**MINISTRY OF HEALTH OF UKRAINE**

**ODESA NATIONAL MEDICAL UNIVERSITY**

Department of Obstetrics and Gynecology

**APPROVED**

Vice-rector for scientific and pedagogical work

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September 1st, 2025

# METHODOLOGICAL RECOMMENDATIONS FOR PRACTICAL CLASSES ON THE ACADEMIC DISCIPLINE "OBSTETRICS AND GYNECOLOGY"

**for 4th year students**

**Level of higher education:** second (master's)

**Field of knowledge:** 22 "Healthcare"

**Specialty:** 222 "Medicine"

**Specialization:** "Obstetrics and Gynecology"

**Educational and professional program:** Medicine

**Approved:**

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

Protocol No. 1 dated August 27, 2025.

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**TOPIC 1**

**"Organization of obstetric and gynaecological care in Ukraine. The contribution of family doctor in providing obstetric and gynaecological care. "**

**Purpose:** to get acquainted with the main stages of the development of obstetrics and gynecology as a part of medicine; with the achievements of domestic science, modern scientific trends; with the general principles of the organization of obstetric and gynecological care in the country; with determination of the role of the family doctor in providing obstetric and gynecological care. To master and improve the collection of anamnesis in gynecological patients. Be able to apply deontological conversational skills in practice. Assess the psycho-emotional state of a woman. To carry out modern research methods for the correct diagnosis and for the further appointment of adequate therapy.

**Basic concepts (list of questions):** organization of obstetric and gynecological care. Organization of the family planning service: structure, tasks. The role of the family doctor in the prevention of perinatal diseases and mortality.

**Basic concepts for the lesson:**

1. The subject of obstetrics and gynecology.
2. The main stages of the development of obstetrics and gynecology.
3. Outstanding representatives of the Ukrainian school of obstetricians-gynecologists.
4 . Stages of obstetric and gynecological care in Ukraine.
5 . Organization of obstetric and gynecological care.
6 . The structure of ambulatory obstetric and gynecological care.
7 . The structure of inpatient obstetric and gynecological care.
8. The role of the family doctor in the prevention of perinatal diseases.

**Plan:**

1. **Knowledge control.**

1 . Obstetrics and gynecology assistance in the village is provided:
A. Etapno (I - FAP, II - TSR, III - Women's consultation)
B. All types of assistance are provided at the Center for Disease Control and C.Prevention
C. The patient is immediately referred to the women's consultation of the district
D. Separately (depending on the necessary measures)
E. All types of assistance are provided by the district doctor
2. To what level of obstetric and gynecological care do perinatal centers and reproductive health centers belong:
A. _ To the 1st level
B. _ Up to II level
C. _ Up to IV level
D. _ Do not apply at all
E. _ It is a separate component of the II level
Correct answers: 1 - A, 2 – C

2. **Discussion of theoretical questions.**

Obstetrics ( fr. *A ccoucher* — to help during childbirth) is the science of physiological and pathological processes that occur in a woman's body in connection with pregnancy, during childbirth, and in the postpartum period.

Obstetrics is the science of the development of pregnancy (from fertilization and implantation to maturation of the fetus in the mother's womb) and changes in a woman's body in connection with pregnancy , the course and management of normal and pathological childbirth, methods of childbirth , methods of preventing complications, course and management of the physiological and complicated postpartum period.

Gynecology (Greek: gynea - woman, logos - science) is the science of the female body, studies the anatomical and physiological features of the female body, diseases of the female genital organs, methods of their diagnosis, prevention and treatment of patients.

Perinatology (from the Greek regi - a prefix, meaning "around", "outside" + Latin natus - birth) is the science of the development and protection of the fetus and newborn.

MAIN STAGES OF DEVELOPMENT OF OBSTETRICS AND GYNECOLOGY

Midwifery is one of the oldest branches of medicine. The peoples of Ancient Egypt, India, the book "Ayurveda" ("Knowledge of Life" 9-3 centuries BC), Judea, China (27th century BC), Babylon (22nd century BC) had some information about midwifery. AD) etc.

*Mykola Vitoldovych Shuvarskyi* (1860-1922) belonged to the Kyiv School of Obstetrics and Gynecology . His works on artificial insemination, uterine myoma and pregnancy, complications during the third period of childbirth, the state of the placenta and its structure gained wide recognition.

A special role in the development of medicine in Ukraine, and in particular in Odessa, belongs to the great *Mykola Ivanovich Pirogov,* who during his work as a trustee of the Odessa educational district (1856-1858) petitioned the government to open a medical faculty in the South. On September 1, 1900, the rector of Novorossiysk University, Professor *Fedir Nikiforovych Shvedov,* delivered the first lecture at the medical faculty. And in 1920, the medical faculty was transformed into a medical academy, the rector of which was academician Danylo Kyrylovych Zabolotny (he was later elected president of the Academy of Sciences of Ukraine). Since 1921, the independent Odessa Medical Institute (OMI) began to exist, the rector of which during 1923-1927 was Academician Lev Vasyliovych Gromashevskyi.

*Hryhoriy Ilyich Himelfarb* (1857—1928) was one of the organizers of obstetrics and gynecological care in Odessa . A significant contribution to the development of gynecology was his works "On the question of deviation of the uterus", "On the clinic and treatment of myoma of the uterus". By improving Wertheim's radical hysterectomy, he reduced the mortality after it to 2%. Possessing extensive knowledge in the field of pathology, anatomy and laboratory equipment, G. I. Himelfarb created a patho-anatomical museum and founded the first laboratory.

In 1905, the medical faculty of Novorossiysk University appointed a graduate of the St. Petersburg Military Medical Academy, a student of Professor O.I. Lebedev - *Vsevolod Mykolayovych Orlov* (1866 - 1927). Under his leadership, the obstetrics-gynecology clinic in Odesa immediately

took a prominent place among advanced medical institutions in terms of the scale of operative activity and the consequences of surgical intervention.

V. M. Orlov's research was devoted to mud treatment, the role of physical methods in the treatment of inflammatory diseases, X-ray therapy, radiotherapy, and the introduction of catgut into surgical gynecological practice. The author of the well-known textbook "Textbook of Women's Diseases", as a talented teacher and clinician, in 1927 he organized the first student scientific society, the Odesa Scientific Society of Obstetricians and Gynecologists, a polyclinic to provide free assistance to women in labor, where assistants, students of the last year, consulted and attended (first principles of family medicine).

Employees of V. M. Orlov's department - private docents G. I. Thomson and F. V. Bukoemskyi - were elected professors of the Odesa Higher Women's Courses, and then of the Odesa Medical Institute. V. M. Orlov's students headed departments of obstetrics and women's diseases in other cities: V. D. Brandt — in Kharkiv, B. K. Hogoberidze — in Tbilisi, G. F. Tsomakion — in Dnipropetrovsk.

An outstanding representative of the Ukrainian school of obstetricians and gynecologists was the famous surgeon, talented diagnostician *Hryhoriy Fedorovych Pysemskyi* (1862-1937), a professor at the Kyiv Medical Institute and the Kyiv Institute for the Advancement of Physicians. Of the more than 60 scientific works written by him, the most famous are research on the innervation of the uterus, a monograph on dermoids of the abdominal wall, and works on operative gynecology. G. F. Pysemskyi was the editor of the magazines "Ukrainian medical news", "Oncological issues", the initiator of the opening of the first women's consultation for pregnant women in Kyiv, the creation of collective farm maternity homes, and the organization of obstetrics in rural areas. In his clinic, for the first time in obstetrics and gynecology practice in Ukraine, a donor blood transfusion was carried out.

After G. F. Pysemskyi, the Department of Obstetrics and Gynecology of the Kyiv Medical Institute was headed by Professor O. And . Krupsky. Under his leadership, the clinical base was expanded, a biochemical laboratory was created. Since 1936, there have already been two departments of obstetrics and women's diseases - at the medical and pediatric faculties.

One of the founders of midwifery in Ukraine was professor of the Kyiv Medical Institute *Feodosii Onysimovich Sokolov* (1870—1942). His doctoral dissertation "On saline infused as a treatment method after acute blood loss" became the basis of theoretical provisions regarding the effect of blood transfusion on the body. The works of F. O. Sokolov "On the treatment of septic abortion", "Conservative treatment of fibroids" were widely known. Having vast experience in scientific and practical work, he took the most active part in the work of Okhmatdyt institutions in Ukraine.

From 1938 to 1958, the Department of Obstetrics and Gynecology No. 1 of the Medical Faculty of the Kyiv Medical Institute was headed by professor, corresponding member of the Academy of Sciences of Ukraine *Oleksandr Yudymovych Lurye,* who was the chief obstetrician-gynecologist of the Ministry of Health of the Ukrainian SSR. He proposed conducting an analysis of maternal mortality (maternal death commissions), which was of great importance for improving the quality of obstetric care, as well as analgesia during childbirth (1935), for which he was awarded the State Prize. The development of uniform provisions on the most important issues of obstetrics (narrow pelvis, caesarean section, obstetric bleeding, etc.) has begun. The experience of Ukraine spread to all republics of the Union. The number of surgical gynecology beds increased, the department of gynecological oncology, septic gynecology, and pregnancy pathology was opened. In the teaching of

obstetrics and gynecology, more attention began to be paid to practical classes. O. Yu. Lurie proposed his modification of the extirpation of the uterus according to Wertheim in combination with X-ray and radiation therapy.

Since 1938, the Department of Obstetrics and Gynecology No. 2 was headed by Professor *Petro Mykhailovych Buiko* (1895-1943), a graduate of the Kyiv Medical Institute. The clinical-experimental work "Surgical treatment of vesico-vaginal fistulas in women" characterizes him as a brave innovator, humanist scientist. From the first days of the Second World War, P.M. Buiko went to the front as a volunteer. Wounded, he was taken prisoner, from where he escaped. Took an active part in the partisan movement of Ukraine. He was captured by the Gestapo. After brutal torture, on October 15, 1943, he was burned alive in the village. Yaroshivka

Until 1953, the Department of Obstetrics and Gynecology No. 2 was headed by an honored scientist, Professor O. M. Olshanetsky, the author of one of the first studies on the history of domestic obstetrics and gynecology.

On the initiative of Professor O.Yu. Lurie, in the postwar years, preventive oncological examinations of women were organized for the first time in the country, which made it possible to reduce cancer mortality. Thanks to the active scientific, medical and organizational activities of the Department of Obstetrics and Gynecology of the Kyiv Medical Institute, mortality from obstetric bleeding has decreased. Clinics for climacteric pathology and children's gynecology were opened for the first time, and the system of improving the qualifications of doctors was improved. A significant role in the development of children's gynecology belongs to the students of O.Yu. Lurie - to professors Yu.O. Krupko-Bolshova, I.B. Vovk, and in oncological gynecology - V.K. Vinnytskyi, A.I. Evdokimov, V.Ya. Zuher, N.V. Svechnikova and others.

In 1959, the department was headed by a student of the Kharkiv school, Professor I. And . Hryshchenko *Mykola Serhiovych Baksheev* (1911—1974) — professor, chief obstetrician-gynecologist of the Ministry of Health of the Ukrainian SSR. He created a scientific school that developed the issues of physiology and pathology of the contractile activity of the uterus, embolism with amniotic fluid, gestosis, fetal hypoxia and newborn asphyxia, chemotherapy in oncogynecology. For the monograph "Uterine Bleeding in Obstetrics", M. S. Baksheev was awarded the State Prize named after V. F. Snegiriev.

The case of M.S. Baksheev was continued by his followers: T.Ya. Kalinichenko is an outstanding organizer of health care in Ukraine, Professor *Raisa Ivanivna Malykhina is* a well-known specialist in the problems of tuberculosis of the female genital organs. The heads of the departments of the Kyiv Medical Institute (now the O.O. Bogomolets National Medical University) are famous Ukrainian scientists: professors V.S. Artamonov, V.Ya. Holota, chief obstetrician-gynecologist specialist of the Ministry of Health of Ukraine — professor B.M. Ventsk and Vsk . B.M. Wentzkivskyi headed the Obstetrics and Gynecology Service of Ukraine . The author of developments on the problems of late gestosis.

Until 1990, the Department of Obstetrics and Gynecology No. 1 was headed by G.K. Stepankivska is a corresponding member of the National Academy of Sciences, and later - of the Academy of Medical Sciences of Ukraine, she has works on the study of the mechanisms of labor regulation, the development of methods of rational delivery. Professor B. M. Ventsk i Vskyi and the scientists of his school made a significant contribution to the development of domestic perinatology, the introduction of new methods of diagnosing the state of the fetus (electro-, phonocardiography, hormonal, biochemical studies, dopplerometry, cardiotocography, amnioscopy), studying the

problem of the physiology and pathology of the uterus during pregnancy and childbirth, rational nutrition of pregnant women, late toxicosis of pregnant women, carrying pregnancy, premature birth, postpartum infection, antenatal protection of the fetus and newborn, oncogynecology, tuberculosis.

The Department of Obstetrics of the Kyiv Institute for the Advancement of Doctors (KIUL) was established in 1918 on the basis of the polyclinic of the Clinical Institute of the Kyiv Professional Union of Doctors. The organizer and first head of the department was Hryhoriy Fedorovych Pysemskyi, and the department of gynecology was headed by professor V.L. Lozinsky. Pupils of G.F. Pysemskyi were professors S.P. Vynogradova, E.Ya. Yankelevich, K.M. Zhmakin, V.P. Savytskyi, V.M. Khmelevsky L. I. Bublychenko (1958-1975) elaborated on the problem of postpartum infections. H.P. Pysemskyi (1937-1962, Kyiv) elaborated the issues of operative gynecology. L.P. Buyko (1895-1943, Kyiv) hero of the Soviet Union. Studied the problem of maternal trauma, engaged in the organization of obstetric care.

From 1971 to 1993, the department was headed by Professor *Leonid Vasiliovych Tymoshenko* , an outstanding Ukrainian scientist-clinician, corresponding member of the National Academy of Sciences of Ukraine, AMS of the USSR, RAMS, honorary member of scientific societies of obstetricians-gynecologists of Bulgaria, Hungary, Yugoslavia, member of the European Association of Obstetricians-Gynecologists, laureate State award named after V. F. Snegiriova (1985), awarded the Semelweiss medal for the development of science. He can rightly be called one of the founders of modern obstetrics, perinatology and gynecology in Ukraine. An ardent educator of scientists and doctors, a sensitive doctor, a favorite of student youth, L. V. Tymoshenko first headed the department of the Lviv Medical Institute, where he also created a scientific school. His followers are 16 heads of departments of leading universities of Ukraine, among whom are professors Evgenia Viktorivna Kokhanevich, Stanislav Serhiyovych Leush, Yurii Petrovych Vdovichenko and other famous scientists. L.V. Tymoshenko is the author of more than 600 scientific works, including 20 monographs and textbooks. Under his supervision, 85 candidate's and 20 doctoral theses were completed.

Created in 1936 by the Ukrainian State Research Institute of Maternity and Childhood Protection (Okhmatdyt) named after N.K. Krupska (Kyiv), the journal "Pediatrics, Obstetrics and Gynecology" was founded, which united around itself the best scientific forces of Ukraine. Subsequently, the Ukrainian Research Institute Okhmatdyt, which employed such famous scientists and practitioners as professors G.F. Pysemskyi, V.M. Khmelevskyi, S.P. Vynogradova, Academician A.P. Nikolaev, was reorganized into the Institute of Pediatrics, Obstetrics and Gynecology, which in 1994 came under the leadership of the Medical Academy of Ukraine. Professor *A.H.* played a decisive role in its formation and development. *Pope,* academician of the National Academy of Sciences and the Academy of Medical Sciences of Ukraine O.M. *Lukyanova,* corresponding member of the Academy of Medical Sciences of Ukraine, professor O.H. *Mykhaylenko is* the author of many monographs on the problems of obstetrics and perinatology, educational manuals: "Physiological obstetrics", "Pathological obstetrics", "Situational problems in obstetrics and gynecology", "Gynecology", etc.

The main directions of the institute's creative activity were the development of problems of labor analgesia, regulation of labor, obstetric bleeding, hemolytic disease of the fetus and newborn, late toxicosis of pregnant women, premature pregnancy, hypoxia of the fetus and newborn. A. P. Nikolaev, L. V. Tymoshenko, G. K. Stepankivska, A. G. Kolomiitseva, V. P. Mikhedko, Y. P. Solskyi (Kyiv), developed the problem of obstetric and gynecological sepsis. Introduced a system of prevention of unwanted pregnancy into practical obstetrics). Ya. Bratuschyk and others). V. M.

Khmelevsky was one of the first to propose the administration of glucose, calcium chloride, B vitamins, and ascorbic acid (Khmelevsky's mixture) for the treatment of fetal hypoxia.

The monograph of Academician Anatoly Petrovich Nikolaev (1896-1961) "Theory and practice of labor anesthesia" (1953) was translated and published in the languages of many foreign countries (France, Germany, Czechoslovakia, Italy, Argentina). His method of treating fetal hypoxia using a 40% glucose solution (20 ml) with Cardiazole and oxygen inhalation (Nikolayev's triad) became widespread in Ukraine, the USSR and abroad. Academician A. P. Nikolaev, a graduate of the Faculty of Medicine of Kyiv University, worked as the head of the Department of Obstetrics and Gynecology of the Poltava Medical Institute, and was the director of the Research Institute of Obstetrics and Gynecology of the AMS of the USSR (Leningrad).

The Scientific School of Obstetricians and Gynecologists was established at the Kharkiv Medical Institute, where the department was headed by professors P.X. Khazhynskyi, R.L. Livshina, and from 1946 to 1972 he was an honored scientist of the USSR, the patriarch of the modern school of Ukrainian obstetrician-gynecologists, Professor *Ivan Ivanovich Hryshchenko* (1897-1983). An excellent surgeon and clinician, I.I. Hryshchenko paid great attention to restorative surgery for anomalies of the development of genital organs, genitourinary and intestinal fistulas. For the first time in Ukraine, he organized a center for the study of anthropozoonous diseases in obstetrics; led work on the study of problems of isoantigenic incompatibility of maternal and fetal blood (the first in the USSR to perform amniocentesis), correction of fetal position anomalies with the help of external prophylactic rotation and physical exercises; developed the issue of genetics. The author of more than 130 scientific works, including a textbook on obstetrics, 4 monographs, he was also the responsible secretary of the first editorial board of the journal "PAG", a member of the editorial board of the journal "Obstetrics and Gynecology". Under the leadership of I.I. Hryshchenko completed 7 doctoral theses and 52 candidate theses. His students headed departments of obstetrics and gynecology in Kyiv (M.S. Baksheev, R.I. Malikhina), Kharkiv, Odesa (V.A. Solyanyk-Shyleyko), Zaporizhzhia, and Ternopil.

Since 1966, the Department of Obstetrics and Gynecology of the Medical Faculty of Kharkiv State University has been headed by an honored scientist and engineer, academician of the National Academy of Sciences of Ukraine, laureate of the State Prizes of the USSR and Ukrainian SSR, professor V.I. Hryshchenko (1928-2011), who at the same time headed the Institute of Problems of Cryobiology and Cryomedicine of the National Academy of Sciences of Ukraine. He made a significant contribution to the study of the problems of cryosurgery (for the first time in the former USSR), perinatology, toxicosis of pregnant women, studied the role of the pineal body (epiphysis) in the physiology and pathology of the female reproductive system. For the monograph "Antenatal death of the fetus" he was awarded the prize named after V.F. Snehiryova AMS of the USSR. Under his leadership, the first effective attempt at in vitro fertilization in Ukraine was carried out. WHO expert on birth control problems, adviser to the "Human Reproduction" program, V.I. Hryshchenko trained 13 doctors and 83 candidates. medical sciences. He was a member of the editorial board of the journals "Pediatrics, Obstetrics and Gynecology" and "Obstetrics and Gynecology" (Russia), the editor-in-chief of the journal "Problems of Cryobiology", the head of the medical and biological section of the North-Eastern Scientific Center of the National Academy of Sciences of Ukraine.

Professor V.F. worked fruitfully at the Department of Obstetrics and Gynecology of the Pediatric Faculty in Kharkiv. Matveeva The department was headed by professor M.G. Bohdashkin is an honored worker of science and technology of Ukraine.

The first Institute for the Protection of Motherhood and Childhood was created in 1923 in Kharkiv; in 1928, such institutes were opened in Kyiv, Odesa, Dnipropetrovsk, and later in Lviv and Mukachevo.

In 1936, the Department of Obstetrics and Gynecology of the Vinnytsia Medical Institute was founded, headed by Professor S.I. Topaz The heads of the department were O.O. Kogan, N.P. Verkhatskyi, S.B., Golubchyn, R.I. Shterenberg, G.N. Smirnov. The credit for creating scientific schools in Vinnytsia belongs to professors R.A. Vartapetov and M.K. Ventsk and Vsk. The Vinnytsia school produced such famous scientists as professors J.P. Solskyi, P.G. Zhuchenko, P.P. Grigorenko, B.F. Mazorchuk, A.N. Haystruk, who developed the problems of preeclampsia, septic complications in obstetrics and gynecology, studied the influence of environmental factors on the body of the mother and the newborn. Own scientific schools were also created by professors V.K. Chaika (Donetsk), K.V. Voronin (Dnipropetrovsk), L.B. Markin (Lviv), O.Ya. Grechanina (Kharkiv), A.M. Rybalka (Crimea), V.A. Solyanik-Shyleyko (Odesa).

The development of perinatology in Ukraine is conditioned by the creation of scientific schools and departments of perinatal medicine in Dnipropetrovsk (Prof. 3. M. Dubosarska), Odesa (Prof. O. O. Zelinskyi), Kharkiv (Prof. O. V. Hryshchenko, Prof. O. Ya . Grechanin).

Soviet obstetrics is persistently working on many issues, including facilitating the course of pregnancy, preventing the so-called late toxicosis, etc. complications of pregnancy and childbirth, analgesia of childbirth, fight against excessive blood loss during childbirth, with premature and prolonged childbirth, with trauma of newborns, with stillbirth and early mortality of newborns, with maternal mortality, etc. The development of Soviet midwifery takes place in close connection with other branches of theory and practical. medicine — physiology, surgery, bacteriology, gynecology, etc.

The 17th and 18th centuries were characterized by the formation of two main midwifery schools in Ukraine – Kyiv and Kharkiv. The formation of the Odesa School of Obstetricians and Gynecologists began in 1902. The beginning of the creation of this school was the organization of the department of obstetrics and gynecology on the basis of the medical faculty of Novorossiysk University. Professor Vasyl Mykolayovych Massen (1902-1904) became the first head of the department. He graduated with honors from the Medical and Surgical Academy in 1887. In 1902, he was transferred to Odessa, where he organized the Department of Obstetrics and Gynecology at Novorossiya University. In 1904, he died suddenly in the break between lectures.

