external os is closed, epithelium is whole. Body of uterus is in anterflexio, small, mobile, painless. Ovaries are palpated on both sides of the uterus, 4x6 cm, painless, firm. Posterior fornix is deep. Discharge is mucous. What is the most probable diagnosis?
- A. Adrenogenital syndrome
 - B. Itsenko-Cushing syndrome
 - C. Adenoblastoma of ovaries
 - D. Stein - Leventhal syndrome (Polycystic ovarian syndrome)*
 - E. Sheehan's syndrome

IV. Summing up (criteria for evaluating learning outcomes).

Current control: oral examination, testing, assessment of practical skills, solving

situational clinical problems, assessment of activity in the classroom, etc.

The structure of the current assessment in the practical lesson:

1. Assessment of theoretical knowledge on the topic of the lesson:

- methods: survey, solution of situational clinical problem;
- maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.

2. Assessment of practical skills and manipulations on the topic of the lesson:

- methods: assessment of the correctness of practical skills;
- maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.

3. Evaluation of work with the patient on the topic of the lesson:

- methods: assessment: a) communication skills of communication with the patient, b) the correctness of the appointment and evaluation of laboratory and instrumental studies, c) compliance with the algorithm for differential diagnosis d) justification of clinical diagnosis, e) treatment plan;
- maximum grade - 5, minimum grade - 3, unsatisfactory grade - 2.

Criteria for evaluating the learning outcomes of students during the practical class:

«5»	It is presented to a student who systematically worked during the semester, showed during the exam versatile and deep knowledge of the program, is able to successfully perform the tasks provided by the program, mastered the content of basic and additional literature, realized the relationship of individual sections of the discipline, their importance for future profession. showed creative abilities in understanding and using educational material, showed the ability to independently update and replenish knowledge; level of competence - high (creative);
«4»	It is presented to a student who has shown full knowledge of the curriculum, successfully performs the tasks provided by the program, mastered the basic literature recommended by the program, showed a sufficient level of knowledge in the discipline and is able to independently update and update during further study and professional activities; level of competence - sufficient (constructive-variable)
«3»	Exhibited to a student who has shown knowledge of the basic curriculum in the amount necessary for further study and further work in the profession, copes with the tasks provided by the program, made some mistakes in answering the exam and when performing exam tasks, but has the necessary knowledge to overcoming mistakes under the guidance of a research and teaching staff; level of competence - average (reproductive)

«2»	Exhibited to a student who did not show sufficient knowledge of the basic curriculum, made fundamental mistakes in performing the tasks provided by the program, cannot without the help of the teacher to use the knowledge in further study, failed to master the skills of independent work; level of competence - low (receptive-productive)
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Basic:

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2. Zaporozhyan V.M., Mishchenko V.P. Obstetrics and gynecology: Collection of test tasks on clinical drawings: textbook. Manual.-Odessa: Odessa.med. University, 2008.-S. 57-63. - Language: Eng.
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Additional:

20. Obstetrics: підручник англійською мовою (edit by I.B. Ventskivska).- K.: Medicine, 2008.-334 p.
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22. Progress in Obstetrics and Gynaecology. Vol 10. Ed J Studd. (Pounds sterling 26.50.) Churchill Livingstone, 1993. ISBN 0443-04754-5.
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ONMedU, Department of Obstetrics and Gynecology. Practical lesson №1. Clinical anatomy and physiology of the female genital organs. Methods of examination of gynecological patients. General semiology in gynecology.

Methodical development of a practical lesson, OPP "Medicine", 4th year, international faculty.
Discipline: "Obstetrics and Gynecology".