From 1904, for 22 years, the clinic was headed by Professor Vsevolod Mykolayovych Orlov. He also became the initiator and organizer of the Scientific Society of Obstetricians and Gynecologists in Odesa (1927). Managed by Professor Orlov, the university clinic located on Pastera Street was at the level of the leading European clinics of that time.

**Vsevolod Mykolayovych Orlov** (1866-1927) head the Department of Obstetrics and Gynecology in 1905-1927. In 1890, he graduated from the Medical and Surgical Academy with a prize and was left to improve for three years at the clinic of Professor A.I. Lebedev. He arrived in Odessa in 1905, took charge of the organization and equipment of the educational and diagnostic process at the Department of Obstetrics and Gynecology of the Medical Faculty of Novorossiysk University. He created a museum of micro- and macroscopic pathological-anatomical preparations, slides on obstetrics and gynecology, organized a cabinet of physical methods of treatment (electro-light therapy, mud therapy). His students are Professor V.D. Brandt, B.K. Gogoberidze, V.A. Myshin, G.F. Tsomakion.

**Herman Ivanovych Thomson** (1862-1933) headed the Department of Obstetrics and Gynecology in 1928-1929.

**Georgy Fyodorovych Tsomakion** (1884-1939) headed the department of obstetrics and gynecology in 1930-1930. Graduated with honors from the medical faculty of Novorossiysk University in 1910. In 1921-1930. headed the Department of Obstetrics and Gynecology of the Dnipropetrovsk Medical Institute.

**Boris Kostantynovych Hogoberidze** (1884-1954) headed the department of obstetrics and gynecology in 1940-1941. graduated with honors from the medical faculty of Novorossiysk University in 1908.

**Hryhoriy Kostiantynovych Zhivatov** (1891-1952) headed the department of obstetrics and gynecology of the pediatric and sanitary-hygienic faculties in 1936-1948.

**Ashot Moiseevich Agharonov** (1895-1962) headed the department of obstetrics and gynecology of the medical faculty in 1945-1954. Graduated from the medical faculty of Kyiv University in 1919. Since 1954 - head. Department of Obstetrics and Gynecology of the Yerevan Medical Institute.

**Oleksandr Ivanovich Malinin** (1890-1985) headed the department of obstetrics and gynecology of the medical faculty in 1954-1965.

**Ivan Mykolayovych Rembez** (1920) headed the Department of Obstetrics and Gynecology of the Faculty of Medicine in 1965-1968. From 1974, he worked in Odesa in health care institutions, and after that he was a professor of the Department of Obstetrics and Gynecology of the Faculty of Medical Education of the Odessa Medical Institute.

So, the heads of the departments of obstetrics and gynecology at Odesa National Medical University are professors: V.M. Massen (1902 -1904), V.M. Orlov (1905-1927), F.V. Bukoemskyi (1920-1922), G. I. Thomson (1928-1929), G.F. Tsomakion (1930-1939), H.K. Zhivatov (1936-1948), B.K. Hogoberidze (1940-1941), A.M. Agharonov (1945-1954), O.E. Nudolska (1952-1953), N.P. Verkhatskyi (1953-1958), O.I. Malinin (1954-1965), Ya.V. Kukolev (1959-1971), U.Y. Bizhan (1972-1983), I.M. Rembez (1965-1968), V.A. Solyanyk-Shyleyko (1968-1990), O.O. Zelinsky (from 1983-2018), V. F. Nagorna (1990-1994), V. M. Zaporozhan (1986-2015), I. Z. Gladchuk (since 2015).

**Victoria Andriivna Solyanyk-Shyleyko** (1924) headed the department of obstetrics and gynecology in 1968-1990. Graduated with honors from the Kharkiv Medical Institute in 1949. V.A. Solyanyk-Shyleyko is a graduate of the Kharkiv School of Obstetrics and Gynecology of Professor I.I. Hryshchenko Her research is devoted to the problems of isoimmunization of the body of a pregnant woman in cases of maternal and fetal blood incompatibility, rehabilitation therapy of inflammatory diseases of female genital organs using physical and sanatorium-resort factors, cryosurgery in gynecology. In 1956, she defended her candidate's thesis on the topic: "The influence of the flow of roles and the postpartum period on lactation in its early period." In 1967, a doctoral dissertation on the topic: "Isoimmunization of a pregnant organism and prevention of complications related to it." Author of more than 200 scientific works, 3 monographs; 3 doctoral theses and 23 candidate theses were defended under her supervision. Solyanik-Shyleyko Victoria Andriivna raised a new generation of obstetricians-gynecologists in Odessa, she gave birth to the Odessa School of Obstetricians-Gynecologists. Organized and managed the first specialized immunoconflict pregnancy center in Ukraine. For many years, she managed the Odessa Scientific Society of Obstetricians and Gynecologists.

**Nagorna Victoria Fedorivna.** From 1990 to 1998, professor, head. department of obstetrics and gynecology No. 1. In 1976, a candidate's thesis on the topic "Autovaccine in the complex treatment of chronic relapsing inflammatory diseases of the female genital organs." In 1991 - a doctoral dissertation on the topic "Benign tumors of the ovaries: pathogenesis, clinic, treatment". The author of 5 monographs, the textbook "Obstetrics", 190 publications, 18 patents for inventions, supervisor of 14 candidate's and 1 doctoral theses. Her research is devoted to the problems of preeclampsia, benign ovarian tumors, improvement and implementation of new methods of surgical treatment in obstetrics and gynecology. Reports at international congresses in Geneva, Copenhagen, Istanbul, Helsinki, San Francisco.

**Valery Mykolayovych Zaporozhan** (1947) Head of the Department of Obstetrics and Gynecology from 1997 to 2015. Graduated with honors from the Odessa Medical Institute in 1971. In 1976, candidate's thesis on the topic: "Cryogenic method of treatment of some cervical diseases."

In 1982, a doctoral dissertation on the topic: "Combined cryogenic treatment of hyperplastic processes of the uterus." Scientific research - study and development of cryosurgical, cryoultrasound and combined methods of treatment of gynecological diseases, study of pathogenesis and development of new methods of treatment of precancerous diseases of organs of the reproductive system.

**Ihor Zinoviovych Gladchuk** (1963) Head of the Department of Obstetrics and Gynecology since 2015. He graduated with honors from the Ternopil State Medical Institute in 1986. In 1992, he successfully defended his candidate's thesis "Complex treatment with immunomodulators of patients with hyperplastic processes of the endo- and myometrium and its effect on the functional state of the liver." In 1999, he defended his doctoral thesis "Operative endoscopy in the complex treatment of female infertility". Author of more than 180 scientific works and 25 inventions. Reports at international congresses in Istanbul, Milan, Berlin, Barcelona, Budapest, Prague. Professor Gladchuk I.Z. is a member of the European Association of Gynecologists-Endoscopists, the International Association of Obstetricians-Gynecologists, an honorary doctor of the Polish Society of Gynecologists. Honorary member of the Human Reproduction Association of Hungary.

Today, the Department of Obstetrics and Gynecology of Odesa Medical University is one of the leading departments of Ukraine, its teaching staff continues the traditions of its outstanding predecessors. The main scientific works of the department's scientists are devoted to the improvement of endosurgical methods of treatment of female infertility (prof. I.Z. Gladchuk - doctoral dissertation "Operative endoscopy in the complex treatment of female infertility", 1999), prof. O. Ya. Nazarenko - doctoral dissertation "Laparoscopic and organ-sparing operations in the treatment of uterine fibroids", 2014, prof. A.G. Volyanska - doctoral dissertation "Pathogenetic substantiation of the prevention of the adhesion process during gynecological operations in women of reproductive age (clinical-experimental study)", 2016. Problems of HIV infection in obstetrics, perinatology (Prof. S.P. Posohova - doctoral dissertation "Prognosis, prevention and ways of reducing perinatal infection with HIV infection" doctoral dissertation), the influence of aggressive environmental factors on the organism of the mother and fetus, on the formation of primary and secondary placental insufficiency, the issue of perinatal protection of the fetus (Prof. V.P. Mishchenko - doctoral dissertation "Placental insufficiency in the conditions of the modern environmental situation (diagnosis, prevention and treatment)", 1998, Prof. N.M. Rozhkovska - doctoral dissertation "Perinatal protection of the fetus in chronic placental insufficiency syndrome", 1999, Prof. V.G. Marichereda - doctoral dissertation " Preeclampsia: immunogenetic determinants of pathogenesis, diagnosis and prognosis", 2014, prof. I.A. Ancheva - doctoral dissertation "Placental dysfunction in pregnant women with anemia: diagnosis, pregnancy management and prevention", 2015).

## ORGANIZATION OF OBSTETRICAL AND GYNECOLOGICAL ASSISTANCE

Today, the organization of obstetric and gynecological care in Ukraine is based on WHO principles. This is the provision of stable access of all segments of the population to qualified medical care, family planning services, and medical and genetic counseling. Taking into account various factors that affect the state of women's health, a regulatory framework has been developed to provide the female population with outpatient and inpatient obstetric care.

Women's health - it is the health of the nation. The modern principles of providing qualified obstetric care include: keeping a partogram, determining (according to indications) the biophysical profile of the fetus, organizing the work of obstetric hospitals with the introduction of a joint stay of mother and child, breastfeeding, the practice of "individual", in accordance with current legislation, and "family" obstetrics halls, ensuring a stock of medicines for emergency medical care.

Obstetric care in Ukraine is provided in outpatient and inpatient medical facilities, the main of which are maternity homes and women's consultation as part of an obstetrics and gynecology association, obstetric departments as part of a multidisciplinary hospital, women's consultation as a unit of a polyclinic.

Obstetric care for pregnant women (women in labor) with an extremely high degree of predicted perinatal and obstetric risk is provided in level III obstetric hospitals. In order to improve the quality of providing such assistance, the work of these institutions is based on the principles of cooperation with the departments of obstetrics and gynecology, neonatology, and anesthesiology of higher educational institutions in accordance with current legal acts.

The organization of obstetric and gynecological care in Ukraine is based on the principle of the unity of the health of the mother and child, and the improvement of primary health care for pregnant women, women, and girls is of priority importance. ***The organization of obstetric and gynecological care consists of three main stages:***

1. the organization of family planning services as the basis for the formation and preservation of reproductive health;
2. organization of obstetric care based on the principles of safe motherhood;
3. the organization of gynecological care based on the principles of rehabilitation of reproductive health as the main factor in the prevention of oncogynecological diseases.

*The organization of obstetric care according to modern approaches is considered as the organization of perinatal care, the main components of which are:*

- preparing the family for the birth of a child today is considered as a joint responsibility for the birth of a child of the whole family, especially future parents in accordance with the recommendations of the WHO on the involvement of the family in the birth of a child. The reorganization of the "School of Motherhood" into the "School of Responsible Parenthood" involves, through new communication technologies, the preparation of the pregnant woman and her family members for partner childbirth as a significant psychological measure for the prevention of complications in childbirth, reducing the use of medications, reducing the number of cesarean births and as a result of improving health I newborns;
- the formation and support of breastfeeding babies gives extremely important positive results in reducing the incidence of infectious disorders in newborns and women in labor, as well as diseases of the digestive organs and gastrointestinal tract in newborns;
- prevention of vertical transmission of HIV. Improved technologies in accordance with WHO recommendations regarding the 4-component approach, namely: prevention of HIV among the female population, prevention of unwanted pregnancy in HIV-infected women, drug prevention of HIV in newborns and social support of HIV-infected children and their families;
- medical and genetic assistance is aimed at the prevention of congenital and hereditary pathology. The norms for the provision of medical and genetic care determine the joint activity of specialists in medical genetics and obstetrics and gynecology on the implementation of preconceptional preparation for pregnancy and childbirth, timely diagnosis of genetic pathology for its prevention in newborns.

A 3-level system of obstetric and gynecological care has been created in Ukraine.

**Organization ambulatory obstetric and gynecological care**

Outpatient obstetric and gynecological care is provided in:

- women's consultations,
- gynecological offices of central district hospitals,
- rural medical clinics,
- general practice-family medicine clinics,
- paramedic-midwifery centers (FAPs),
- family planning centers,
- examination rooms of polyclinics.

The medical and preventive work of these institutions is based on the principle of dispensary observation of women.

The main principles of the organization of ambulatory obstetric and gynecological care are:

- phasing (levels) of providing medical care;
- provision of medical care according to generalized regulations (standards);
- systematic, qualified,
- equally available in villages and cities,
- preventive care for women.

**At the 1st stage** women receive outpatient obstetric and gynecological care at FAPs, medical clinics and district hospitals (without an obstetrician-gynecologist). Ambulatory work of midwives at the 1st stage is mainly preventive in order to prevent pregnancy complications and the occurrence of gynecological diseases.

**At the II stage** Outpatient obstetric and gynecological care for pregnant women and gynecological patients is provided by the medical staff of the rural outpatient clinic and DL, the obstetrician-

gynecologist of the RL and TSR. In medical institutions of the II stage, pregnant women without complicated course of pregnancy are observed.
**At the III stage** Outpatient obstetric and gynecological care is provided by specialists of regional hospitals. In the third-stage hospital, in-depth performance of the scope of medical examination is ensured, which cannot be performed at the previous stages of providing medical care to pregnant and gynecological patients. If necessary, a consultative examination by other specialists is carried out.

**Organization of specialized outpatient obstetric and gynecological care**

Specialized curative and preventive care - it is a type of medical care provided by doctors who have the appropriate specialization and can provide more qualified advice, diagnosis and treatment than general practitioners.
Specialized outpatient polyclinic obstetric and gynecological care can be provided under the following conditions:
- a women's consultation, which has 8 obstetric wards and more;
- diagnostic center of family planning and human reproduction;
- consulting clinic.

Specialized assistance is provided for: miscarriage; gynecological endocrine disorders; pathologies of the cervix; infertility; family planning; pathologies of the perimenopausal period.

**Women's consultation**

The principle of dispensary observation of women is the basis of the medical and preventive work of the ZhK.

Ambulatory obstetric and gynecological care for the population includes measures to preserve the reproductive health of the population, examination of pregnant women, antenatal protection of the fetus, prevention and treatment of obstetric and gynecological pathology, family planning.
**Structure a women's consultation:** wardrobe; registry, obstetrician-gynecologist doctor's office, lawyer's office, psychoprophylaxis office, therapist's office, dentist's office, manipulation (vaginal procedures), procedural, operating room (small), office of perinatal diagnostics, colposcopic, the office of the head of the women's consultation, the office of the chief midwife, the laboratory, the physiotherapy room, the sterilization room, the X-ray room, the functional diagnostics (ultrasound) room, the medical genetic consultation, the day hospital; offices of specialized receptions: family planning, miscarriage, gynecological endocrinology, gynecology of childhood and adolescence, functional and prenatal diagnostics.

**Tasks of the women's consultation**

Organization and implementation of a set of preventive measures to preserve the reproductive health of the population.
Carrying out medical and preventive measures aimed at preventing complications of pregnancy, the postpartum period, gynecological diseases, based on modern achievements of science and practice.

Early detection of pregnancy (up to 12 weeks) and dispensary supervision. Conducting clinical, functional ultrasound, laboratory research using modern means to determine the degree and group of perinatal risk in order to prevent obstetric and perinatal complications.

Timely detection of diseases in pregnant women and referral for hospitalization to the department of pregnancy pathology of the maternity hospital or to other medical and preventive institutions according to the profile of the disease. Referral of pregnant women who need treatment to a day hospital.

Introduction into practice of modern means of diagnosis and treatment of complications of pregnancy, diseases of childbirth, gynecological diseases. Providing pregnant women with functional and laboratory research in full.

Organization of preparation of pregnant women for childbirth and involvement of the family in training at the "School of Motherhood".

Organization and conduct of preventive gynecological examinations of women using modern examination methods (colposcopy, cytology, etc.) with the aim of early detection and treatment of gynecological diseases.

Organization and counseling of families on family planning issues.

Ensuring legal protection of women in accordance with current legislation, if necessary, with the participation of a legal adviser.

Timely provision of maternity leave in accordance with current legislation, sick leave in cases of temporary incapacity of a woman.

Organization of medical and genetic counseling for spouses, couples about to marry, and families who are at risk of having (or have) children with birth defects or hereditary diseases.

**Rights and duties of a midwife in a women's consultation**

The position of midwife of the women's consultation can be held by a junior specialist with a medical education who has obtained the qualification of a midwife.

The midwife is hired and dismissed by the head of the medical and preventive institution.

The midwife is under the supervision of the obstetrician-gynecologist, the head of the women's consultation and the senior midwife.

In her work, a midwife is guided by the provisions on women's consultation, current legislation, orders, other normative acts of health care authorities, internal labor regulations, job instructions.

The main task of a midwife is to carry out curative and preventive and sanitary and educational work in the field of obstetrics and gynecology under the guidance of a doctor.

According to the main tasks, the midwife carries out:

preparation of an outpatient appointment conducted by a doctor;

acquainting women with the rules of the internal procedure and the mode of operation of the women's consultation;

assistance to the doctor during diagnostic, therapeutic and operative manipulations;

carrying out, together with a doctor, preventive gynecological examinations of women at fixed precincts;

sanitary and educational work in the field of obstetrics and gynecology, including the issuance of sanitary bulletins;

control over the work of junior medical personnel;

control over visits to the doctor by pregnant women and patients who are subject to dispensary observation.

The midwife of the women's consultation is obliged to:

comply with the rules of asepsis and antiseptics, properly sterilize, process and store dressing material and medical instruments;

keep medical records;

perform the duties of an operating nurse if necessary;

to provide first aid in case of emergencies followed by a doctor's call;

to report to the head of the department, and in his absence — to the doctor on duty about all serious complications or illnesses in pregnant or gynecological patients;

perform obstetric patronage;

carry out sanitary and educational work among pregnant women and members of their families about the peculiarities of the hygiene of pregnant women, rational nutrition, the need for regular visits to the doctor;

if deviations from the normal state are detected, refer to an obstetrician-gynecologist for an appointment;

report the results of patronage to the doctor and record them in the patronage log.

The midwife of the women's consultation has the right to:

make proposals to the head of the department regarding the rational distribution of work;

systematically improve your professional qualifications;

to give instructions to junior medical workers subordinate to her on compliance with the rules of internal labor regulations;

make proposals to encourage these employees or impose disciplinary sanctions on them for individual work violations or violations of internal labor regulations.

**Organization stationary obstetric and gynecological care**

A 3-level system has been created in Ukraine stationary obstetric and gynecological care.

**To the 1st level** include district, central district and city hospitals, which do not have departments of anesthesiology and intensive care. Round-the-clock anesthesiologist duty is provided (on duty at home). Medical institutions of this level ensure the delivery of pregnant women with a low degree of obstetric and perinatal risk of developing complications, providing medical assistance

to gynecological patients.

**Up to II level** include district hospitals, central district hospitals and obstetric departments of city hospitals, city maternity hospitals, which have departments of anesthesiology and intensive care, as well as a neonatologist on duty around the clock. Medical institutions of this level ensure the delivery of pregnant women of low and high (according to the combination of factors) degree of obstetric and perinatal risk, and also perform all the functions of institutions of the first level, including the provision of qualified care to gynecological patients, in addition to specialized gynecological care.

**Up to III level** include city and regional maternity wards, perinatal centers and centers of reproductive health, which are the clinical bases of departments of obstetrics and gynecology of the III-IV level of accreditation, as well as maternity wards of regional hospitals, which include departments of obstetric resuscitation and intensive care of newborns; Institute of PAS of the Academy of Sciences of Ukraine.
Medical institutions of this level ensure the delivery of pregnant women of extremely high and high obstetric and perinatal risk, with severe extragenital pathology, and provide specialized care to gynecological patients.

The organization of the work of maternity homes or maternity departments is built according to a single principle in accordance with the current legislation.

*The main tasks of an obstetric hospital:*

- provision of qualified medical care to pregnant women, women in labor, women in labor, based on evidence-based medicine;
- introduction into practice of modern safe methods of childbirth and the newborn period;
- carrying out preventive measures regarding complications of pregnancy, childbirth, the postpartum period and infectious diseases among mothers and children;
- carrying out information work among pregnant women, mothers in labor and their families.

**Maternity hospital**

The maternity hospital provides qualified medical assistance to women during pregnancy, childbirth and the postpartum period, gynecological patients, and also provides qualified medical assistance and care for newborns. The obstetric hospital provides care according to the territorial principle, but first and emergency care is provided to all pregnant women and women in labor, regardless of the place of residence and departmental subordination of the institution.

The structure of the obstetric hospital:

- obstetric reception and examination department;
- obstetric department with individual delivery rooms, individual and family delivery rooms, postpartum rooms for the mother and newborn to stay together;
- department of pathology of pregnant women;
- operating unit;
- anesthesiology department (wards) with intensive care beds for women;
- neonatal intensive care unit (wards);
- department (ward) for neonatal care;
- manipulative;
- a ward with a bathroom (at least one depending on the capacity of the maternity hospital - 2-3) with a separate entrance for hospitalization of women in labor and women in labor with infectious diseases in the stage of acute clinical manifestations;
- premises for disinfection and pre-sterilization cleaning of instruments;
- bathroom for staff, bathrooms and shower rooms for women;
- premises for cleaning equipment;
- a group of premises for medical personnel,
- rooms for hospitalization of gynecological patients.

The organization of obstetric hospitals provides for the creation of individual maternity wards in accordance with the requirements of the Civil Code regarding the confidentiality of the patient's state of health, ensuring comfortable conditions for the mother and newborn to stay together in an individual ward in order to ensure compliance with the "thermal chain" and the prevention of infectious diseases in mothers and newborns.

The medical staff of the obstetric hospital allows the presence of a partner of no more than 2 people (husband, family members, relatives) during childbirth in accordance with the procedure approved by the chief doctor of the ZOH, taking into account the wishes of the woman in labor. Additional medical examination of relatives is not carried out. The presence of family members in the presence of tuberculosis or acute manifestations of an infectious disease in the obstetric hospital is not allowed. Persons present at the birth should wear clean home clothes and a change of shoes.

It is allowed to visit the mother (taking into account her wishes) and the child in the obstetric hospital by close relatives (no more than 2 people at the same time) and their help in caring for the newborn and the woman in labor. Family members up to 14 years of age can visit the mother in labor at the discretion of the hospital's chief physician. Discharge from the obstetrical hospital is carried out on the 3rd day after delivery, provided that the course of childbirth and the postpartum period is physiological.

The maternity hospital is closed in case of the need for current repairs, but not more often than once a year. It is allowed to close the obstetric hospital by floor.

Employees of obstetric hospitals are subject to mandatory medical examinations and preventive vaccinations in the prescribed manner. The staff is responsible for non-compliance with the requirements of regulatory acts, sanitary standards and hygienic rules in accordance with the current legislation of Ukraine.

*Individual delivery room* - this is a room equipped with special equipment for giving birth in one delivery room with a complicated course of pregnancy, after which the mother and newborn are transferred to an individual postpartum ward for their joint stay until discharge from the hospital.

*Individual maternity ward* - this is an equipped room with a bathroom (to be taken into account when rebuilding obstetric hospitals) for carrying out only physiological births using modern perinatal technologies in one delivery room, after which the mother and child stay there until discharge from the hospital. They are equipped with a functional bed or a convertible bed for giving birth and for the mother to stay on it during the entire period of hospitalization, means for giving birth (balls, a chair, a Swedish wall, a special rug), a changing table. After childbirth, mother and child stay together until discharge from the hospital.

*Family maternity ward* - this is an equipped room with a separate entrance and a bathroom, where childbirth takes place and the mother with the newborn and family members stay (24/7 if care for the mother and newborn is necessary) until discharge from the hospital. Individual postpartum ward - this is a room with a bathroom (to be taken into account when rebuilding obstetric hospitals), where only one woman in labor and a newborn can stay after being transferred from an individual delivery room until they are discharged from the hospital.

*A ward for the hospitalization of pregnant women, women in labor and women with infectious diseases in the stage of acute clinical manifestations* - these wards must have a bathroom, a separate entrance, and be equipped with supply-exhaust ventilation with negative pressure (to be taken into account when rebuilding obstetric hospitals). It is prohibited to move patients from ward to ward, as well as to other departments of the hospital. The maternity ward gives birth in this ward and stays there until discharge from the hospital. Women in labor who gave birth outside a medical institution can be hospitalized in this ward.

When entering the ward for hospitalization of pregnant women, women in labor and women with infectious diseases in the stage of acute clinical manifestations, medical personnel wear a disposable gown, cap, and rubber gloves. At the end of the work, these clothes are removed, hands are treated, and only after that the staff leaves this ward.

If there are no conditions for a separate entrance to the ward for the hospitalization of pregnant women, women in labor and women with infectious diseases in the stage of acute clinical manifestations, it is necessary to implement measures for the maximum isolation of the patient in compliance with the conditions for the prevention of the spread of infection.

**Organization of specialized outpatient obstetric and gynecological care**

Specialized curative and preventive care - it is a type of medical care provided by doctors who have the appropriate specialization and can provide more qualified advice, diagnosis and treatment than general practitioners.

Specialized outpatient polyclinic obstetric and gynecological care can be provided in the

following conditions:
- a women's consultation, which has 8 obstetric wards and more;
- diagnostic center of family planning and human reproduction;
- consulting clinic.

Specialized assistance is provided for:
- miscarriage;
- gynecological endocrine disorders;
- pathologies of the cervix;
- infertility;
- family planning; pathologies of the perimenopausal period.

**Rights and duties of a midwife in an obstetric hospital**

The midwife is under the direct supervision of the obstetrician-gynecologist, the senior midwife and the head of the department of the obstetric hospital.

The main task of the midwife is to carry out curative and preventive and sanitary and educational work among the patients of the department.

According to the main tasks, the midwife performs:
- medical and diagnostic manipulations for pregnant women, women in labor, women in labor, and newborns as prescribed by the department doctor;
- preparation of pregnant women, women in labor, women in labor, gynecological patients for medical examination;
- informing pregnant women, women in labor, women giving birth, gynecological patients about the rules of the internal procedure, sanitary-hygienic and anti-epidemic regimes of the department, monitoring their compliance;
- assistance to the doctor in conducting examinations of pregnant women, women in labor, women in labor, gynecological patients, medical and operative manipulations;
- medical assistance during childbirth, primary treatment of newborns;
- sanitary and educational work on preserving and strengthening reproductive health, prevention of complications of pregnancy and childbirth, advantages of breastfeeding newborns, prevention of STDs, HIV infection, AIDS, family planning, congenital malformations, cancer, etc.;
- control over the work of junior staff;
- measures to prevent social orphanhood.

The midwife is obliged to:
observe the rules of internal procedure, sanitary-hygienic and anti-epidemic regime of the department, asepsis and antiseptics when performing her official duties;
perform simple laboratory tests (urine analysis for protein, blood analysis for hemoglobin, blood group determination);
perform the duties of an operating nurse if necessary;
keep relevant medical documentation;
monitor the condition of pregnant women, women in labor, women in labor, gynecological patients, timely report to the obstetrician-gynecologist, the head of the department, and in their absence - to the doctor on duty about all changes in the patient's health, complications and diseases, if necessary, call the doctor immediately;
to provide first aid for acute illnesses and accidents;
systematically increase the level of professional training;
adhere to the principles of medical ethics and deontology.

The midwife has the right to:
apply conservative treatment methods as prescribed by the doctor, perform some medical procedures and intravenous injections;
administer potent, narcotic, anti-shock drugs to patients as prescribed by a doctor;
perform blood transfusion in the presence and under the supervision of a doctor;
perform some obstetric interventions for vital indications.
The midwife is responsible for properly performing the tasks and functions assigned to her and using the rights granted to her.

# THE ROLE OF THE FAMILY PHYSICIAN IN THE PREVENTION OF PERINATAL DISEASES AND MORTALITY

It is desirable to carry out medical and genetic counseling outside pregnancy or in its early stages (6-8 weeks) with a detailed statement about the course of previous pregnancies, childbirth, the condition of the newborn, examination results, and pathological examination data. Prenatal diagnosis makes it possible to determine the presence of congenital malformations or genetic disease in the fetus in the early stages of its development. Early detection of congenital malformations helps either to make a decision on termination of pregnancy, or to prepare the family for the birth of a sick child.

Congenital pathology is closely related to reproductive function. Chromosomal abnormalities are found in 0.5-0.7% of newborns, but they are the cause of 50-60% of all miscarriages and more than 5% of stillbirths. The most frequent chromosomal anomalies include trisomies (21, 13, 18, 8, 22, 14, 9), triploidy and tetraploidy, and deletion syndromes. Numerous congenital anomalies are accompanied by a delay in mental development.

The role of the family doctor:

- timely identification of persons with congenital and hereditary pathology
- prevention of congenital and hereditary pathology
- promotion of knowledge on issues of medical genetics among the population

Identification of persons suspected of hereditary and congenital pathology is carried out mainly in primary health care facilities by general practitioners. The prevention of the occurrence of congenital and hereditary pathology of the fetus is based on preconceptional preparation, screening ultrasound examination of pregnant women, identification of the group of pregnant women with increased genetic risk at the level of outpatient obstetric and gynecological care in accordance with current legal acts, as well as at the stage of preliminary medical and genetic counseling of the family , burdened by hereditary or congenital pathology with prospective deduction of the genetic risk of giving birth to a sick child.

The main tasks of prenatal diagnosis are:

- determining the prognosis of the future child's health;
- informing future parents about the degree of risk of having a sick child;
- in the presence of a high degree of risk of hereditary and congenital pathology, informing about the pregnant woman's decision to terminate the pregnancy in accordance with the current legislation;
- ensuring optimal management of pregnancy and early diagnosis of intrauterine pathology.

Indications for referral to medical genetic counseling :

- The year of the pregnant woman is 35 years or more. The man's age is 40 years or more.
- Presence of a chromosomal rearrangement or malformation in one of the spouses.
- History of children with:
- hereditary metabolic diseases,
- hereditary diseases related to sex;
- congenital hyperplasia of the adrenal cortex;
- congenital malformations - isolated or multiple;
- chromosomal diseases;
- mental retardation;
- stillbirth
- The presence of the above-mentioned pathology among relatives.
- Consanguineous marriage.

- Habitual miscarriage of unknown origin.
- Adverse effects in the early stages of pregnancy (diseases, diagnostic or treatment procedures, medication).
- Complicated course of pregnancy (threat of termination from an early period that is not amenable to therapy, polyhydramnios and oligohydramnios).
- Pathology of the fetus revealed by ultrasound examination.
- Changes in indicators of screening factors: PAPP-A, alpha-fetoprotein, chorionic gonadotropin, estriol.
- The presence of harmful factors related to the profession in the spouse.
- Primary amenorrhea, irregular menstrual cycle of unknown origin.
- Families with infertility.

Biochemical selective screening of pregnant women is carried out at OMHC by determining embryo-specific proteins in blood serum: in the I trimester of pregnancy (10-13 weeks) or in the II trimester of pregnancy (15-20 weeks).

Blood serum marker proteins are:

In the 1st trimester - placental protein PAPP-A and vital beta subunit of chorionic gonadotropin (beta-HCG);

In the II trimester - alphafetoproin (AFP), human chorionic gonadotropin (HCG), free estriol;

- it is recommended to carry out 2-marker biochemical screening in the 1st trimester of pregnancy - determination of PAPP-A and beta-HCG. In the II trimester of pregnancy - determination of AFP and HCG (double-test), or 3-marker screening - by testing AFP, HCG and free estriol (triple-test).
- Immunological and molecular genetic methods of diagnosis establish the presence of TORCH infections in pregnant women, which cause disruption of the intrauterine development of the fetus. The presence of IgG antibodies in pregnant women in the absence of IgM antibodies indicates that the pregnant woman had an infection before pregnancy. High titers of IgG antibodies in the presence of IgM antibodies indicate the presence of infection. A positive result of the polymerase chain reaction test indicates the presence of the DNA of the causative agent of TORCH infection.

The consequences of maternal infection can be spontaneous miscarriages, anembryonia, fetal death, congenital anomalies of development, stillbirth, premature birth, fetoplacental dysfunction, which also leads to delayed development or antenatal death of the fetus in the II and III trimesters of pregnancy. *Toxoplasmosis* (acute form) and syphilis of a pregnant woman can lead to disorders of fetal growth and brain development. *The rubella* virus causes deafness, cataracts, mental retardation, and congenital heart defects. *Cytomegalovirus* can cause abnormalities of the central nervous system, deafness, and retardation of intrauterine development of the fetus. *Herpesvirus infection* can cause the development of encephalitis in newborns.

Indications for invasive prenatal diagnosis:

- the woman's age - up to 18 and after 35 years;
- presence in the family of a child (fetus) with a chromosomal disease or multiple developmental disabilities;
- presence of chromosomal pathology, chromosomal rearrangement or gene mutations (for which the gene is mapped);
- detection of ultrasound markers of chromosomal diseases in the fetus;
- positive results of biochemical screening in the I or II trimester of pregnancy.

It is known that congenital and hereditary pathologies are not only patients of the risk group, but also young, unencumbered young families, in most cases these diseases arise unexpectedly, as a result of

new mutations that arise as a result of adverse environmental factors. An important task of prenatal examination by a family doctor is the timely diagnosis of congenital and hereditary pathology of the fetus, which lead to the death of the fetus or severe disability. Children with congenital or hereditary diseases are in every case children with disabilities.

Family doctors' knowledge of the role of prenatal screening will reduce perinatal morbidity and mortality, which has not only medical but also social significance.

## TOPIC 2
## " Clinical anatomy and physiology of the female reproductive organs. Methods of examination of gynaecologic patients. General symptomology in Gynaecology. "

**Purpose:** Recognition of gynecologic diseases is based on data from the anamnesis, subjective and objective examinations. A total of subjective and objective methods of examination promotes cognition of the processes which really occur in the patient's organism.

Exact diagnostics, as a result, and rational treatment of gynecologic diseases can be conducted only under conditions of correct examination of the gynecologic patients, conducted on a certain system, which helps to take into account all the details and find the main facts, promoting correct recognition of the disease.

**Basic concepts (list of questions):** educational (to introduce students to current topics, normal menstrual cycle, regulation of menstrual cycle, the volume of the survey of it.); scientific (logical train student clinical thinking and new methods of diagnosis for him); creative (see the deontological principles of management of patients with menstrual dysfunction, given the social aspects of the problem.); responsible (develop a sense of legal responsibility for the doctor to adequately carried out therapy.).

**Theoretical questions for the lesson:**

1. Clinical anatomy and physiology of female genitalia.
2. Special gynecological anamnesis.
3. General and special methods of examination of gynecological patients.
4. Main special examination methods in gynecology: visual examination of genitals, speculum examination, bimanual examination.
5. Additional specific examination methods.
6. Methods of functional diagnostics of ovaries.
7. Laboratory methods of examination in gynecology: microscopy of urogenital discharge, oncocytology, bacteriological study, PCR, ELISA, pathomorphological study.
8. Instrumental examination methods in gynecology: uterine probing, curettage of uterine cavity and cervical canal, biopsy, puncture of abdominal cavity through posterial fornix.
9. Endoscopic methods of examination in gynecology: colposcopy, hysteroscopy, laparoscopy.
10. Radiological examination methods in gynecology: MRI, CT, MSG.

11. Ultrasonic examination methods in gynecology: transvaginal and transabdominal USD.

12. General symptomatics of gynecological pathology.

**Plan:**

**1. Knowledge control.**

1. The patient was 26 years old. Ill after the birth, which took place 12 months ago. Deliveries were heavy in the early postpartum period was bleeding. Complaints of headache, dizziness, drowsiness, weakness, loss of hair and pubic hair. BP - 90/50 mm Hg, body temperature - 35,8S. Menstrual function after birth is not restored. On gynecological examination revealed: reduced in size uterus, ovaries are not palpable, there is dryness of the vaginal mucosa. Monophasic basal temperature below 37C, the symptoms of "pupil" and "fern" negative. Why is the pathogenesis of the disease?

+ A. With a decrease in pituitary function.

B. Since excessive production of prolactin.

C. With a decrease in ovarian function.

D. On the dysfunction of the adrenal glands.

E. With hyper androgens.

2. Patient '28 admitted to the gynecology department complaining of a sharp pain in the right iliac region, which emerged after weight lifting. Last menstruation 10 days ago, in time. When viewed in the mirrors, the vagina and the cervix is normal. When vaginal study the body of the uterus and appendages are not available through palpation sharp pain and muscle tension anterior abdominal wall. Rear hanging set, painful. What should be done to refine the diagnosis?

A. hysteroscopy.

B. colposcopy.

C. Kuldoskopiyu.

D. Identify chorionic honadropin.

+ E. Puncture the abdominal cavity through the posterior vaginal vault.

3. Patient '27 treated for 5 years on chronic adnexitis, taken to the gynecology department with signs pelvioperitonit. In men with chronic urethritis. What research should be assigned to diagnose the causative agent?

A. bacteriological study of vaginal content.

B. Bacterioscopic study of vaginal content.

+ C. Puncture the abdominal cavity through the posterior vaginal vault, bak.posiv received punctate gonorrhea.

D. Clinical analysis of blood bak.posviv blood.

E. Bacteriological studies after provocation.

4. In a healthy woman on the 15th day of the menstrual cycle when kolpotsitolohichnomu study found that the level of maturation 0/12/88, kariopiknotichnyy index of 80%. As evidenced by these figures?

A. On the offensive early phase of proliferation.

B. Deep endocrine disorders.

+ C. On the offensive of ovulation.

D. On the offensive late phase of ovulation.

E. On the offensive phase secretion.

5. The doctor asked the woman prenatal '28 complaining of aching recurrent abdominal pain, low-grade fever, night sweats, olihomenoreyu, alhodysmenoreyu infertility for 7 years. Woman lost weight by 7 kg. If bimanual examination: the uterus is not enlarged, mobile, painless, epididymis tyazhysti painless. What priority should be to conduct the survey for further diagnosis?

A. X-ray study of the lungs.

B. urine.

C. hysterosalpingography.

D. Analysis of discharge.

+ E. Crops menstrual blood three times over a period.

**2.Discussion of theoretical questions.**

**Clinical anatomy of female genitals.**

The female genital tract is divided into external and internal genitalia.

The **external genitalia** (genitalia externa) include the vulva (vulva), which contains all the anatomical structures from the pubis to the perineum: pubis, large pudendal and small pudendal lips, clitoris, hymen, inlet to the vagina and its glands, female urethra, and also glands and vessels (codogram).

**Pubis** (mons pubis, mons Veneris) is the lowest part of the anterior abdominal wall, the spherical fat pad above the pubic symphysis (symphisis pubica) covered by skin and hair. Hair ap-pearance and fat sediment on the pubis takes place at the beginning of puberty. The upper edge of the hair forms a horizontal line in

women (female type) and in men the hairy integument is located along the white line as a stripe or in the form of a narrow triangle with its apex near the umbilicus (male type). In women hair grows down along the external surface of the large pudental lips (triangle with its apex downwards). The appearance of the pubic hair changes during the phases of a woman's life. It does not exist in girls before puberty; during the reproductive age it varies in thickness, length and coloration, during menopause the hairy integument becomes thinner. The skin of the pubis contains sudoriferous and sebaceous glands. Quantity of subcutaneous fat depends on heredity, age, diet and, possibly, on the influence of steroid hormones. On the right and left side of the pubic surface, there are pubic tubercles (tubercula pubica). They are description points for determining the external openings of the inguinal canals, where the round ligaments of the uterus come from.

***Clinical meaning.*** Dermatitis, pediculosis (phthyrius pubis) may evolve in the area of the mons pubis. Edema of the mons pubis may appear secondary as a result of infection, trauma, cancerous infiltration of the lymph nodes. Cancer of the vulva may spread to the mons pubis.

**The large pudendal lips** (labia majora pudendi) - two folds of skin with connective and adipose tela, numerous vascular plexi descending from the mons pubis to the perineum on either side of the pudendal slit (rima pudendi) and forming anterior and posterior commisura of the lips. The large pudendal lips as a rule join in nulliparae but after each labour the distance between them increases and in aged women atrophy occurs. The skin on the lateral (external) surface of the large pudendal lips is covered by hair and pigmented, on the medial (internal) surface - smooth, very thin, and looks like mucous membrane. It contains a lot of sudoriferous and sebaceous glands, their secretion gives off a specific smell to the area of genitalia.

***Clinical meaning.*** The large pudendal lips have no special functions. Cyst of the inguinal canal may occur; sometimes it is diagnosed as an indirect inguinal hernia. The large pudendal lips may stick together at vulvites in girls. As a consequence of external force (trauma) or complicated labour a hematomae may form. The tumour of the apocrine sudoriferous glands - hydpoadenoma, malignase very rarely. Cysts of the sudoriferous glands are benign, but often they become infected.

**The small pudental lips** (labia minora pudendi) are two small, narrow and thin (there is no adipose layer) folds of skin between the labia majora and the vaginal opening. As a rule, they are covered by labia majora. The labia minora have sudoriferous glands, smooth muscular and elastic fibres and a lot of veins. They are extremely sensitive due to the presence of a number of nervous endings.

.***Clinical meaning.*** The labia minora close the vaginal entrance. They increase as the response to the stimulation by ovarian hormones and without oestrogen stimulation the atrophic changes take place in it. Squamous cell carcinoma of vulva often starts from the labia minora, exactly from the sebaceous glands. A sticking together of the labia minor in girls is an evidence of their inflammation (vulvitis), their adhesion may be an evidence of sexual differentiation disorders.

The **clitoris** is homologous to the penis cylindrical erectile body 2-3 cm in length, located in the anterior coner of the genital rima, between the labia minor. The head of the clitoris is nearly 0.5 cm in diameter, covered by squamous epithelium with numerous nervous endings and sebaceous glands. The clitoris is attached to the lower part of the pubic symphysis by lig. suspensoium clitoridis and consists of two corpi cavernosum. During sexual excitement they observe their erection and as a consequence of it the vaginal entrance narrows. The corpi cavernosum comes from the low edge of the descending branches of the pubic bones, unite in the middle and form the body of the clitoris. The end of the clitoris is surrounded by the edges of the labia minora, their anterior edge forms the prepuce of the clitoris and both posterior edges form its frenulum (frenulum clitoridis). Because of numerous vessels and nerves clitoris is extremely sensitive, its friction causes orgasm. The clitoris is the main erogenic zone in women.

***Clinical meaning.*** Cancer of the clitoris is seen very seldom, early metastatic spreading is inherent in it and it involves wide excision. Inguinal and femoral lymph nodes are damaged first, as a rule.

**The vestibule of the vagina** (vestibulum vaginae) is a triangle-shaped cavity, formed from the urogenital sinus and limited at the top by the clitoris, laterally by the labia minora, and inferiorly and posteriorly by the posterior commissure of the pudental lips and the vaginal vestibule. Its bottom is the hymen. The vestibule vagina is lined with thin squamous epithelium. Six orifices open into it, they are: the urethra, the vagina, two ducts of the greater vestibular glands and two ducts of the smaller vestibular glands.

In the vaginal vestibule under the clitoris the **outer orifice of the urethra** (urethra feminina) is located. It may be of different forms (round, compressed, with two lateral lips) while usually it looks like a turned over letter "V". It, like the whole urethra, is lined with transitional epithelium and as a consequence has more intensive pink color than the mucous of the vaginal vestibule covered with squamous epithelium. Low two thirds of the urethra are located directly over the anterior vaginal wall. The urethral diaphragm supports the urethra position.

***Clinical meaning.*** One may observe vegetation of the urethra mucosa, planocellular and transition-cellular carcinoma, developing from urovestibular zone may occur.

Just below the orifice of the urethra there are two small openings of the **smaller vestibular (paraurethral, the Skene's) glands (glandulae vestibularis minors)**, which are rudiments of the Wolffian duct (Fig). These glands are homologous to the prostate (prostata). Their ducts are lined with transitional epithelium. They have common with the urethra innervation and blood supply.

***Clinical meaning.*** The Skene’s glands, which produce a small amount mucous, are especially prone to gonococcus infections, which can be revealed for the first time in them. After successful anti-gonococcus therapies, non-specific infection can be recurring, that demands electro-cauterization or laser destruction of the glands’ ducts.

**The greater vestibular glands (the Bartholin s glands, glandulae vestibulares majores)** are homologous to the Cowper's glands (bulbourethral glands) in men. They lie on the posterio-lateral surface of the vaginal opening. Their ducts open on either side of the hymen in the vaginal vestibular (Fig. 4, b). Each gland has a narrow duct approximately 2 cm long and partially covered with cavernous tissue, bulbs of the vestibular (bulbi vestibuli, Fig. 5) located from the both sides of the vagina between skin and m. bulbospongiosus. They are homologous to the bulbs of the penis. Viscous greyish mucoid secretion of these glands has alkaline reaction; it excretes at press, sexual excitement and supports normal moistness of the mucosa of the vaginal orifice.

The **hymen** is a thin elastic duplicate of mucosa covered with squamous epithelium which as a rule partially closes the vaginal orifice. It has one (rarely several) excentric opening for the outflow of the menstrual blood. Rarely the hymen has no an orifice. During first sexual contacts the hymen usually tears slightly, mainly inferiorly and laterally and after labour only its remnants may stay, papillae of hymen (carunculae hymenalis).

***Clinical meaning.*** Bartholinitis is an often complication of sexually transmitted diseases and espe-cially honorrhea. Abscess of the greater vestibular gland (the Bartholin's) needs a surgical intervention and under relapsing the cyst's marsupialization should be performed. Rigid hymen may cause pain during sexual contacts which requires its dissection (surgical defloration).

The female internal genitalia **(organa genitalia feminina interna)** consist of the vagina, the uterus, the Fallopian tube and the ovaries.

The **vagina** is a tubular muscular-connective structure joining genital area with the uterus located between the urethra and the urinary bladder anteriorly and the rectum posteriorly. Its length along the anterior wall is 7-8 cm and 9-10 cm along the posterior wall. The vagina is narrowed near the hiatus; upwards it widens and ends with the vaults of the vagina. The vagina is a polyfunctional organ; it is an excretory organ of the uterus, the female organ of copulation and part of labour canal. Its upper part is formed from the Miiller's ducts, and the low one from urogenital sinus. Anteriorly the vagina is separated from the bladder and the urethra orifice by the vesicovaginal septum; posteriorly it is limited from the rectum by the recto-vaginal septum. The superior one fourth of the vagina is separated from the rectum by the dome-shaped pocket of the peritonium, the rectouterine (Douglas') pouch.

The superior part of the vagina encompasses the uterus' cervix and forms the anterior, posterior and two lateral vaults (fornix). The vaginal walls, anterior and posterior, consist of muscular fascicles, connective tissue and mucous membrane. The muscular fascicles of the vaginal anterior wall spread on the muscular layer of the urethra and the muscular fascicles of its posterior wall — on the inferior part of the rectum. The thickness of the vaginal wall is approximately 3 mm. The vaginal wall consists of the three layers. The mucous membrane of an adult woman vagina is lined with stratified squamous epithelium; it is comparatively smooth on the lateral walls and forms anterior and posterior transversal folds (columnae rugarum) which allows it to stretch well in labour. The vaginal connective tissue is rich in blood vessels and contains lymph nodes. The vaginal mucous membrane is pale pink and during pregnancy it is cyanotic, it is glands-free. The vaginal discharges contain alkaline secretion of the cervix, desquamous epithelial cells and bacteria. Epithelium of the vagina is rich in glycogen which transforms into lactic acid under the influence of normal vaginal flora (Doder-lein's bacilli). That is why pH of the vagina is acid (approximately 4.5) what is a protective barrier against infections.

***Clinical meaning.*** The vaginal discharge (leukorrhea) is a frequent complication, symptom of local or systemic diseases. The most frequent reason of] the vaginal discharge is an infection of the low parts of the reproductive tract. Other reasons may be either oestrogenic or psychogenic stimulation or deficiency of oestrogens as a result of senile atrophic vaginitis. Metastatic cancer of the vagina is met morel often than primary one.

The **uterus (s. metra, hystera)** is an unpaired cavitary muscle organ located in the pelvic, cavity between the urinary bladder anteriorly and the rectum posteriorly.

The uterus consists of two parts: the upper, the body of the uterus **(corpus uteri)** and the low, the neck of the uterus **(cervix)**. The upper part of the corpus is called the fundus of the uterus **(fundus uteri)** and in the cervix has 2 parts supravaginal and vaginal parts. There is the isthmus of the uterine **(isthmus uteri)** between its corpus and cervix, the clinical title is orificium internum uteri (some authors distinguish the anatomic and hystologic internum uteri). The uterine wall consists of three layers, the internal mucous membrane, (endometrium), the middle, muscular layer (myometrium), the external serous membrane (perimetrium). The uterine mucous membrane has two layers, the basal layer and the functional layer.

The **cervix** of the uterus is conic-shaped in a nullipara and 2-4 cm long with an average caliber of 2.5 cm. The canal of the neck of the uterus **(canalis cervicalis uteri)** has a rounded orifice **(ostium of the uterus)** which has anterior and posterior lips. Approximately half of the length of the cervix is its supravaginal portion; to the front the urinary bladder lies. The vaginal portion of the cervix up to the uterine orifice is lined with squamous epithelium, the cervical canal – cylindrical secretory epithelium, its glands, produce cervical mucous. Apart from the epithelial layer of the canal, the cervix 85% consists of connective tissue and 15% consists of circular muscular fibers which merge with myometrium superiorly. The corpus uterus, vice versa, consists of 85% muscular fibers and only 15% —connective tissue. The anatomic structure of

the cervix changes during pregnancy and labour. Traumatic damage during labour cause changes connected with its location and form. The uterine orifice becomes slot-like. The cervix is held in its position due to the pubocervical, sacrouterine and transversal (cardial) ligaments.

***Innervation*** of the cervix is from the second, third and fourth pair of sacral nerves and pelvic sympathetic plexus.

***Blood supply*** is provided by the uterine, ovarian and internal genital arteries and veins.

***Clinical meaning.*** Ectopia of the cylindrical epithelium of the cervical canal can lead to postcoital (contact) bleedings and infections. Squamous cell carcinoma of the cervix (second most frequent disease in women) in 90% of cases occurs at the junction of the cylindrical and flat epithelium. Cervicitis, especially with specific etiology, is often accompanied by leucoria and can cause infertility.

In reference to the pelvic axis the uterus is curved forward (anteflexio) in most cases or (rarely) backward (retroflexio). The body of the uterus is bent forward (anterversio) in reference to the cervix too. The peritoneum covers the posterior surface of the urinary bladder, turns at the level of the uterine isthmus and forms the vesicouterine pouch (excavatio vesicouterine). Encompassing the uterus from behind, the peritoneum comes down the cervix, covers the posterior vaginal fornix and turns on the rectum, forming the rectouterine pouch (excavatio retrouterinae, Douglas pouch). Laterally the rectouterine pouch is limited by the rectouterine folds (plical rectouterinae) of the peritoneum which stretch to the lateral surface of the rectum and are the uterine fixating apparatus. The fascicles of the smooth muscles (mm. rectouterini) pass in these folds. From the both sides of the uterus the peritoneum forms the folds, the right and left broad ligaments of the uterus located in the frontal plane. This ligament forms the mesosalpinx relating to the Fallopian tube, and relating to the ovary it forms the mesovarium and relating to the uterus — mesometrium. Part of the broad ligament of the uterus fixating its cervix is called the transversal (cardial) ligament of the uterus. The anterior layer of the large ligament of the uterus covers the round ligament of the uterus (lig. teres uteri) which stretches from the corner of the uterus, passes via the deep inguinal ring, comes up to the pubic symphysis and fixates on the mons pubis to the tub. pubicum.

The ***blood supply*** to the uterus includes the uterine, ovarian arteries and the arteries of the round ligament of the uterus. The uterine arteries run from internal iliac artery (a. iliaca interna s. a. hypogastrica) the ovarian — from the aorta, and they enter the broad ligament of the uterus via the ligament which supports the ovary. The uterine artery stretches along the uterine rib; on the level of the orificium internum uteri it divides into two branches - the ascending and descending branch, which in turn give off branches to the broad and round ligament, Fallopian tubes, ovary and superior portion of the vagina. At about 1-2 cm from the uterus the uterine artery crosses with the ureter and branches off again (ramus uretericum).

The ureters cross with the ovarian vessels, located above them on the level lin. innominata. They go retroperitoneally to the broad ligament of the uterus attaching to its posterior layer then discending entering into the parametrium behind the uterine arteries crossing it transversally. Then the ureters almost close adjoins the anterior vaginal fornix and comes to the cervix in front of the the urinary bladder (from the right - 102 cm; from the left - 2-3 cm).

Lymph outflow from the uterus into the superficial inguinal nodes, external iliac, lateral sacral, paraaortal and paracaval lymph nodes.

The uterine ***innervation*** is provided mainly by sympathetic nervous system. Parasympathetic nervous system is represented by the branches of the middle inferior pelvic plexus and by the second, third and fourth pairs of the sacral nerves.

***Clinical meaning.*** The uterus is one of the organs of the female reproductive function. The development or acquired defects (for example, Ashermann's syndrome) may be the reason for reproductive dysfunction. The endometrium is the most frequent localization of cancer in women. Benign tumoral processes, leiomyomae and adenomyosis, develop often in the myometrium.

The **uterine appendages** include the Fallopian tubes and ovaries.

The **Fallopian tube (tuba uterina, s. tubae Fallopii)** is a pair organ stretching from the uterus to the ovaries; it performs transportation of the ovocytes into the cavity of the uterus. It is approximately 10 cm long; its caliber differs from 0.5-10 mm to 5-8 mm in different portions. They differentiate the uterine portion of the tube - the narrowest portion, isthmus, ampule and infundibulum (the broadest portion.

The wall of the tube consists of three membranes, external (serous), middle (muscular) and internal (mucous). The serous membrane of the uterine ligament which forms the mesosalpinx. There is the subserous layer of connective tissue under serous membrane. It contains vessels and nerves. The muscles of the Fallopian tube consists of the internal circular and external longitudinal layers which supply its peristaltic contractions. The mucous membrane of the uterus forms longitudinal tubular folds and it is laid with monostratal columbar ciliated epithelium with goblet glands.

The infundibulum of the Fallopian tube is the broadest portion of the tube. There is an orifice opening into the peritonium with a caliber from 5 to 10 mm in it. There are a great number of the fimbriae of the tube around the opening. The largest fimbria is called the ovarian fimbria. These structures may form small fimbrial cysts, hydatids, which are mesonephral by origin. Such rudimentary formations as epoophoron and its longitudial duct (ductus Gartneri) and paraophoron start from mesonephros. Distention intraligamental and nearovarian cysts and malignant tumors can form these formations.

**Innervation** of the Fallopian tubes is provided by the branches of the pelvic and ovarian parasympathetic and sympathetic ligaments.

**Clinical meaning.** Tubal pregnancy, salpingitis (mainly of gonococcal and chlamydial etiology), perisalpingitis (often of streptococcal etiology) are the most often pathological process in the Fallopian tubes. Tubal deformity with formation of commissures because of infection may be the reason of unfertility. Primary tubal cancer is met very rarely.

**Ovary** (ovarium, oophoron) is the female sexual gland, a pair oval organ. Its sizes vary during reproductive period; it is 2.5 cm to 5 cm long; 1.5 to 3 cm broad and 0.6-1.5 cm thick. After menopause the ovarian sizes decrease significantly. The ovary is attached to the broad ligament of the uterus with the mesovarium. During the uterine corner it is connected by the proper ovarian ligament (lig. ovarii proprium), with the pelvic lateral wall by the suspensory ligament of the ovary (lig. suspensorium ovarii). They distinguish two surfaces in the ovary, the internal surface facing to the abdominal cavity and the external surface facing to the pelvic wall; two ends, the uterine and pelvic; two margins, the convex free (margo liber) and mesovarian (margo mesovaricus). In the area of the mesoovarian margin the ovarian hili are located (hilium ovarii), the vessels and nerves enter the ovary via them.

On the ovarian section one can see the external layer, a cortical substance of the ovary and the internal layer, a medullar substance of the organ.

The external layer, laid with the germinal epithelium is called the tunica albuginea. The ovarian stroma is located under it (stroma ovarii), it is the area of follicles, of different stages of development. The free surface of the ovary is laid with monostratal cubical epithelium.

The follicles increase as they maturate. Tertiary (dominant, Graafian) follicle reaches the ovarian surface, ruptures, pushes out the ovum via stigma and then it luteinizes throught the retention of the follicular liquid and forms the corpus luteum, the function of which is the progestins secretion and the organism preparation for the impregnated ovum implantation. The hormones secretion (mainly progestins, oestrogens and androgens) is effected by endocrinocytes (luteinocytes and tecal endocrinocytes) of the corpus luteum. In the course of time the corpus luteum hyalizes and forms the white body (corpus albicans).

A newborn girl has 100,000 of primary (primordial) follicles, but only 400 of them can maturate. But in every cycle during the reproductive period several follicles can start to develop and produce hormones; later they will be subject to atresia and absorbed.

***Clinical meaning.*** The function of the ovaries is the production of hormones and development of the ovum for fertilization and pregnancy. This function is depended upon many factors. Benign and malignant tumors often develop in the ovary. The ovarian torsion may result in its necrosis. Infectious damages of the ovary may develop in climacterium.

Physiologic position of the female internal genitalia is kept by fixating, supporting and suspending apparatuses. Supporting the uterus and uterine appendages in physiologic position, they afford their mobility in considerable limits, what is important for normal development of pregnancy and course of labour.

## Physiological changes of female genitals in different age periods. Neuroendocrine regulation of reproductive system function.

### The Female Reproductive Cycle

Towards the end of puberty, girls begin to release eggs as part of a monthly period called the female reproductive cycle, or menstrual cycle (menstrual referring to "monthly"). Approximately every 28 days, during ovulation, an ovary sends a tiny egg into one of the fallopian tubes. Unless the egg is fertilized by a sperm while in the fallopian in the two to three days following ovulation, the egg dries up and leaves the body about two weeks later through the vagina. This process is called menstruation. Blood and tissues from the inner lining of the uterus (the endometrium) combine to form the menstrual flow, which generally lasts from four to seven days. The first period is called menarche. During menstruation arteries that supply the lining of the uterus constrict and capillaries weaken. Blood spilling from the damaged vessels detaches layers of the lining, not all at once but in random patches. Endometrium mucus and blood descending from the uterus, through the liquid creates the menstruation flow.

### Menstrual cycle

The reproductive cycle can be divided into an ovarian cycle and a uterine cycle (compare ovarian histology and uterine histology in the diagram on the right). During the uterine cycle, the endometrial lining of the uterus builds up under the influence of increasing levels of estrogen (labeled as estradiol in the image). Follicles develop, and within a few days one matures into an ovum, or egg. The ovary then releases this egg, at the time of ovulation. After ovulation the uterine lining enters a secretory phase, or the ovarian cycle, in preparation for implantation, under the influence of progesterone. Progesterone is produced by the corpus luteum (the follicle after ovulation) and enriches the uterus with a thick lining of blood vessels and capillaries so that it can sustain the growing fetus. If fertilization and implantation occur, the embryo produces Human Chorionic Gonadotropin (HCG), which maintains the corpus luteum and causes it to continue producing progesterone until the placenta can take over production of progesterone. Hence,

progesterone is "pro gestational" and maintains the uterine lining during all of pregnancy. If fertilization and implantation do not occur the corpus luteum degenerates into a corpus albicans, and progesterone levels fall. This fall in progesterone levels cause the endometrium lining to break down and sluff off through the vagina. This is called menstruation, which marks the low point for estrogen activity and is the starting point of a new cycle.

Common usage refers to menstruation and menses as a period. This bleeding serves as a sign that a woman has not become pregnant. However, this cannot be taken as certainty, as sometimes there is some bleeding in early pregnancy. During the reproductive years, failure to menstruate may provide the first indication to a woman that she may have become pregnant.

Menstruation forms a normal part of a natural cyclic process occurring in healthy women between puberty and the end of the reproductive years. The onset of menstruation, known as menarche, occurs at an average age of 12, but is normal anywhere between 8 and 16. Factors such as heredity, diet, and overall health can accelerate or delay the onset of menarche.

**Menstrual function regulation.**

The activity of reproductive system is to reproduct, preservation of the species, that causes its ultimate reliability. Reproductive system as well as other systems of the organism is functional and is based on hierarchical principle consisting of 5 central and peripheral levels of regulation interacting by the direct and retroaction connections model.

**I** level of regulation – suprahypotalamic cerebral structures. The classical example of the cyclic process in female organism in the maturity period is ovario-menstrual cycle.

**II** level of reproductive system regulation - hypophysiothropic zone of mediodorsal pituitary gland. A pulsing secretion of hypotalamic releasing-hormones(HRH) in the neurons of arcuate nucleus in cirochal regimen occurs. The neurosecretion.(HRH) is transmitted to the portal system through the axons of nervous cells and is transported to the frontal part of pituitary gland with blood

**III** level of regulation – adenohypophysis (the frontal part of the pituitary gland). The secretion of honadotropic hormones is performed in adenohypophysis; lutenizing one(LH), folliclestimulating(FSH), prolactine(Pl), thyreotrophic hormon or thyreotropin(TH or TTH), somatotophic hormon or somatotropin(STH), adenocorticotrophic hormon or cortycotropin(ACTH), melanocytstimulating hormon of melanotropin(MSH).

**IV** level of reproductive system regulation is ovarian. Cyclic changes in ovaries are called ovarian cycle. In the first phase primordial follicle develops, at the second one Luteal follocle developes from the cells of Graafian follicle(the follicle where the process of ovulation occured) endocrine gland – yellow body is formed.

Organs and target organs (geitals, mammary glands, hair follicles, skin, fat tissues) belong to to the V level of regulation. The cells of these organs have receptors to sex hormones ( estradiol, progesterone, testosterone). The ammount of steroid hormones in blood changes depending on the phase of menstrual cycle. The molecule of hormon is taken by the cytoplasmic receptor and compex hormon-receptor is trasported to the cell nucleus. In the nucleus the complex is attached to the chromatin, which regulates the processes of transcription. Cyclic adenosinamonophosphat (cAMP) and prostogladines also belong to the V level of reproductive system which act as intracellular regulators. On the V level of regulation cyclic the changes are mostly marked in endometrium (uterine cycle), the process of its preparation to menstruation or implantation is on.

Menstrual dysfunction may result from intense production of estrogen and progesterone by the functional cyst of ovaries (for example in yellow bode persistanse etc.).

The age of menarche (the first menstruation in life) normally ranges from 10 to 16 years old and on average is 12-13. Stabilization of ovulatory menstrual cycle is characterized by regular, cyclic prognosed menstruations with 24-35 day intervals, the bleeding duration is 3-8 days and general loss of blood about 30-8-ml.

## I. Instrumental examination methods: probing of uterus, curettage of uterine cavity, biopsy, puncture of abdominal cavity through posterior vaginal fornix.

1. **Probing the uterus** produce under aseptic and antiseptic. It allows you to specify the length of the uterus, cervical canal patency, stenosis and atresia, partitions, fibroids. Probing is used not only for diagnostic purposes, but before endometrial curettage, abortion. Sounding the uterus is contraindicated in acute and subacute vospolitelnyh diseases vagina, w / uterus and appendages, when establishing or suspected pregnancy.

2. **Fractional diagnostic curettage** of the mucous membrane of the cervix and uterine body channel produce to determine the state of the mucous membrane in benign and malignant processes (hyperplasia, precancerous lesions, cancer). First, scrape the mucous membrane of the cervical canal, then the body of the uterus. Scrapings are collected separately in receptacles with formalin, labeled and sent for histological examination.

3. **Biopsy** produced in pathological processes, suspected malignancy localized in the area of the cervix, vagina, external genitals and the uterus. Material taken by excision with a scalpel on the border of healthy tissue and the altered area.

4. **Aspiration biopsy** is performed by Brown syringe in inpatient and outpatient. Get the endometrium of the uterus different departments (bottom corners). From the resulting material make smears on a slide.

5. **Aspiration curettage** performed a special hollow curette, connected to a vacuum pump. Aspiration preparation method has advantages over the endometrial mucosa of the uterus due to scraping traumatization of tissue at the possibility of re-use and during the menstrual cycle.

## II. Endoscopic examination methods: colposcopy, hysteroscopy, laparoscopy.

**1. Colposcopy** - method of diagnosis of pathological states vlagalichnoy of the cervix, cervix, vagina and external genitalia. With the help of a colposcope inspect the mucous membranes of the vagina and the cervix, vulva, produce biopsy. To evaluate the pathological focus in the dynamics method is used repeatedly, it is harmless. It uses simple (review), enhanced, color (hromokolposkopiya) and fluorescent colposcopy. Simple colposcopy estimated, determine the shape and size of the vaginal w / uterus, the external os, color and relief of the mucosa, the transition zone of a flat columnar epithelium, vascular pattern. Extended colposcopy based on the use of pharmacological agents to detect changes in the tissue level of the cell and its components. 3% solution of acetic acid, 0.5% solution of salicylic acid causes swelling of the epithelium of the cervix. Lugol solution (Sheeler test) reveals tumor and premalignant sites consisting of depleted glycogen cells: cells containing a sufficient amount of glycogen (normal), painted in a dark brown color, with a deficit of glycogen cells (pathological) remain pale.

**2. Hysteroscopy** - the uterine cavity examination method using an optical instrument (hysteroscope) inserted into the uterus through the cervical canal. Highly informative method for the diagnosis of intrauterine pathology (as compared to MSG, US), allowing to make surgery. Environment for distention is 30-70% solution of dextran, 5-10% solution of dextrose and carbon dioxide. According to its purpose diagnostic hysteroscopy is divided into (establishment of intrauterine pathology), surgical (operational) and control (evaluation of the effectiveness of therapy).

- **Indications for hysteroscopy:** AUB, infertility, developmental abnormalities, intrauterine adhesions, submucous uterine fibroids, uterine cavity examination and cervical canal after the abortion and haemorrhage after caesarean section, plastic surgery on the uterus, endometrial hyperplasia, polyps, foreign bodies in the uterus (IUD), aiming biopsy, monitoring the effectiveness of therapy, endometriosis, uterine tuberculosis.
- **Contraindications:** acute infectious processes, pregnancy, heavy uterine bleeding, suspected cancer of the cervix and uterine body, severe somatic diseases. hysteroscopy technique involves the preparation and examination of the patient for surgery, the choice of anesthesia method (intravenous anesthesia), carrying out the procedure. Complications: exacerbation of chronic inflammatory disease, uterine perforation, uterine rupture, bleeding, air embolism, vascular overload, thermal lesions of the pelvic organs, anaphylactic shock.

**3. Laparoscopy** -osmotr abdominal organs and pelvis using the laparoscope through the anterior abdominal wall, in the background pneumoperitoneum used oxygen, nitrous oxide or carbon dioxide. Laparoscopy involves the steps of: abdominal wall puncture needle, the introduction of gas through it to create a pneumoperitoneum, trocar laparoscope, viewing pelvic and abdominal surgery, removal of the endoscope and gas removal. Laparoscopy is done for diagnostic and surgical purposes is carried out in a planned or emergency basis. Indications for routine diagnostic laparoscopy, infertility, dif. diagnosis of tumors of internal genital malformations of internal genital organs, sklerokistoz ovarian ectopic, pregnancy.

- **Indications for emergency laparoscopy:** a suspicion of uterine perforation, cyst capsule rupture, piosalpinks, ovarian torsion leg tumor, ovarian rupture, pipe miscarriage, dif. Diagnosis of acute adnexitis, ectopic pregnancy and appendicitis.
- **Contraindications:** decompensation of somatic diseases, extensive adhesions, acute infectious diseases. Complications: emphysema, damage of the abdominal cavity needle or trocar, vascular injury, complications of anesthesia.

**I.Ultrasound examination methods in gynecology.**

**US** - the leading method of research in gynecology: screening, non-invasive, harmless, highly informative, relatively simple, affordable. With this method it is possible to visualize and evaluate the condition of the pelvic organs: the bladder, uterus, ovaries, vagina proximal department rektosigmoidalny thick intestine, muscle, and blood vessels of a small basin. Ultrasound does not require special preparation of the patient, only filling bladder bubble.

This method is highly informative studies (assessment of the pelvic organs in severe adhesions, accurate topical diagnosis of education, the use in women with metabolic disorders, flatulence, abdominal pain), there is no need for filling the bladder. Preferred is in urgent gynecology. Ultrasound is now complemented by Doppler studies for blood flow in the arteries and veins of the internal reproductive organs to diagnose tumors, genesis of infertility, other endocrine diseases.

**II.Radiological examination methods: MRI, CT, MSG.**

With the development of ultrasound and endoscopic methods of X-ray diagnostics was used less frequently.

The following types of x-ray studies are used in gynecology: hysterosalpingography, pnevmopelviografiya, contrast peritoneografiya, vaginografiya, phlebography, arteriography and lymphography pelvis and retroperitoneal space, X-rays of the skull, the adrenal glands.

**1. Hysterosalpingography (MSG)** - a radiological method isledovanija, allowing to determine the status of the uterus and fallopian tubes. MSG is carried out on 8-12 day of the menstrual cycle, for the diagnosis of CIN MSG - 23-24 days. A study carried out with X-ray contrasting solutions: liposoluble (lipildol), water-soluble (urografin) and vodnoviskoznymi (polyvidone, medopak). Preparation of the patient includes: a survey to assess the general condition and exclusion of inflammation, intestinal cleansing and emptying of the bladder, the introduction of antispasmodics for 30 minutes. prior to the study. Perform 2 shots: 1 after the uterine cavity filling contrast agent, 2- after the new administration of contrast.

***Indications:*** uterine infertility options, suspected tuberculosis, internal genitalia anomalies, monitor the effectiveness of plastic surgery on the uterus and tubes, tumors and uterine polyps, endometrial hyperplasia, suspected malignancy. Contra-indications: feverish conditions of different etiology, acute and subacute inflammatory processes, pregnancy, DMK, decompensated somatic diseases. Complications: 1) early (reflux vascular, lymphatic reflux pipe rupture, perforation of the uterus, and allergic reactions); 2) recent (acute inflammation).

**2. X-ray** examination of the skull is used for the diagnosis of neuroendocrine diseases. X-ray study of the shape, size, sella circuits are used for the diagnosis of pituitary tumors.

**3. Computer tomography (CT)** is based on the change in the intensity of x-ray radiation as it passes through different densities of tissue. Computed tomography provides a complete picture of the organ or the pathological focus, which explores quantitative information on the layer thickness and the nature of the lesion. With the help of computer tomography can obtain reflected longitudinal study area, rekonstruktirovat slice and get it in any plane. Currently, imaging region sella reveals small tumors located intrasellyarno and non-deformable wall of the sella. Radiation exposure during CT is lower than with other methods of x-ray studies.

## III.Methods of functional diagnostics of ovarian condition.

To evaluate the functional state of the ovaries using cytological examination of vaginal smears, cervical mucus study of channel, measurement of basal body temperature.

1. **Cytology** vaginal smears based on the definition in these specific kinds of vaginal epithelium. Surface flat layered neorogovevayuschii vaginal epithelium -gormonozavisim is the target organ. When 2-phase ovulatory menstrual cycles in vaginal smear are found in different proportions superficial and intermediate epithelial cells. In the assessment of the proportion of the surface stratum and the total number of superficial cells based calculation kariopiknoticheskogo index (CPI). In the follicular phase of the normal menstrual cycle is 25-30% of the CPI, during ovulation - 60-70%, in the phase of development of the corpus luteum - 25-30%. With this! the method can determine the woman's hormonal background (estrogen deficiency, hyperandrogenism), hormone treatment to control, diagnose, and to justify hormone miscarriage in early pregnancy, to make selection OK DMK treatment, the premenstrual syndrome.

2. **"Pupil Symptom"** - the amount of mucous secretion in the cervical canal, reflects the production of estrogen by the ovaries. Based on the expansion of the external opening of c / channel and it appears in a transparent glassy mucus. Determined during the inspection w / uterus in the mirror, the external os resembles a zrachek. Symptom "pupil" depending on its degree is estimated at points (1.3): negative (-),

weak positive (+), positive (++), rezkopolozhitelny (+++). The greatest amount of mucus is observed at the time of ovulation, the smallest - before menstruation. No symptoms of the pupil indicates a weak estrogenic effects, long rezkovyrazhenny symptom - of hyperestrogenism. The test gives an indication of the form of the MQM, premenstrual syndrome and other endocrine disorders. The test is not characteristic pathological changes of the cervix.

3. **Symptom "fern leaf"** is based on the crystallization of cervical mucus deposited on a glass slide. The crystallization of the mucus occurs in the presence of mucin by the action of estrogen, a symptom can be set between 7-20 day of a normal menstrual cycle, reaching its highest development at the time of ovulation, there is no before menstruation. Estimated in points (1-3): negative (-), weak positive (+), positive (++), zerkopolozhitelny (+++).

4. **Symptom tension of cervical mucus** - a simple and informative method of determining the body's estrogen saturation. Kortsangom take cervical mucus and by diluting the jaws define its elasticity (stretchability). Pulling mucus more than 6-8 cm. Evidence of sufficient estrogen saturation.

5. **The basal temperature test** is based on hyperthermal effects of progesterone on the thermoregulatory center. Change the basal body temperature (rectal morning) allows you to establish the presence, severity and duration of the progesterone phase. In the normal menstrual cycle, the basal temperature rises by 0.4-0.8 in the progesterone phase. Measuring basal body temperature is made within 2-3 months. With this test it is possible to judge about ovulation and anovulation, the shortening of the luteal phase, nedortatochnosti corpus luteum function.

## IV. Laboratory diagnostics: oncocytology, bacterioscopy, bacteriology, ELISA, PCR, pathomorphological examination.

Along with common laboratory tests: general blood and urine tests, blood chemistry, blood test group and Rh factor, coagulation (determination of blood clotting), there are specific tests in gynecology, which include: analysis on TORCH-complex (identification of woman's blood antibodies to rubella, herpes, toxoplasma, cytomegalovirus and chlamydia), a hormonal screening, microbiological diagnostic methods, enzyme-linked immunosorbent blood analysis, polymerase chain reaction, a pregnancy test, a blood test for the presence of tumor markers.

**Identification hormone concentration in the blood (hormonal screening)**

This diagnostic method allows to identify endocrine pathology. Hormonal screening can reliably assess the nature of the basal secretion of steroid and tropic hormones in a woman's blood. In this study the level of hormone activity in the different phases of the menstrual cycle (study performed prolactin, gonadotropins (LH, FSH), testosterone, estradiol, cortisol, thyroid hormones (T3, T4), and many others).

**Microbiological diagnostic methods**

**ELISA, or enzyme-linked immunosorbent blood test**

Immunoassay blood is more accurate (compared with a microbiological method) research method. This method of diagnosis other than to identify the etiology of the pathogen can also identify the stage of pathological process (acute, subacute, chronic, reinfection, subsidence of the pathological process, the traumas of the inflammation process).

**Polymerase chain reaction - PCR (or method of DNA-diagnostics)**

PCR is the most accurate method of reliable diagnosis of infectious and inflammatory diseases (but also the most expensive). In carrying out this reaction from biological material (vaginal swab, urine, blood) being withdrawn microorganism DNA fragment. PCR has a high degree of diagnostic accuracy and detect a wide range of pathogens (protozoa, bacteria, fungi, viruses).

**Pregnancy test**

It is used for the diagnosis of pregnancy. It is based on the identification in the urine of pregnant women chorionic gonadotropin, which is produced by the embryo in the first weeks of pregnancy.

**A blood test for the presence of tumor markers**

This assay is non-specific, is appointed in cases of suspicion of the presence of ovarian cysts, malignant neoplasms of the female reproductive organs, therefore, it requires repeated repetition and additional diagnostic techniques.

## V. Additional examination methods in gynecology.

**Morphological (histologic) methods.**

Biopsies obtained from the cervix, uterus, ovaries necessarily subject to histological examination. Material prepared by various gynecological operations.

**1. Biopsy** - vivo excision of a small piece of tissue for microscopic examination. Produce in pathological processes, suspected malignancy with in the area of the cervix, vagina, external genitals and take material by excision with a scalpel on the border of healthy tissue and the altered portion is collected in containers filled with formalin, labeled and sent for histological examination.

**2. Split** (fractional) diagnostic curettage of the mucous membrane of the cervix and uterine body channel produce to ascertain the condition of the mucous membrane in benign and malignant processes (cyclic changes, hyperplasia, precancerous changes, endometrial cancer, cervix). The operation is performed in a hospital under obezbolivaniem.Vnachale scrape mucous membrane of the cervical canal, then the body of the uterus. Scrapings are collected separately in receptacles with formalin, labeled and sent for histological examination.

An examination is required, which is carried out in a planned manner

**Algorithm for performing practical skills.**

**Bimanual (vaginal) examination:**

1) to introduce to the patient;

2) to identify the patient (name, age);

3) to inform the patient about the need for research;

4) to explain to the patient how the study is conducted;

5) to obtain permission to conduct research;

6) wash your hands;

7) wear inspection gloves;

8) with the first and second fingers of the left (right) hand to spread the labia majora, the middle finger of the "dominant" hand to place at the level of the posterior adhesion, gently press on it to open the entrance to the vagina;

9) carefully and slowly insert the middle finger, then the index finger into the vagina along the posterior wall to the vault and cervix, bring the fourth and fifth fingers to the palm, the thumb to the top;

10) determine the length of the vaginal part of the cervix in centimeters;

11) determine the consistency of the cervix (dense, soft);

12) determine the patency of the outer eye of the cervical canal (closed, passes the fingertip);

13) assess the pain of the cervical tour;

14) carefully place the second palm on the abdomen (above the symphysis) and press moderately to determine the bottom of the uterine body;

15) bring the body of the uterus between two hands and determine:

• position of the uterus relative to the cervix (anteflexio, retroflexio);

• body size of the uterus (normal, reduced, enlarged);

• consistency of the uterine body (dense-elastic, soft, compacted);

• mobility of the uterine body (relatively mobile, limited mobility);

• sensitivity to palpation (painful, painless);

16) place the fingers in the bottom of the right lateral arch and using both hands to palpate the right vaginal arch and the right appendages of the uterus, determine their size, mobility and pain;

17) place the fingers in the bottom of the left lateral arch and using both hands to palpate the left vaginal arch and the left appendages of the uterus, determine their size, mobility and pain;

18) determine the capacity of the vaginal vaults;

19) inform the patient about the results of the study;

20) thank the patient;

21) remove inspection gloves;

22) wash your hands.

**Clinical examination of the mammary glands:**

1) to introduce to the patient;

2) identify the patient (name, age);

3) to inform the patient about the need for research;

4) explain to the patient how the study is conducted;

5) obtain permission to conduct research;

6) wash your hands;

7) wear inspection gloves;

8) examine the mammary glands, assess their shape, skin color, nipples, areas around the nipple (asymmetry, retraction, etc.);

9) examine the tissue of the mammary glands clockwise or in quadrants and determine its density, homogeneity, sensitivity, presence / absence of bulky tumors;

10) at detection of a new growth to define its form, the sizes, a consistence, borders of formation, mobility, a parity with fabric of a mammary gland, morbidity;

11) palpation of lymph nodes in the supraclavicular, subclavian and axillary areas;

12) to determine the presence of pathological secretions from the mammary glands;

13) inform the patient about the results of the study;

14) thank the patient;

15) remove inspection gloves;

16) wash your hands.

**3.Formation of professional skills and practical abilities.**

**1.** Secundigravida, 28 years old, complains on decreasing of fetal movements. The current pregnancy is the 2nd, 31 weeks. First pregnancy ended with delivery of full-term alive boy, with weight 2.390 kg, length - 49cm. The woman is smoking since adolescence period. On examination doctor found delay in height of uterine fundus for the given term. Fetal heartbeat is 138-156 beats per minute.

Which rearch methods can determine the condition of feto-placental complex and fetus?

**2.** Maternity patient, 34 years old, is transferred to the observational department on the 3rd day after labor because of worsening of her general condition: chills, fever up to 39,7°C. Labor was complicated with premature rupture of amniotic membranes (waterless period was 18 hours), weakness of contractile activity. Objectively: skin is moderately hyperemic. Pulse is 94 beats /min, BP - 110/70 mm Hg on both hands. Pathology of internal organs is not revealed. Fundus of the uterus is two cross fingers lower then umbilicus. Bimanual examination: cervix of uterus is not formed, hangs down into vagina, the canal allows passage of 3 cross fingers. Uterus is enlarged to the size of 18 weeks of pregnancy, soft. Appendages are not palpated. Discharge is bloody, like "tomato paste" with an unpleasant smell.

Which laboratory examination is necessary to establish the diagnosis?

**3.** A woman, 48 years old, addressed a family doctor with complaints of bleeding from sexual pathways. From anamnesis: menstruations since 14 years old, stabilized at once, for 4-5 days every 28 days, moderate, painless. During the last 2 years interval between mensruations is 2-3 months. 15 days ago after a 2-months absence of menstruation a bleeding started and still continues. On examination: skin and visible mucous membranes are pale, Ps – 76 beats/min, BP – 110/80 mm Hg, hemoglobin - 100 g/l. Abdomen is soft, painless on palpation. On bimanual examination no patology of internal genital organs is revealed.

Make the right diagnosis.

What methods of examination can help to confirm diagnosis?

Make plan of treatment of the patient.

4. Patient A, 23 years old, addressed with complaints of discomfort, itching in external genital organs. She is ill for 5 days. From anamnesis: sexual life since 21 years old. She had two pregnancies, one of which ended with labor, and the other - medical abortion. She denies gynecological diseases. Objectively: general condition of the patient is satisfactory. Temperature - 36,5˚C. Pulse - 86 beats/min, of satisfactory properties. BP- 115/70 mmHg. Skin and visible mucous membranes are of usual color. Abdomen is soft, painless. Physiological evacuation is normal. Speculum examination: sharp hyperemia and edema of mucous of vagina and cervix. In posterior vault of vagina there is cheesy milk-white discharge. The same discharge is in external os and urethra.Bimanual examination: vagina of a parous woman. Uterine cervix is of cylindrical shape, external os is closed, shifting of uterine cervix is painless. Uterus is of usual size, dense, mobile and painless. The appendages of uterus on both sides are not enlarged, painless. Vaginal vaults are painless. Microscopic analysis: analysis of microflora from vagina, cervical canal and urethra revealed plentiful leucocytes, mixed microflora and Candida.

Make the right diagnosis.

What methods of examination can help to confirm diagnosis?

Make plan of treatment of the patient.

## TOPIC 3
## " Neuroendocrine regulation. Dysfunction of the female reproductive system. "

**Purpose:** disorder of the menstrual cycle is one of the most difficult in understanding and mastering topics in gynecology, and the diseases themselves are the most complicated for diagnostics and treatment, because they require of the doctor understanding and knowledge of very difficult mechanisms of regulation of the menstrual function, difficult principles and extreme responsibility in conducting hormone therapy.

**Basic concepts (list of questions):** educational (to introduce students to current topics, normal menstrual cycle, regulation of menstrual cycle, the volume of the survey of it.); 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 menstrual dysfunction, given the social aspects of the problem); responsible (develop a sense of legal responsibility for the doctor to adequately carried out therapy.).

**Theoretical questions for the lesson:**

1. General symptomatics of gynecological pathology.

2. Classification of function disorders of genital organs (menstrual function).

3. Amenorrhea: classification , diagnostics, tactics of GP (general practitioner).

4. Abnormal uterine bleedings: PALM-COEIN classification by FIGO, clinics, diagnostics.

5. Juvenile uterine bleedings: etiology, clinics, diagnostics, tactics of GP, emergency care.

6. Abnornal bleedings of reproductive age: etiology, clinics, diagnostics, tactics of GP, emergency care.

7. Abnornal bleedings of perimenopausal period: etiology, clinics, diagnostics, tactics of GP, emergency care.

8. Dysmenorrhea: etiology, classification, clinics, diagnostics, treatment.

**Plan:**

1. **Knowledge control.**

1. For the clinical manifestations of dysmenorrhea are not typical:

A. Headache

B. Nausea

+C. Excessive blood loss

D. Abdominal pain

E. Irritability

2. An 18-year-old girl with normal development of secondary sexual signs complains of primary amenorrhea. Examination revealed that the vagina is underdeveloped, the uterus is absent. Specify the type of amenorrhea:

A. Physiological amenorrhea.

B. Amenorrhea, caused by hyperandrogenia.

C. Hypogonadotric amenorrhea

+D. Eugonadotropic amenorrhea.

3. A 24 year old patient complains of amenorrhea. She had labor 13 months ago. Delivery was by caesarian section due to premature detachment of a normally located placenta and intrauterine asphyxia of the fetus. Labor was complicated with a massive blood loss of approximately 2000 ml due to coagulopathy. What test is indicated in this patient?

A. Ultrasound of the organs of the small pelvis

B. Testosterone blood test

C. Progesterone test

+D. Gonadotropins test

E. Computer tomography of the head

4. A 15 year old girl complains of bloody discharge from the vagina for 2 weeks, which began after a 3 month delay of menstruation. Menarche at 13 years. Irregular menstrual cycle. Blood analysis: Hb - 90 gr/l, erythrocytes - 2,0x1012/l, leukocytes - 5,6x109/l. Rectal exam: the uterus has a normal size, the appendages are not palpated. What diagnosis is most probable?

+A. Juvenile bleeding

B. Incomplete abortion

C. Blood clotting disorder

D. Polyp of the endometrium

E. Cancer of the endometrium

5. A 27 year old patient complains of irregular menstruation, infertility for 4 years. Obesity, hypertrichosis. During bimanual examination: the uterus is small, the ovaries on both sides are enlarged, firm. Discharge - leucorrhoea. Examination showed that the basal temperature is monophase. What is the diagnosis?

A. Shihane syndrome

B. Simmonds syndrome

+C. Polycystic ovarian syndrome

D. Genital tuberculosis

E. Asherman syndrome

2.**Discussion of theoretical questions.**

It is necessary to remember the close connection and interdependence in the work of higher nervous centers of the cerebral cortex, hypothalamus, hypothesis and uterus itself. Changes in any of these links according to the principle of direct and reverse connection will cause a reaction of the whole system. The pathogenesis of disorders of the menstrual cycle is also related to a disorder in the amount of hormones. Therefore, destruction to the ovaries leads to a disorder in the production of steroid hormones, which according to the principle of reverse connection, results in the disorder of secretion of gonadotrophic hormones. Dysfunction of the hypothesis caused by functional or organic destruction, according to the principle of direct connection, results in a change in the secretion of steroid hormone, their uneven and incorrect secretion. Every change in the hormone secretion reflects on the function of the target organs, in this case, the uterus. Damage to any of the organs that take part in the regulation of the menstrual function can result in its disorder. Determining the level of disorder plays an important role in purposeful pathogenetic treatment. Therefore, disorders of the menstrual cycle can be of the central genesis - when the cerebral cortex, hypothalamus, hypothesis are damaged and of the peripheral genesis - when the ovaries and uterus are directly damaged. Disorders of the menstrual cycle of the central genesis can be: cortico-hypothalamic, hypothalamo-hypophysial, hypophysial. There are also disorders of the menstrual function that are caused by a change in the function of the secondary glands of inner secretion: adrenal glands, thyroid gland. The main tasks when examining patients with disorders of the menstrual cycle are the following: 1) presence or absence of organic damage to the hypothalamus and hypothesis, ovaries and uterus, thyroid gland and adrenal gland, and also extragenital diseases; 2) determine the level of functional damage in the regulation of the menstrual function.

The examination is conducted in several stages:

I stage – pre-admission stage: collect the anamnesis, clarify the menogram, general and gynecological examination, blood test, urine test, coagulagram, blood test for RW and HIV. In this stage, functional diagnostic tests, rontgenography of the skull in two projections, check the field of vision and fundus of the eye, ultrasound of the organs of the small pelvis, the level of sugar in the blood and urine, cholesterol in the blood, research of the sex chromatin, toxoplasmin and tuberculin tests, functional tests of the liver, thyroid gland, determine 17–KS, 17-OKS, the level of hormones in the blood plasma are also preformed; consultation with

specialists is conducted (neurologist, endocrinologist, therapist, etc.). II stage – this stage contains additional, the most difficult methods and is performed in the hospital: biopsy of the endometrium, endoscopy of the genitals (hysteroscopy, colposcopy, laparoscopy), Metrosalpingography.

III stage – focused examination: additional X-ray study of the skull, examination of the fundus of the eye and field of vision, quantitative determination of the hormones in the blood plasma in the dynamics of the menstrual cycle and in the dynamics of supervision, functional hormonal tests. As a result, the studies should give information about the state of the target organ; determine the level of disorder in the system.

The absence of menstruation in an adult woman for 6 months is called amenorrhea.

Amenorrhea.

Amenorrhea is the absence of menstruations during 6 months and longer in women aged 16–45 years. The incidence of amenorrhea in population among women of childbearing age makes approximately 3.5 %, and in the structure of reproductive system disorders – 10–15 %. There are differentiated physiological (the absence of menstruations till the pubertal period, during pregnancy, lactation, and in the postmenopause) and pathological types of amenorrhea. The etiology of pathological amenorrhea is very diverse. It is a symptom of a gynecological and extragenital pathology may be primary and secondary: primary amenorrhea is the absence of menstruations at the age older than 16 years; secondary amenorrhea is the absence of menstruations during 6 months and longer after a period of regular and irregular menstruations. Amenorrhea is considered secondary even if there is a history of one menstruation only. If the interval between the episodes of bloody discharge makes less than half a year, the state is considered a hypomenstrual syndrome, a variety of which is the so-called spaniomenorrhea – menstruations take place 2–3 times a year. Besides, there are singled out true and false types of amenorrhea. The reasons for false amenorrhea are: atresia of the virginal membrane, vagina, cervical canal, and transversal membrane of the vagina. This is accompanied by cyclic changes in the hypothalamo-pituitary-ovarian system and uterus, but the outlet of the menstrual blood is blocked. This leads to menstrual blood accumulation in the upper genital tract with the formation of hematocolpos and hematometra accompanied by pain syndrome. Pathological amenorrhea is also classified depending on the level of affection of a certain part of the reproductive system. According to this there are differentiated hypothalamic-pituitary, ovarian, and uterine forms of amenorrhea, and also amenorrhea conditioned by pathology of the adrenal glands, thyroid gland, and the presence of extragenital diseases.

Such forms of amenorrhea are determined:

true amenorrhea – the absence of menstruation caused by a disorder in the production of the sexual organs;

false amenorrhea – the absence of menstruation because of a disorder in the cyclic changes in the ovaries and with the presence of obstacles in the outflow of menstrual blood;

Primary amenorrhea.

Primary amenorrhea with no sexual development: - gonadal digenesis (Shereshevsky–Turner syndrome, Swayer syndrome); - testicular feminization (Morris syndrome).

Primary amenorrhea with sexual development delay: - resistant ovary syndrome (in case it arises in the prepubertal period); - hypogonadotropic hypogonadism.

Primary amenorrhea without sexual maldevelopments: - Maldevelopments of the vagina and uterus (uterine and vaginal aplasia – Rokitansky–Kuestner syndrome; atresia of the hymen, vagina, and cervical canal of uterus).

4.Secondary amenorrhea:

Asherman's syndrome (intrauterine synechias as a consequence of traumatic injuries of the uterus);

hypergonadotropic hypogonadism;

hypogonadotropic hypogonadism;

emotional amenorrhea;

weight loss amenorrhea/

Primary amenorrhea is observed much less frequently than the secondary one and makes 8–10 % in the structure of amenorrhea. Primary amenorrhea is more frequently combined with other signs of sexual development delay (SDD), less frequently it arises at all the signs of sexual development preserved.

Therefore there are singled out two forms of primary amenorrhea:

1. with a derangement of sexual development (SDD, hermaphroditism);
2. Without sexual development disorders.

All over the world much attention is paid to the problem of SDD, which conditioned the fact that this pathology is marked put as a disease entity by the World Health Organization. Underdevelopment or absence of the secondary sexual characters at the age of 13–14 years and absence of menstruation at the age of 15– 16 years should be regarded as SDD. Depending on the primary level of reproductive system affection there are differentiated central (as a result of insufficient gonadotropic stimulation there secondarily arises ovarian insufficiency) and ovarian (primary affection of the gonads accompanied by the increased gonadotropin secretion) forms of SDD. Thus, the central and ovarian forms of SDD are regarded as hypo- and hypergonadotropic. To the ovarian form of SDD we refer gonadal digenesis (GD, hypergonadotropic hypogonadism) – the most widespread reason for primary amenorrhea against the background of SDD. The onset of gonadal digenesis is based on X-chromosome monosomy or mosaicism and X-chromosome aberration. This state is characterized by the absence of the follicular apparatus, which leads to estrogen deficiency and, as a result, to the increase of gonadotropin concentration in blood.

Clinical-diagnostic criteria. The severity of clinical symptoms depends on the quantitative and qualitative pathology of sex chromosomes and the ratio of normal and aberrant clones, which determines the singling out of clinical forms of gonadal digenesis. T

His typical form of GD – Turner's syndrome (45, XO) – is characterized by:

a) the GD phenotype – small stature, wide and short neck, skin folds, which go from the mammillary process to the acromion one, micrognathia, high palate, low-set auricles, numerous pigment spots on the skin, nipples located wide apart, cubitus valgus;

b) evident genital infantilism;

c) primary amenorrhea;

d) anomalies of occlusion;

e) strabismus;

f) shield-shaped chest;

g) winged scapula's;

h) malformations of the kidneys and cardiovascular system;

i) Gonads in the form of connective-tissues bands.

At the pure form of GD (46, XX or 46, XY – Swyer's syndrome) there is observed normal stature, the absence of somatic malformations, eunuchoid or intersexual phenotype at Swyer's syndrome, secondary sexual character underdevelopment, gonad hypoplasia. The mixed form of GD (45, XO/46, XY): - the clinical presentation is characterized by manifestation variability; - secondary sexual character underdevelopment; - hypoplastic uterus; - gonad asymmetry (a fibrous tissue band on one side, underdeveloped elements of testicles – on the other side). The obliterated form of GD (mosaicism 45, XO/46, XX) is characterized by a variety of clinical signs, whose severity is determined by the ratio of normal and aberrant cell clones. The patients have a small stature less frequently, menarche is possible at normal terms, the development of the secondary sexual characters may be spontaneous (but not complete). Investigation of the hormonal status at all forms detects high concentrations of gonadotropins in the blood plasma and estradiol decrease.

Treatment. The GD therapy depends on the presence of Y-chromosome in the karyotype. Since the risk of gonad malignization is high if Y-chromosome is present, they must be removed surgically. If there is no Y-chromosome in the karyotype or if the gonads have been removed surgically Y-chromosome being present, substitutive hormonotherapy (SHT) is provided aimed at feminization, gonadotropin level lowering, cyclic changes in the endometrium with a menstruation-like reaction, prophylaxis of estrogen deficit conditions, and social adaptation. In order to become pregnant one carries out the program of extracorporal fertilization (in vitro fertilization, IVF) with oocyte donation.

The ovarian forms of SDD in patients with the normal karyotype include the syndrome of resistant ovaries, which develops in the prepubertal period and declares itself with hypoestrogenia, primary amenorrhea, and sexual infantilism. In this disease the morphologically full-value ovaries do not respond to endogenous gonadotropic stimulation, which leads to gonadotropin hypersecretion. The central form of SDD, which is defined as hypogonadotropic hypogonadism, is accompanied by estrogen deficit and primary or, less frequently, secondary amenorrhea. The most common reasons for this disease are genetic factors (congenital hypogonadotropic hypogonadism) and unfavorable exogenous factors (acquired hypogonadotropic hypogonadism against the background of infection-toxic illnesses, pituitary tumors, anorexia nervosa, low body weight, considerable exercise stress). The onset of this pathology may also be conditioned by asphyxia and birth injury of newborn. There is differentiated hypogonadotropic hypogonadism of hypothalamic and hypophysial origin. Hypogonadotropic hypogonadism of hypothalamic origin is based on the disorder of LH formation, which leads to the inhibition of gonadotropin production by the hypothesis and is accompanied by

the lack of follicle growth and anovulation. Hypogonadotropic hypogonadism of hypophysial genesis is characterized by violated gonadotropin release.

The diagnostic criteria:

a. primary, less frequently secondary amenorrhea;
b. the eunuchoid type of the organization of the body;
c. underdevelopment of the secondary sexual characters;
d. hypoplasia of the external and internal genital organs;
e. low concentrations of FSH, luteinizing hormone, and E2 in the blood;
f. as a result of low estrogen saturation there is noted a negative progesterone test, a negative clomiphene test;
g. a positive hormonal test with estrogens and gestagens;
h a positive test with LH at the hypothalamic level of affection;

A negative test at hypophysial hypogonadotropic hypogonadism.

The treatment depends on the reasons, which have caused SDD. If the patient has pituitary tumors, the treatment is surgical. The therapy of all the forms of SDD should be complex, aimed at the normalization of the function of the diencephalic area (if there are appropriate indications, the treatment is carried out together with a neurologist, a psychoneurologist). There is recommended general health-improving cyclic vitamin therapy, physiotherapy. If the form of SDD is not full-blown, the mentioned treatment is usually sufficient to normalize the menstrual cycle. If the SDD form is full-blown, which declares itself with underdevelopment or absence of the secondary sexual characters, hormonal treatment is indicated.

Dysfunctional uterine bleedings (DUB) are the bleedings conditioned by disturbances of the cyclic secretion of ovarian hormones and not connected with organic diseases or extragenital pathologies. DUB incidence makes 15–20 % of all gynecological pathologies. DUB development is based on the dysfunction of the hypothalamo-pituitary-ovarian system, which leads to the disturbance of folliculo- and steroidogenesis. DUB may arise at any age. However, they have their peculiarities in different age periods. These differences are the basis of DUB classification. Every period in a woman's life presents an imprint on the possibility of DUB occurring and requires individual approach in conducting the diagnostics and therapy. Therefore, the clinical practice the following are determined:

1. DUB of the pubescence period (juvenile bleeding);

2. DUB of the reproductive period;

3. DUB of the premenopausal period (climacteric bleeding) in women over 40.

4. DUB classification by the character of menstrual irregularities and functional-morphological changes:

1. Anovulatory DUB: a) short-term follicle persistence; b) long-term follicle persistence. c) Immature follicle atresia.

2. Ovulatory DUB. According to the estrogen level DUB divided into hyperestrogenic (most DUB) and hypoestrogenic (more frequent in the puberty, but may also be observed at the childbearing age).

Though all DUB forms are observed at different age periods of the woman's life, in the puberty and premenopausal period anovulatory DUB are more frequent, at the childbearing age – ovulatory.

By contrast, acute AUB was defined as an episode of heavy bleeding that, in the opinion of the clinician, is of sufficient quantity to require immediate intervention to prevent further blood loss. Acute AUB may present in the context of existing chronic AUB or might occur without such a history. Although women of reproductive age with acute AUB require immediate intervention, their follow-up may be largely dependent upon whether they require investigation and ongoing care for an underlying chronic condition. Intermenstrual bleeding (IMB) occurs between clearly defined cyclic and predictable menses. Such bleeding may occur at random times or may manifest in a predictable fashion at the same day in each cycle. This designation is designed to replace the word "metrorrhagia," which was one of the terms that the group recommended should be abandoned. The categories were developed based on the group recommendations described earlier; each was designed to facilitate the development of subclassification systems, as necessary. It was envisioned that the most straightforward parts of the system would be used at a primary care level and that the subclassifications would be most relevant at specialist and research levels.

The system has been approved by the FIGO Executive Board as a FIGO classification system.

There are 9 main categories, which are arranged according to the acronym PALM-COEIN (pronounced "pahm-koen"). PALM criteria:

Polyp (AUB-P) there seems to be little controversy regarding the inclusion of endometrial and endocervical polyps. These epithelial proliferations comprise a variable vascular, glandular, and fibromuscular and connective tissue. Component and are often asymptomatic, but it is generally accepted that at least some contribute to the genesis of AUB.

Adenomyosis (AUB-A) generally, these criteria have been based on histopathology evaluation of the depth of "endometrial" tissue beneath the endometrial–myometrial interface, as determined via hysterectomy.

Leiomyoma (AUB-L) Benign fibromuscular tumors of the myometrium are known by several names, including "leiomyoma," "myoma," and the frequently used "fibroid." "Leiomyoma" is generally accepted as the more accurate term and was selected for use in the present system.

Malignancy and hyperplasia (AUB-M) Although relatively uncommon, atypical hyperplasia and malignancy are important potential causes of, or findings associated with, AUB and must be considered in nearly all women of reproductive age

Coagulopathy (AUB-C) The term "coagulopathy" encompasses the spectrum of systemic disorders of hemostasis that may be associated with AUB. Highquality evidence demonstrates that approximately 13% of women with HMB have biochemically detectable systemic disorders of hemostasis, most often von Willebrand disease.

Ovulatory dysfunction (AUB-O) Ovulatory dysfunction can contribute to the genesis of AUB, generally manifesting as a combination of unpredictable timing of bleeding and variable amount of flow (AUB), which in some cases results in HMB

Endometrial (AUB-E) When AUB occurs in the context of predictable and cyclic menstrual bleeding, typical of ovulatory cycles, and particularly when no other definable causes are identified, the

mechanism is probably a primary disorder of the endometrium

Iatrogenic (AUB-I) There are several mechanisms by which medical interventions or devices can cause or contribute to AUB (AUB-I). These include medicated or inert intrauterine systems and pharmacologic agents that directly impact the endometrium, interfere with blood coagulation mechanisms, or influence the systemic control of ovulation.

In general, the components of the PALM group are discrete (structural) entities that can be measured visually with imaging techniques and/or histopathology, whereas the

COEIN group is related to entities that are not defined by imaging or histopathology (non-structural).

The term “DUB,” which was previously used as a diagnosis when there was no systemic or locally definable structural cause for AUB, is not included in the system and should be abandoned, per the agreement process. Women who fit this description generally have 1 or a combination of coagulopathy, disorder of ovulation, or primary endometrial disorder—the last of which is most often a primary or secondary disturbance in local endometrial hemostasis. Abnormal uterine bleeding associated with the use of exogenous gonadal steroids, intrauterine systems or devices, or other systemic or local agents is classified as “iatrogenic.” A category of “not yet classified” was created to accommodate entities that are rarely encountered or are ill-defined. For the “malignancy and hyperplasia” group, it is proposed that malignant or premalignant lesions (e.g. atypical endometrial hyperplasia, endometrial carcinoma, and leiomyosarcoma) be categorized as such within the major category, but further dealt with using existent WHO and FIGO classification and staging systems. The system was constructed recognizing that any patient could have 1 or several entities that could cause or contribute to AUB and that definable entities such as adenomyosis, leiomyoma’s, and endocervical/ endometrial polyps may frequently be asymptomatic and, therefore, not contribute to the presenting symptoms.

Juvenile Uterine Bleedings

Juvenile uterine bleedings (JUB) are referred to the most frequent pubertal gynecological disorders, their incidence reaches 10 %. Etiology and pathogenesis. JUB pathogenesis is based on the functional immaturity of the hypothalamic pituitary structures in the puberty, which declares itself in the absence of a formed circhoral rhythm of gonadoliberin secretion. This brings to a disbalance of gonadotropin production, and in consequence of that follicle maturing is disturbed, more frequently by the type of immature follicle atresia, and then comes anovulation.

The etiologic factors, which promote JUB development, are very versatile. An important role is played by chronic and acute infectious diseases, hypovitaminoses, psychic traumas, overload, which violate the functioning of the hypothalamo-pituitary-ovarian system. As a result, against the background of low estrogen level a couple of follicles begin to grow to the antral condition. Further development of the follicles is taking place under the action of FSH, whose cyclic production is violated in this case. Owing to this the follicles do not mature completely and undergo atresia (immature follicle atresia). At that, steroidogenesis in the ovaries is disturbed. In immature follicle atresia in the ovaries insufficient amount of estrogens is produced, but their long-term action on the endometrium leads to the development of hyperplastic processes. Anovulation results in yellow body absence, and that accordingly leads to progesterone deficit. Progesterone deficit conditions the absence of the secretory transformation of the endometrium. In case of follicle involution there arises

bleeding as a reaction to hormone decrease. Bleedings lead to anemia, which is the most marked in JUB.

Clinico-diagnostic criteria of JUB:

Bleedings last up to 20–30 days, but usually they are not that voluminous in comparison with follicle persistence. Bleedings are preceded by 2–3-month menstruation delay (usually lasting longer than in case of follicle persistence);

anemia;
anovulation;
functional diagnostic tests: hypothermic single-phase character of the temperature profile, the basal rectal temperature does not reach 37° C; pupil phenomenon "±" or "+";
the cariopicnotic index (CPI) in this pathology does not exceed 28–35 %;
pelvic ultrasound may show hypoplastic uterus or endometrium hyperplasia;
hormone research: low progesterone level in blood;

Dysfunctional Uterine Bleedings in the Premenopausal Period

DUB incidence in the premenopausal period makes 15 % in the structure of gynecological disorders. Etiology and pathogenesis. In most women of this age the main pathological mechanism of DUB is anovulatory dysfunction of the ovary with long-term follicle persistence. Long-term follicle persistence (2–6 weeks) with considerable menstruation delays (up to 1.5 months) followed by severe long-term bleedings is called metropathia hemorrhagica, or Shroeder's disease.

While JUB is a consequence of no steady cyclic function of the hypothalamo-pituitary-ovarian system, premenopausal bleedings are a consequence its involution disturbances. Age-related changes of the hypothalamic structures, which regulate the gonadotropin function, condition disturbance of the rhythm and amount of gonadotropins released. FSH formation and release prevail, the LH level also rises, acquires a monotonous character. The decrease of gonadotropin receptors amount in the ovaries leads to a disorder of the feedback mechanism. This is accompanied by disturbed folliculogenesis and anovulation.

Yellow body absence, decreased progesterone secretion lead to hyperestrogenism development (relative hyperestrogenism against the background of hypoprogesteronemia) and endometrial hyperplasia of different level. In consequence of endometrium growth and insufficient trophism there develop dystrophic changes of the endometrium, which declare themselves with thrombosis, necrosis and irregular desquamation accompanied by long-term bleeding.

Clinico-diagnostic criteria:

Profuse long-term uterine bleedings with delays up to 1.5 months. It should be noted that menstruation delay is observed in the period of follicle growth and persistence;
anovulation; - functional diagnostic tests: • hypothermal monophase temperature profile; • the pupil phenomenon, colpocytology study shows a higher degree of estrogen saturation than in short-term follicle persistence; • a higher CPI – 80–100 %;
gynecological examination and pelvic ultrasound show somewhat oversized uterus and endometrial hyperplasia;

Histological study of the endometrium scrape shows endometrial hyperplasia more often than at the childbearing age – glandular hyperplasia, endometrial polyps. In long-term bleeding accompanied by mucosa desquamation the scrape may be scanty, but secretion signs are also absent in it.

Treatment DUB is complex and depends on the character of the ovarian menstrual cycle irregularities, age, intensity and remoteness of the bleeding, the degree of anemia severity, the data of the laboratory methods of investigation, particularly hormonal status before the initiation of treatment. The treatment is provided in three stages:

1. Hemostasis.
2. Pathogenetic treatment aimed at rebreeding prevention (hormonal disorder correction, menstrual cycle restoration, or achieving menopause).
3. After treatment (recovery of the reproductive function in women of the childbearing age). Hemostasis (the 1st treatment stage). In order to achieve hemostasis one takes surgical, hormonal, and symptomatic measures.

Surgical hemostasis.

Hemostasis (the 1st treatment stage). In order to achieve hemostasis one takes surgical, hormonal, and symptomatic measures. DUB treatment at the childbearing and premenopausal age is begun with diagnostic and therapeutic dilatation and curettage of cervical and uterine mucous membranes. Under modern conditions surgical hemostasis may be conducted using the so-called little-invasive surgical procedures, which are applied under endoscopic control: cryodestruction, laser ablation, and thermal balloon ablation of the endometrium.

In JUB surgical hemostasis is carried out according to the following indications: - profuse uterine bleeding, which threatens the patient's life; - Hb 70 g/L and less, Ht below 25 %; - Suspected pathological changes of the endometrium structures (an endometrial polyp shown by pelvic ultrasound); - In patients with frequent rebreeding's and disease duration exceeding 2 years.

Hormonal hemostasis. For hormonal hemostasis one most often uses estrogens, gestagens and monophase combined estrogen-gestagen preparations, androgens, gonadoliberin agonists, gonadotropin antagonists. The choice of preparations depends on the pathogenetic variety of DUB, the patient's age, and contraindications. The action of the preparations is based on the inhibition of pituitary gonadotropic hormones and maintenance of the steroid hormone concentration at a high level.

Monophase combined oral contraceptives (COCs) are used for hormonal hemostasis the most often. Hemostasis regimen: on the first day 1 COC pill per hour is administered up to 4–6 pills (at the age of 14–15 years – up to 3 pills), then the preparation dosage is reduced daily to 1 pill a day. The preparation is taken during 21 days.

Hormonal hemostasis with COCs is not provided in the premenopausal period. Estrogens have a quick and rather high hemostatic effect.

For hormonal hemostasis one may use preparations of natural estrogens (non-synthetic), for example, progynova (estradiol valerate), estraferm (17β-estradiol). These preparations are administered in the same way as oral contraceptives, but after hemostasis and intake of these preparations for 2 more weeks one should necessarily administer gestagens during 10 days.

Estrogens may be used for hemostasis at any age, but in the premenopausal period their use must be limited and conducted after a histological study of the endometrium. Gestagens have a hemostatic effect at the expense of influencing the endometrium transformation. They block proliferative processes and shift the endometrium into the secretory phase.

For hormonal hemostasis one uses gestagens of two classes: derivatives of 17-OH-progesterone (dydrogesterone – duphaston 10 mg twice a day, medroxyprogesterone acetate – Depo-Provera 200–400 mg i.m. once a week; 17- oxyprogesterone capronate 2 ml 12.5 % i.m., etc.) and derivatives of 19- nortestosterone (levonorgestrel, norgestrel, lynestrenol – orgametryl, norethisterone acetate – primalut-nor, norcalut – 10 mg twice a day, etc.). Unlike estrogen hemostasis, gestagen introduction does not produce a quick bleeding arrest. In 1–2 days after the cessation of gestagen action there is always noted intensive bleeding of the menorrhagia type. Taking into account the ability of gestagens to cause endometrium atrophy and central effect inhibition in the juvenile age, it is not advisable to administer them at this age.

For hormonal hemostasis one may also use antagonists of pituitary gonadotropic hormones: - danazol (danoval, danogen, danol) – 200–400 mg/day, treatment duration makes 3–6 months; - gestrinone (nemestran) – 2.5 mg twice a week during 6 months, etc.

DUB may also be treated with gonadoliberin agonists: - goserelin (zoladex) – 1 injection (3.6 mg) during 28 days subcutaneously; - triptorelin (decapeptyl, dipherelin) – 3.75 mg i.m. once in 28 days. It should be added that androgen hemostasis is resorted to very rarely nowadays because of numerous contraindications and also in connection with pronounced virilization effects. One should remember that administration of hormonal treatment in teenager girls requires special caution and systematic control of the hormonal status of the organism with 3–6-month intervals. The doses of hormonal preparations in the period of menstrual function formation must be rationally limited. In girls one may use estrogens or combined estrogen-gestagen preparations for hormonal hemostasis. In all DUB types there are administered symptomatic hemostatic and uterotonics preparations. There is used sodium etamsylar, ε-aminocapronic acid, tranexamic acid, 10 % calcium chloride solution.

Among uterotonics preference is given to ergot preparations, since unlike oxytocin they do not cause tonic contractions of the uterus (methylergometryl).

The doctor also administers vitamin therapy, tinctures of nettle, water pepper, and buckthorn.

The 2 -nd treatment stage foresees recovery of the menstrual cycle and recurrent bleeding prevention. At this stage there are administered general health improving preparations, hemostimulating and vitamin therapies are continued. Hormonal correction is carried out depending on the patient's age and is determined by the defined goal (menstrual cycle recovery, pregnancy planning, or menopause onset). At this stage gestagens and COCs are used more often. The 2 -nd treatment stage is aimed at the recovery of the reproductive function in women of the childbearing age. When the rhythmical menstrual cycle is recovered, ovulation is induced with the application of direct (clomiphene, anestrozol, letrozol) and indirect ovulation inductors (gonadoliberin agonists, recombinant gonadotropins, human menopausal gonadotropins, etc.).

**3.Formation of professional skills and practical abilities.**

1. 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.

2. 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.

## TOPIC 4

## " Neuroendocrine syndromes in Gynaecology. "

**Purpose:** 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 (list of questions):** 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.).

**Theoretical questions for the lesson:**

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.

**Plan:**

**1.Knowledge control.**

1. Typical symptoms of disease Cushing:

   A. Moon face.

+ B All of the above

C. Array purple color.

D. Pituitary obesity.

E. Hirsutism.

2. Neyroendokrinnymy syndromes 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. retrotservikalnogo 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.

**2.Discussion of theoretical questions.**

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 ovulary 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) hypophisoptopic 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 hypofuntion 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 scull 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 hypophysotrophic 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. Diett 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 lypogenesis 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 neuromediatory 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. Bromcryptin (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 hypofuntion of frontal part of hypothesis 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 hypothesis, which follow the revulsion, intravascular coagulation in the frontal part of hypothesis 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 hypothesis ischemia. Clinical manifestations of Sheehan's disease directly depend on the level of hypothesis injury level. A lot of sientists consider a marked disease to develop if 80% of adenohypotheysis tissue is damaged. But in several cases post-mortem examination showed about 5mm of hypothesis 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 pituitairism, and post-mortem examination showed only slight injury of hypothesis.

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 ТТН, gonadotropin, АКТГ. The course of the disease may be slight or severe;

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

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

Kalinichenko and co-authors (1987) consider three forms of syndrome necessary to be distinguished: light, average and severe. Light form is characterizes 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 – КС 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 anticorticotropic 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 hormonotherapy is recommended to women before 40. After 40 androgens are used, due to their anabolic effect: methyl testosterones 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-I0

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 - coffeincontaining 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-I0-15mg; 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. **Formation of professional skills and practical abilities.**

**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?

**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?

**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?

## TOPIC 5

### " Benign tumours of the female reproductive organs. Endometriosis. Breast formation."

**Purpose:** is to acquaint the students with the issues of clinics, diagnostics and treatment of benign tumors of the female genitalia.To know the classification of kinds of benign tumors of the female genitalia. To acquaint the students with the issues of clinics, diagnostics and treatment of endometriosis.

**Basic concepts (list of questions):** Now there is a significant increase in the incidence of fibroids. Thus, the incidence of all, who goes to the clinic amounts to 15-17%. In recent years become common cases of uterine cancer disease in women of childbearing age (30-35 years). Increased incidence of uterine cancer bind with the influence of environmental factors, work svyazanoy hazardous production factors, neuropsychiatric surge.Sered tumors of the female genital tumors of the ovaries is second only to cervical cancer. The diversity of the structure and origin of ovarian tumors due to their participation in the structure of different histological structure, origin and embryogenesis cells with different hormone and secretion.

Endometriosis is marked in 7-50% of menstruating women, during menopause it does not always regress and in 1-2% of the cases it continues as malignant. The frequency of recurrence of

endometriosis changes from 2% up to 47%. At the same time, endometriosis in healthy women is observed in 5-20% of the cases and in more than 60% of patients with infertility and\or pelvic pains.

**Theoretical questions for the lesson:**

1. Definition of cyst and tumor of ovary.
2. Cyst of Bartholin gland: clinics, diagnostics, complications, treatment.
3. Tumor-like masses in ovaries: clinics, diagnostics, complications, treatment, tactics of GP.
4. Benign tumors of ovaries (epithelial, tumors of genital cord stroma, lipid-cellular, germ cell tumors): clinics, diagnostics, complications, treatment, tactics of GP.
5. Benign tumors of uterus: clinics, diagnostics, complications, treatment, indications to surgical treatment, tactics of GP.
6. Endometriosis: etiology, pathogenesis, classification, clinics, diagnostics, modern treatment methods, tactics of GP, methods of rehabilitation of reproductive function.

**Plan:**

**1. Knowledge control.**

1. If necessary, determine the cervical canal, uterine cavity length, presence of tumor in it, use:
   A. Cervical Biopsy
   B. colposcopy
   C. laparoscopy
   + D. Sounding the uterus
2. Benign tumor of epithelial tissue:
   A. fibroma
   B. Hidradenoma
   C. Lipoma
   + D. Papilloma
   E. Carcinoma
3. In '40 women during routine inspection at a bimanual examination revealed a tumor of the ovary. The disease is not accompanied by clinical manifestations. What additional methods are needed to confirm the diagnosis?
   + A. Ultrasound examination of the pelvis
   B. Functional diagnostic tests
   C. Pnevmoperitoneohrafiya
   D. Measurement of basal temperature
   E. Puncture the abdominal cavity through the posterior vaginal vault
4. Urhent received patient complaining of acute abdominal pain that arose during exercise, fever, general weakness. From history we know that during the medical examination revealed a tumor of the ovary left. Objectively: skin pale, pulse 120 beats / min., BP 90/60 mm Hg When bimanual and ultrasound in tumor appendages found. In Douglas space defined by a large amount of free fluid. What is the possible diagnosis?
   A. Polycystic ovarian disease
   B. Impaired tubal pregnancy
   C. Torsion stem tumor of the left ovary
   + D. Rupture of ovarian cysts
   E. Apoplexy left ovary

5. The patient '30 complaining of pain in the left iliac region, which began after the sudden movements 5 hours ago. Menses 3 weeks ago. Palpation stomach pain in the lower, more to the left. Symptom Pasternatskogo negative on both sides. The uterus is a normal size, anteflexio, displacement occurs when pain in the left appendages. Right appendages are not clearly palpable. To the left of uterine tumor formation is determined sharply painful on palpation. The most likely diagnosis?

+ A. Torsion legs cystoma left ovary
B. Ectopic pregnancy
C. Left-sided renal colic
D. Necrosis subserous fibromatous unit
E. Apoplexy left ovary

2. **Discussion of theoretical questions.**

Ovarium is place, where mass lesions occur very often, and as a rule its growth is connected with physiological cysts or tumors.

Classification you can find in your text-books. Turn your attention to the functional cysts of ovarium: follicular cysts and corpus luteum cyst.

Follicul becomes cystic as an answer to the stimation of gonadotropin hornomes. If ovulation didn't happen as a rule takes place atresia of follicle. Follicular cyst appears when ripe follicul doesn't burst open and thus ovulation cannot take place. Such state slows follicular phase of the cycle and can lead to oligomenorrhea and secondary amenorrhea.

If the cyst in ovarium is lesser than 2 cm it is called cystic follicle, if it is bigger than 2 cm it is called follicular cyst.

As a rule there are no symptoms and follicular cysts involute by themselves during 2 months.

But follicular cysts can also grow up to 5 cm and more and cause mild stomach ache and interrupt menstrual cycle.

Apoplexia of follicular cyst is a severe complication that causes acute pain in abdomen and clinical picture of acute abdomen. The patient needs emergency surgery.

Corpus luteum cysts appear after ovulation if there were no regression of corpus luteum during lutein phase of the cycle. Clinical picture: menstruation delay from a couple of days to a couple of weeks, menstrual blotesque and pain in the low regions of abdomen. (here we should have differential diagnosis with gravidas extra uterine – ectopic pregnancy).

Corpus luteim cysts can also grow until spontaneous hemorrhage under cystic capsule takes place.

Diagnostics:

bimanual examination

ultrasound

DIAGNOSTICS

From anamnesis data diagnostic meaning have:

Indications on disease origin after pathologic (operative) delivery, artificial and involuntary abortions, which ended with endometrectomy, diagnostic endometrectomy, other intrauterine intervention or diathermo-coagulation of uterus neck;

Character of pain syndrome, increment of it before and during menstruations;

Unsuccessful long treatment of inflammatory diseases of internal genital organs;

Origin of increase cyclic pain syndrome in juvenile and girls, which appeared after menstruation start;

Abnormality of menstrual function by metrorrahia type, pre and post menstrual bloody discharges;

Sterility with pain syndrome, which is cyclic type.

Bimanual examination before and in first days after menstruations admit palpation of sacral-uterus ligament and retrouteral area. Some informative importance can have uterus and it uterine appendages increase, especially under expressed affection by endometriosis. Under palpation of sacral-uterus ligaments and retrouterine area. Profundus endometriosis can be suspected under presence one of three signs: under revealing nodes which were palpated during gynaecological examination; - local sensitivity during gynaecological examination; - node palpation can be provide only under anesthesia.

Transvaginal and transabdomilan USD which is done with the next days before menstruation detected pathognomicsigns of internal endometriosis:

Appearance in myometrium separated parts with increased echogenicity;

Crenation and irregularity of the endometrium basal layer;

Dominant increase of frontal-back uterus size and non-central thickening one of its walls;

Presence in increased echogenicity zones anechogenic inclusions diameter 2-5mm and also liquid cavities diameter 6-33mm, which contain highly dispersed suspension;

Increased echogenicity in zone of frontal front of formation and reduction – in distant area;

Detection of closely situated raised and decreased echogenicity lines, which are situated perpendicularly to scan area;

Hysteroscopy is done on 5-7th day of menstruation cycle. Under abnormality – in any day before and after diagnostic curettage and let us determine next criteria: dilatation of gland excretory ducts; uneven, tuberosity of uterus cavity walls; endometriosis “goggles”, wide sinus tracts; multiple dilated gland ducts in all walls of uterus cavity.

Laparoscopic visualization of the pelvis is done at second part of the cycle, but not later than 3-4th day before menstruation. Patognomonic signs of endometriosis are presence of hemorrhagic exudates in abdominal cavity and revealing of foci on small pelvis peritoneum. Typical signs are black foci (“gunpowder burns”), white scars, red polypoid transparent or brown foci and also star-shaped damages, surrounded red-blue implants on ovaries or peritoneal surfaces of uterus, urine bladder or small intestine. Atypical endometriosis was described like pure vesicles, pink implants or white-erythematous areas on all abdominal cavity. During laparoscopy is recommended biopsy of

any visible pathologic centers, further display of foci on picture-scheme and final verification of diagnosis under histological examination of biopsy material.

X-ray and MR-image can be used after USD for more exact diagnostic, differential diagnostic of endometrioid cysts from other tumor-like formations of small pelvis organs. Under internal endometriosis are observed: increased sizes of uterus, mostly in frontal-back line, roundedness of its form and determination in myometrium anomaly zones of single or multiply foci with low intensity and different sizes. This method let us diagnose diffusive, node-like forms, and also stage of disease extension.

Hysterosalpingography can be done on 5-7th cycle day, under this can be observed increase of uterus sizes, contrasting substance situates beyond uterus cavity circuit, and shadows of heterotypes look like tubules, lacunas, diverticulum (internal endometriosis).

Colposcopy can be done by standard method in 2 phase of the cycle – foci were covered with multilayer flat epithelium blue-red color, have hemisphere form, in the place of outpouching of thin epithelium is situated foramen, from which flows dark blood.

Also examination of the patients with endometriosis must contain estimation of hormone level in blood serum and examination of immune status.

That’s why, endometriosis must be supposed in any patient with clinic triad: dysmenorrhea, dyspareunia and sterility. First choice diagnostic must be laparoscopy with histological examination of the tissue sampling.

TREATMENT

Treatment of endometriosis is presented with two variants - hormonal therapy and operative intervention. Combined treatment - operative and conservative, including hormonal, in various combinations is most justified. Medicamentous treatment, mainly, is based on hormonal therapy with use of a whole spectrum of sexual steroids, used independently or in combination, and directed, on the elimination of pain and an increase of fertility.

Age features of endometriosis, its maximal development during the reproductive age and frequent reduction of displays of the disease during postmenopause, and also a decrease of the semiology during pregnancy, allow to formulate some preconditions to hormonal treatment. The effects of sexual steroids on the tissue of the endometrium are presented in table 3. You should not forget the basic property of the cells of the endometrium: they can persist on the background of hyperestrogenia, but after the influence of gestagen the cells die, as though having executed their function.

Effects of sexual steroids on the tissue of the endometrium

According to the data from literature, the only valid indications for hormonal therapy are pelvic pains. Thus, the main principle should be treatment of the patient, instead of the disease. In each case of the use of hormonal preparations, a small number of the patients, who do not react to the therapy, exist. The latter is explained by a distinct difference between the level steroids in the blood serum and the levels of steroid receptors, and also the degree of differentiation of tissue of the endometrioid foci. In the case of inefficiency of the given method of hormonal influence, there is reason to "switch" to another. In each case it is important to choose the suitable preparation having the minimum amount of side-effects, being the least dangerous to the patient and being inexpensive.

Therapy of the future is oligonucleotide therapy during which there is an opportunity to switch off separate paracrine factors.

Data from some researches have shown that GRG-analogues, danasol and provera are equally effective. The complexity of choosing a specific hormonal preparation can consist of the fact that the marketing for some preparations is very aggressive. Gradually combined estrogen-gestagen preparations are excluded from the therapy of endometriosis, because high-dosed preparations are necessary, which can cause severe metabolic and system disorders.

Monotherapy with gestagen – norsteroids (norcolut) is quite often cancelled and are not used because of the side androgen effects. Medroxyprogesteron-acetate is widely used; in a dose of 100-200 mg (I injection) can cause amenorrhea for 3 months and more. The basic problem during treatment with Provera, depot-Provera - long restoration of the menstrual cycle. The mechanism of action of gestagen during endometriosis is insufficiently clear, therefore further supervision is required.

Serious side-effects frequently limit the use of danasol: increase in body weight, increase in the atherogenic index, decrease in the sizes of the mammary glands, hypertrophy of the clitoris, emotional lability, acne, congestions, lowering of the voice timbre, increase in appetite, spasms of the skeletal muscles, retaining liquid, headaches, and also atherosclerotic affection of the heart and liver damage.

With the appearance of analogues of GnRG, the spectrum of the therapeutic influence has expanded. Their one-time introduction stimulates the excretion of gonadotropic hormones of the hypophysis with subsequent increase of steroidogenesis in the ovaries. With repeated introduction of the preparations, the reaction to the stimulation gradually decreases, in 3-4 weeks it results in a weak secretion of gonadotropic hormones of the hypophysis with subsequent suppression of the formation of sexual hormones and inhibition of the function of tissue, viability which depends on the influence of sexual hormones.

Zoladex is 100 times more active than native GnRG, decapeptil - 36 times, buserelin - 50 times. These preparations are not prescribed orally, because they are easily broken down to inactivation in the gastrointestinal tract.

The majority of side-effects of agonists are caused by the development of hypoestrogen conditions: congestion, hyperhidrosis, headache, dryness of the vagina, mood changes, depression and so forth. During the duration of the treatment 6-8 months, a decrease in the density of bone tissue by 6-7% is marked. By limited data, it is possible to assume, that insignificant restoration occurs during 12 months after the treatment is finished. It is known, that the risk of breaks increases with the loss of bone weight of more than 10%.

Taking into account the presence of changes in the hormonal status and disorders of cerebral, vegetative, and emotional mechanisms in patients with endometriosis, it is necessary to individualize the choice of this or that sexual steroid by taking into consideration the following supervisions. Analogues of LH-RH increases the processes of internal synchronization in the CNS, reduces the tone and reactance of the sympathico-adrenal part of the VNS, both for the account of the neuromediator, and due to the hormonal parts. Gestrinon, danoval provide less expressed influences on the VNS, in some patients on the background of treatment some increase in the tone and reactance of the VNS is marked. These preparations provide activating influence on the CNS, reducing the processes of synchronization on the EEG. Therefore, with the inclination for hypotonia

and bradycardia, the presence of mixed crisis or vagoinsular, unconscious conditions in a stuffy room or transport in the anamnesis, an increase in the activity of the synchronizing structures of the brain stem, the presence of paroxysmal activity and epileptoid signs or data on convulsive attacks in the past or epilepsy should not be prescribed analogues LH-RH; in these cases it is more preferable to use gestrinon or danoval. On the contrary, in patients with inclination for tachycardia or increase in BP, presence of EEG with attributes of medium-stem dysfunction, the use of analogues of LH-RH is more preferable, than gestrinon or danoval.

The positive about using sinarela is the simplicity of use of endonasal insufflations and the opportunity of fast cancellation, insignificant influence of the preparation on metabolism, absence of virilizing actions, and restoration of the menstrual cycle after fininshing the treatment. However absorption of the preparation varies individually. Besides, infection in the nasopharynx, colds and so forth can cause insignificant absorption of the preparation, as a result it should be cancelled.

For the syndrome of chronic pelvic pains, accompanying varicose veins of the pelvis, there is experience in the use of gestrinon 2,5 mg twice a week for 6 months. In parallel, patients receive disaggregation therapy: teonicol 0,15 x 3\day for 1st week, 2 tablets a day for the 2nd week, 1 tablet a day for the 3rd week, 2 tablets a day for the 4th week. In addition, aspirin at a dose of 250 mg in 48 hours for the 4 weeks is prescribed.

Today, regimes for additional use of replaceable hormone therapy (natural hormones) are being developed in case continuations treatment with agonists is needed. With this purpose, estradiol-valeriat (1 mg a day) or premarin (0,3-0,625 mg a day) for 3 weeks with addition gestagen for the last 10 days (acetomepregenol - 5 mg a day or provera - 5 mg a day) is recommended. This treatment can be prescribed 6-8 weeks after the beginning of treatment with agonists. There are also indications of a positive effect of adding only depot-Provera at 10 mg a day for 7 days after every 4-week course of treatment. This can promote a decrease in the frequency of vegetovascular symptoms and the prophylactics of osteoporosis.

Conservative medicamentous complex also includes preparations of calcium, ascorutin, iodine - containing preparations, hepato-protectors, immunomodulators.

Surgical treatment is presented by electrocoagulation and laser vaporization of heterotopia, cryoendoscopic influence, if indicated – laparotomy in this or that volume.

3.**Formation of professional skills and practical abilities.**

1. Urhent received patient complaining of acute abdominal pain that arose during exercise, fever, general weakness. From history we know that during the medical examination revealed a tumor of the ovary left. Objectively: skin pale, pulse 120 beats / min., BP 90/60 mm Hg When bimanual and ultrasound in tumor appendages found. In Douglas space defined by a large amount of free fluid. What is the possible diagnosis?

2.The patient '30 complaining of pain in the left iliac region, which began after the sudden movements 5 hours ago. Menses 3 weeks ago. Palpation stomach pain in the lower, more to the left. Symptom Pasternatskogo negative on both sides. The uterus is a normal size, anteflexio, displacement occurs when pain in the left appendages. Right appendages are not clearly palpable. To the left of uterine tumor formation is determined sharply painful on palpation. The most likely diagnosis?

3. In mothers 40 years with full-term pregnancy and izlivshimisya 8 hours ago amniotic fluid in the vaginal examination revealed myoma node, which comes from the front wall of the lower uterine segment, performing pelvic cavity. Above the head node is highly fetus. Made of delivery by caesarean section followed by hysterectomy without appendages. What was the determining factor in choosing the tactics of delivery and amount of surgery done?

4. The patient '38 years with complaints of recurring pain in the abdomen, left over. Menstrual function is not impaired. In patients with chronic inflammation of the uterus, treated as outpatients. Uterus in antefleksii not enlarged, painless; right appendages are not defined, palpable left ovoidnoy forms of education 10 x 12 cm with a smooth surface texture tuhoelastichnoyi, movable, painless smooth; deep vault; mucus. What is the most likely diagnosis?

5. The patient '38 years with complaints of recurring pain in the abdomen, left over. Menstrual function is not impaired. In patients with chronic inflammation of the uterus, treated as outpatients. Uterus in antefleksii not enlarged, painless; right appendages are not defined, palpable left ovoidnoy forms of education 10 x 12 cm with a smooth surface texture tuhoelasticheskoy, movable, painless smooth; deep vault; mucus. What research shows an outpatient basis?

## TOPIC 6

### "Precancerous diseases of the female reproductive organs. "

**Purpose:** among the persistent problems are questions of practical gynecology careful selection of patients with an increased risk of cervical cancer and monitoring of their condition as cervical cancer is the second place in the structure of cancer incidence in women, it also accounts for 60% of cancer incidence among sex organs.

**Basic concepts (list of questions):** in the structure of oncologic sickness rate, tumours of the female genitals make up 20-30%. The data, published by the Committee on cancer of the International Federation of Obstetrians-Gynecologists, confirms that among the revealed patients the 1 stage was determined only in 20%, the other 80% of patients consulted the doctor with more widespread stages of the process, when radical treatment is fraught with many relapses and metastases or is in general impracticable. For the initial stages of cancer treatment results in recovery in 98-100% of the cases, in a part of the patients the generative function can be kept. Therefore, prophylactics of malignant tumours are a major actual problem of the public health services. In other words – an important contribution to solving the problem of malignant tumours of the genitals is made by active revealing and treatment of patients not only with early stages of malignant tumours, but also with benign tumours, and also with pretumorous diseases.

**Theoretical questions for the lesson:**

1. Classify and analyze clinical picture of precancerous and malignant diseases of female genital system.

2. Make plan of examination using modern methods of diagnostics, analyze data of laboratory and instrumental tests in precancerous and malignant diseases of female genitals and state preliminary diagnosis.

3. Conduct differential diagnostics of precancerous and malignant diseases of female genital system.

4. Determine tactics of patient management(principles of operative interventions and conservative treatment, rehabilitation measures) in precancerous and malignant diseases of female genital system.

5. Conduct prophylaxis of precancerous and malignant diseases of female genital system.

6. Perform necessary medical manipulations (inspection by means of mirrors).

**Plan:**

**1.Knowledge control.**

1. In the absence of effect of conservative treatment of endometrial hyperplasia polypous form shown application:

A. hormone
B. Phytotherapy
C. Physiotherapy
+ D. Surgical treatment
E. antispasmodics

2. Endometrial hyperplasia was observed in:

A. polycystic ovaries
B. ovary C. Teratomas Hranulezokletochnoy ovarian tumor
D. uterine fibroids
+ E. cervical erosion

3. The clinical picture of endometrial hyperplasia:

A. oligomenorrhea
+ B. Dysfunctional uterine bleeding
C. Pain
D. leukocyte shift to the left
E. Increase ESR

4. Endometrial polyposis often occurs:

A. In menopause
B. After birth
+ C. In menopause
D. During treatment with progesterone
E. After discontinuation of oral contraceptives

5. Do adenomatous polyps belong to precancerous endometrial?

+ A. So
B. No
C. Not always
D. Only in postmenopausal women only 30 years

**2.Discussion of theoretical questions.**

Tumors of the external genitalia - it neoplasms (growths of tissue lesions) in the vulva: vestibule, clitoris, large and small labia, large glands vestibule (Bartholin).

Background and precancerous diseases of cervix: classification.

I. Benign background processes:

- Dishormonal processes:

1. Ectopic columnar epithelium (endocervicoses, glandular erosion, pseudo): simple, proliferate epidermiziruyuschaya.

2. polyps (benign growths polipopodobnye): simple; proliferating; epidermis-ziruyuschie.

3. Benign Area of transformation: the unfinished and finished.

4. Papillomavirus.

5. Endometriosis cervix.

- Post-traumatic processes:

1. Gaps of the cervix.

2. ectropion.

3. scarring of the cervix.

4. cervical-vaginal fistulas.

- Inflammation:

1. True erosion.

2. Cervicitis (exogenous and endocervicitis): acute and chronic.

II. Precancerous conditions:

- Dysplasia.

1. Simple leukoplakia.

2. Fields of dysplasia: multilayered squamous epithelium; metallazirovannogo prismatic epithelium.

3. Papillary area of transformation: multilayered squamous epithelium; metaplazirovannogo prismatic epithelium.

4. Precancerous transformation zone

5. Warts

6. Precancerous polyps

1.leukoplakia with atypia cells

2.erythroplakia

3. adenomatosis

III. Cervical cancer

- Pre-clinical forms:

1. proliferating leukoplakia.

2. Fields atypical epithelium.

3. Papillary transformation zone.

4. atypical transformation zone.

5. Zone atypical vascularization.

6. Cancer in situ (intraepithelial, stage 0).

7. Microcarcinomas (stage I A).

Clinical forms of cancer: exo, endophytic mixed.

Hyperplastic processes of endometrium: etiology, pathogenesis, classification, modern methods of diagnostics, management tactics, treatment principles.

Endometrial hyperplasia - a benign pathology of the endometrium, which develops in the absolute or relative hyperestrogenism.

Etiology

Risk factors for endometrial hyperplasia include:

• menstrual disorders by type of anovulation;

• a history of infertility;

• obesity;

• diabetes;

• insulin resistance;

• hereditary tendency (tumors of the ovaries, uterus, breast, colon).

Pathogenesis. The basis of the formation of endometrial hyperplasia are ovulation disorders that occur on the type of persistence or follicular atresia. The lack of ovulation is accompanied by a loss of luteal phase MC. Reduced levels of progesterone and as a result, no cyclic secretory transformation in the endometrium results in the fact that as a result of a significant increase in the level of estrogen and / or with the prolonged influence of the proliferative changes in the endometrium.

Morphologically hyperplastic processes in the endometrium aggravation and dive into the underlying layers of epithelial tissue.One morphological criteria for different forms of endometrial hyperplasia is the nature of the iron.

Simple neatipichnaya hyperplasia - an increase in the number of both glandular and stromal elements, with a slight predominance of the first - is characterized by the following features:

• Increase in the volume of the endometrium;

• structural differences from normal endometrium - active glands and stroma, glands are located unevenly, some cystic dilated;

• a balance between the glands and stroma proliferation;

• uniform distribution of blood vessels in the stroma;

• lack of atypia of the nuclei.

Integrated neatipichnaya hyperplasia - the close location of the glands distributed or focal character. She characterized by:

• more pronounced proliferation of glands;

• cancer structurally irregular shape;

• imbalance between proliferation of glands and stroma;

• more pronounced multicore epithelium;

• lack of atypia of the nuclei.

Simple atypical endometrial hyperplasia - the presence of atypia cells glands - manifested loss of polarity and location of unusual configuration of nuclei, often acquiring a rounded shape. The nuclei of cells in this type of hyperplasia - polymorphic, and they often allocated large nucleoli. The characteristic features of cell atypia:

• Cell dispolyarnost;

• wrong stratification cores;

• Anisocytosis;

• giperhromatizm cores;

• an increase of nuclei;

• Expansion of vacuoles;

• eosinophilia of the cytoplasm.

Complex atypical endometrial hyperplasia is characterized by the proliferation of epithelial component expressed as in the complex neatipichnoy hyperplasia, which is combined with the tissue and cellular atypia without invasion of the basement membrane of glandular structures. Iron loses usual for normal endometrium regularly spaced, they are very diverse in size and shape. The epithelium that lines gland, consists of large cells with polymorphic, rounded or elongated nuclei with impaired and multi-polarity of their location.

Classification

I. Simple atypical endometrial hyperplasia

II. Complex atypical endometrial hyperplasia

III. Simple atypical endometrial hyperplasia

IV. Complex atypical endometrial hyperplasia

V. Adenocarcinoma

Diagnostics

Physical methods of research

• Poll - characteristics of menstrual dysfunction; During menopause; of history - heredity (the presence of tumors in the family), infertility.

• General inspection - the presence of anemia, signs of obesity.

• Deep palpation of the abdomen - pain.

• Examination of the external genitalia.

• Inspection of the mirrors.

• bimanual gynecological examination - mobility, pain, size, texture of the uterus.

Laboratory methods

• determination of blood group and Rh factor;

• CBC - signs of anemia;

• general urine analysis;

• determine the level of sugar in the blood - the presence of diabetes;

• biochemical blood;

• bacterioscopic analysis of discharge;

• hormone kolpotsitologiya;

• cytology aspirates and swabs from the uterine cavity (can be used to monitor the ongoing conservative therapy).

Instrumental methods

1. US (transabdominal, transvaginal preferable, doppler)

2. Fractional diagnostic curettage.

In the presence of indications:

• Hysteroscopy (visualization of pathological changes of the endometrium, their localization, the ability to perform intrauterine surgery using electricity, cryo or laser surgery);

• endometrial biopsy;

• X-ray examination (hysterosalpingography and bikontrastnaya gynecography - now rarely used).

Treatment

Pharmacotherapy

Treatment begins with a separate treatment and diagnostic curettage walls of the uterus and cervix.

The mainstay of treatment of endometrial hyperplasia is a hormone therapy.

Hormone therapy is conducted in conjunction with other methods of pathogenetic therapy

Surgery

Indications for surgical treatment of patients with endometrial hyperplasia

In reproductive age:

• complex atypical hyperplasia in the absence of effect of conservative treatment after 3 months;

• simple and complex atypical hyperplasia neatipichnaya in the absence of effect of conservative treatment at 6 months.

When neatipichnyh forms of endometrial hyperplasia, especially in women of reproductive age, it is advisable to use hysteroscopic resection or ablation of the endometrium, while atypical - preference is given to a hysterectomy.

At menopause:

• complex atypical hyperplasia - at diagnosis;

• simple and complex atypical hyperplasia neatipichnaya - in the absence of effect of conservative treatment after 3 months.

Prevention

To prevent the development of cervical pathology are necessary:

- Prevention, timely diagnosis and treatment of inflammatory processes of genitals;

- The timely correction of hormonal and immune homeostasis;

- Promotion of a culture of sexual relations;

- Prevention of abortions (rational contraception);

- To give up smoking.

Women need to know that the symptoms of cervical disease are scarce and inexpressive. They can be found in a timely manner to resolve the issue of the necessary treatment only for the regular observation of the gynecologist!

3. **Formation of professional skills and practical abilities.**

1.The patient '38 years with complaints of recurring pain in the abdomen, left over. Menstrual function is not impaired. In patients with chronic inflammation of the uterus, treated as outpatients. Uterus in antefleksii not enlarged, painless; right appendages are not defined, palpable left ovoidnoy

forms of education 10 x 12 cm with a smooth surface texture tuhoelastichnoyi, movable, painless smooth; deep vault; mucus.

What is the most likely diagnosis?

2.The patient '38 years with complaints of recurring pain in the abdomen, left over. Menstrual function is not impaired. In patients with chronic inflammation of the uterus, treated as outpatients. Uterus in antefleksii not enlarged, painless; right appendages are not defined, palpable left ovoidnoy forms of education 10 x 12 cm with a smooth surface texture tuhoelasticheskoy, movable, painless smooth; deep vault; mucus.

What research shows an outpatient basis?

3.The patient ' 38 years with the complaint ¬ we have to recurring pain in the abdomen, left over. Menstrual function is not impaired. In patients with chronic inflammation of the uterus, treated as outpatients. Uterus in antefleksii not enlarged, painless; right appendages are not defined, palpable left ovoidnoy forms of education 10 x 12 cm with a smooth poverhnioyu, tuhoelasticheskoy texture, movable, painless smooth; deep vault; mucus.
Prenatal doctor's tactics?

## TOPIC 7

### " Inflammatory diseases of the female reproductive organs."

**Purpose:** inflammatory diseases of the female genitals with a specific etiology are the most widespread infectious diseases. By statistics, they affect more than 5% of the population, more than 20% of teenagers and 20% of women of the reproductive age. The frequency of tuberculosis of the genitals is 8-20% in the general structure of inflammatory diseases of the female genitals.

**Basic concepts (list of questions):** the rate of inflammatory diseases is over 60% of all gynecologic diseases and about 30% patients of female hospitals have the inflammatory processes of genital organs.Especially the quantity of the inflammatory diseases has enlarged because of the increased sexual activity at the young age, permissive sexual attitude, prostitution. Those at the highest risk are young unmarried women with multiple sex partners. Primarily inflammatory diseases affect human fertility because of infections of the female upper genital tract and their sequel. Women with persistent virus infection are at particular risk for cervical dysplasia and intrauterine fetal death.

**Theoretical questions for the lesson:**

1. General symptomatics of gynecological pathology.
2. Definition of vaginal microbiocenosis.
3. Bacterial vaginosis: etiology, clinics, diagnostics, treatment.
4. Inflammatory diseases of female genitalia: classification, etiology, pathogenesis. Age peculiarities of processes.
5. Inflammation of external genitals and vagina (vulvitis, bartholinitis, vaginitis): clinics, diagnostics, treatment.
6. Inflammation of internal genitals (endocervicitis, endometritis, adnexitis, parametritis, pelvioperitonitis): clinics, diagnostics, treatment, tactics of GP.

7. Treatment of patients with purulent tuboovarian mass, tactics of GP.
8. Indications to surgical treatment of inflammatory diseases of female genitals.
9. Sexually transmitted diseases (trichmoniasis, gonorrhea, ureaplasmosis, micoplasmosis, chlamidiosis, viral diseases): tactics of GP upon reveal of STDs.
10. Genital candidosis: clinics, diagnostics, treatment.
11.Genital herpes: clinics, diagnostics, treatment.
12. Trichomonosis: clinics, diagnostics, treatment.
13. Ureaplasmosis: clinics, diagnostics, treatment.
14. Chlamidiosis: clinics, diagnostics, treatment.
15. Rehabilitation of patients after inflammatory diseases of female genitals.

**Plan:**

**1.Knowledge control.**

1. Patient '18 addressed with complaints of itching in the vagina, increasing emissions. Sick 3 days. On the eve suffered anhynu, treated with antibiotics. OBJECTIVE: peredvirrya vagina, small and large labia swollen, congested. The mucosa is congested, swollen, covered with white bloom that is easily removed. Whites in large numbers, white, thick "syrkopodibnoho character." The uterus and appendages normal. Possible diagnosis?

A. Trihomonadnyy vaginitis
B. Acute gonorrhea
+ C. Kandidamikoz
D. Genital Herpes
E.Chlamydia

2. Male 35, not married, turned to the gynecologist with complaints to the emergence discharge hnoyevydnoho nature, frequent urination, pain during urination and itching in the urethra that appeared on day 5 after casual sex. OBJECTIVE: swelling urethral sponge hyperemic, discharge from the urethra hnoyevydnoho character. What is the preliminary diagnosis?

A. Hardnerelez
B. Chronic gonorrheal urethritis
Chlamydia C.
+ D. acute gonorrheal urethritis
E. ureaplasmosis

3. Female 18 years appealed to the gynecologist with a desire screened for chlamydia. What is a "gold standard" in the diagnosis of urinary
chlamydia?

A. ELISA.
B. PCR.
C. Tsytolohychnyy.
D. Serological.
+ E. The culture.

4. Male '28 complained of watery vaginal discharge with a foul fishy smell. Microscopy discharge from the genital tract has found the key cells. Amine test positive. Your diagnosis?

+ A. bacterial vaginosis.
B. trichomoniasis.
C. Gonorrhea.
D. Candidiasis.
E. Chlamydia.

5. Male 27, who lives a sexually active life, complaining about the presence of numerous vesicles on the right sexual lip, itching and burning. The rash occasionally appear before menstruation and disappear in 8-10 days. The likely diagnosis?

A. Genital kondylomatoz.

B. Bartolini.

C. Primary syphilis.

D. Cytomegalovirus infection.

+ E. Herpes simplex virus.

**2.Discussion of theoretical questions.**

Microbiocenosis - a sustainable community of microorganisms in a particular habitat. The existence microbiocenosis in the vagina, as well as in the gut, is set for a long time. However, the study of this issue is still relevant - the conditions of existence, composition microbiocenosis are the subject of scientific and medical research. What causes disturbances microbiocenosis how to maintain or restore the disturbed microbiocenosis - these are the questions that affect human health in many ways.

Vaginal microflora includes microorganisms like forming normal microflora have accidentally listed bacteria from the environment (transient microorganisms). Transient bacteria are not able to stay long in the genital tract and usually do not cause disease states as long as the natural resistance factors and immune mechanisms ensure the barrier function and prevent excessive reproduction of these microorganisms.

Female genital tract represent an ecological niche that includes flat vaginal epithelium, columnar epithelium of the cervix and vaginal secretions.

The vaginal epithelium is a squamous multilayered epithelium in which the basal layer cells divide and mature toward the lumen, and then exfoliated into the vaginal lumen. Normal epithelial maturation, thickness of surface layer peeling and under the control of ovarian hormones. In the follicular or proliferative phase of the menstrual cycle vaginal epithelium is exposed to estrogens (mainly estradiol) and a luteal or secretory phase - progesterone. Estrogens induce the accumulation of glycogen in the vaginal epithelium, which is a substrate for the growth of lactobacilli. Lactobacilli cleave glycogen to produce lactic acid, which maintains the vagina low pH (4.4-4.6). In addition, the female sex hormones stimulate the formation of receptors for lactobacilli to vaginal epithelial cells.

At birth, the newborn girl vagina is sterile, but in the first 24 hours colonized by aerobic and facultative anaerobic microorganisms. Later, after a few days, the vaginal microflora of the newborn predominate lactobacilli. This is due to the presence of estrogen produced transplatsentarno child from the mother. The dominance of lactobacilli and limited the rest of the flora species of acid to make the composition of the microflora of the vagina like a newborn girl on the composition of the microflora of the vagina of adult women.

By the end of the neonatal transplacentally derived estrogens metabolized, there is a decrease in glycogen stores epithelial cells and as a consequence, the elimination of lactic acid bacteria, the medium becomes less acidic, begin to dominate microflora anaerobes.

At puberty, with the start of ovarian function, there are endogenous estrogens, under whose influence in the cells of the vaginal epithelium glycogen builds up again ( "estrogen-stimulated epithelium") and increases the number of receptors on the cells of the vaginal epithelium for lactobacilli. Since that time, lactobacilli are beginning to occupy a dominant position in the vagina and subsequently maintain this position throughout the reproductive period in women.

In healthy women of childbearing age vaginal microflora composition (see. The next section) can be changed in various phases of the menstrual cycle, as on changing levels of estrogen cycle and, consequently, the glycogen in epithelial cells.

During pregnancy, the concentration of glycogen in the vagina in women increases, which provides favorable conditions for the life of lactobacilli and improve their level in pregnant women. The maximum number of lactobacilli reached in the III trimester of pregnancy. The dominance of lactobacilli in pregnant women reduces the risk of contamination of the membranes and the

developing fetus, as well as the pathological process of colonization as it passes through the birth canal.
Childbirth lead to rapid changes in the composition of the vaginal microflora. Reduced levels of lactobacilli and significantly increases the number of Bacteroides, Escherichia. These changes in the microflora associated with a significant decrease in estrogen levels, the trauma of the birth canal, lochia release and contribute to the development of postpartum infectious complications. These violations microbiocenosis temporary, and 6 weeks after delivery composition of microflora returned to normal.
After menopause in the genital tract of declining estrogen levels and glycogen, reduced oxidative capacity, reduces the number of lactobacilli, begin to dominate the obligate anaerobic bacteria, the pH becomes neutral value.
Thus, there are a number of factors of the female body that monitor the composition of the normal microflora. Pronounced hormone physiology changes during a woman's life, as well as monthly cyclic changes lead to changes in the qualitative and quantitative composition of the vaginal microflora.

Inflammatory diseases of unspecific (bartholinitis, vulvitis, vaginitis, endocervicitis, endometritis, adnexitis, parametritis, pelvioperitonitis) and specific etiology.
The prevalence and contamination of sexually transmitted diseases (STD), steadily grows, is various in different regions of the world and represents an actual medical-social problem. The necessity for studying classical venereal diseases is not limited to discomfort and pain, which are caused by the primary infection. These diseases, proceeding sometimes as mixed infections, are the reason for severe system disorders, disorders of the central and peripheral nervous system, eye, internal organs, mucous membranes and skin. In women, the results of an ascending infection are shown as infertility (55-85%), extrauterine pregnancy, tubo-ovarian tumours, miscarriages, cancer of the cervix uterus (especial for HSV-2, 4, papilloma-viral infections), physical inabilities, death (in second place after the flu with herpetic infections).
Normal vaginal microflora contains: Lactobacillus (70-90%), Staphylococcus epidermalis (30-60%), diphteroids (30-60%), Hemolytic Streptococci (10-20%), nonhaemolytic streptococci (5-30%), Escherichia coli (20-25%), Bacte-roides (5-15%), Peptococcus (10-60%), Peptostreptococcus (10-40%), Clostridium (5-15%).
Presence of pathogenic flora without inflammation isn't a sign of pathologic processes.
Estrogens have a direct effect on the number of organisms and composition of the bacterial flora. The mucosal surface provides protection from invading pathogens. Mucous may act to eliminate a variety of pathogens or antigens. Mucous also serves for attachment of immunoglobulin A, lysozyme, lactoferrin and other biologically active substances. Mucous in the female genital tract is under hormonal control. Any abnormalities with low estrogen secretion and decreasing of estrogen level with age may damage defense mechanisms of the female genital tract. Using of contraceptives, shower can effect into vaginal ecosystem by changing vaginal pH, altering the vaginal fluid by direct dilution.
Bartholinitis
Bartholinitis is an inflammation of Bartholin's gland (large gland of vaginal vestibule). It may be caused by Staphylococcus, E.coli and N. gonorrhea. Any type of the pathogen initiates ductal inflammation and obstruction that can lead to Bartholin's abscess. There can be serous, serous-purulent, or purulent inflammation. Obstruction of the opening of the main duct into the vestibule leads to abscess formation. Infection of Bartholin's glands can lead to secondary infections, abscess or cyst formation. When the gland becomes full and painful, incision and drainage is appropriate. Patients with abscess usually require abscess incision with insertion of the catheter in abscess cavity. Recurrent infection from vaginal flora and mucous cyst formation are common sequelae of bartholinitis. If the infection of gland is caused by N.gonorrhea specific antibacterial treatment is prescribed.
Endocervicitis
Endocervicitis is the inflammation of mucosa layer of the endocervix. Bacteria cause infection of the columnar epithelium. Chlamidia trachomatis, Mycoplasma, Trichomonada vaginalis, N.

Gonorrhoeae, viruses, Candida, E.coli, Staphylococci cause endocervicitis. Cervix is constantly exposed to trauma during childbirth, abortion.The abundant mucus secretion of the endocervical glands both with the bacterial ascend from the vagina creates a situation that is advantaging to infection.

The inflammatory process is chiefly confined to the endocervical glands. The squamous epithelium of the exocervix may be involved into the process called acute exocervicitis. The extent of endocervical involvement as compared with exocervical one appears to have some relation to the infecting agent.

Chronic cervicitis manifestation is cervical erosion. Erosion indicates the presence around the cervical os a zone of infected tissue that has a granular appearance. It implies the loss of superficial layers of the stratified squamous epithelium of the cervix and overgrowth of infected endocervical tissues.

The inflammatory process stimulates a reparative attempt in the form of anupward growth of squamous epithelium, causing some of the ducts of the endocervical glands to be obstructed. Retention of mucus and other fluid within these glands results in the formation of Nabothian cycts. These cysts are endocervical glands filled with infected secretion. Their ducts become secondarily included into the inflammation and reparative processes.

The most important in the diagnosis of chronic cervitis is the exclusion of the malignant process. Before the begining of treatment, examination with colposcope should be carried out. The cervicitis may appear as a reddish granulation raised above the surrounding surface, giving the impression of being papillary. A Papanicolaou smear should be obtained and suspicious areas should undergo biopsy.

Treatment. Acute cervicitis is treated with appropriate antibiotics (it depends on bacterial agent). Local treatment of acute phase is a real danger of dissemination of infection. Laser therapy is used in treatment of acute and chronic cervicitis. Electocautherization is the traditional treatment of chronic cervicitis, especially with erosion, cervical ulcers or ectropion. Nowadays cryosurgery or laser surgery has replaced electrocautherization.

Pelvioperitonitis

Pelvioperitonitis is an inflammation"of pelvic peritoneum.The polymicrobial infection such as Escherichia coli and other aerobic, enteric, gramnegative rods, group of β-hemolytic staphylococci, anaerobic, streptococci, Bacteroides species, staphylococci, mycoplasms cause the process. Pelvioperitonitis occurs secondary. Primary process is in uterine tubes, ovaries, uterus and parametrium. In most cases purulent damage of uterine adnexa lasts with pelvioperitonitis. Infection can be spread by limphogenic or blood vessels, and from uterine tubes in case of salpingitis, especially gonococcial infection.

Clinic characterizes the acute inflammation. High temperature, severe lower abdominal pain, fever or chills, tachycardia are common. There can be nausea and sometimes vomiting. Muscular defence and rebound tenderness are the symptoms of peritoneal irritation. Anterior abdomen wall takes part in breathing act.Tender adnexa are present at bimanual examination. Cervical motion causes pain. Posterior fornix is painfull.

Laboratory tests reveal increasing of white blood cell count and erythrocyte sedimentation rate. C-reactive protein levels may appear. Generall blood test should be done 4-5 times per day to diagnose transformation of pelvioperitonitis to peritonitis.

Treatment. All the patients should be hospitalized. Ideally, the antibiotic should be selected according to the organism present in the fallopian tube or uterus, but in most cases empiric therapy must be used. Treatment includes intravenous doxycycline and either cefoxitin or cefotetan or intravenous clindamycin and gentamicin for at least 4 days followed by oral clindamicin or tetracyclin for 10-14 days. Hospitalized patients who have peritonitis but do not have adnexal abscess usually respond rapidly to the regimens. In the presence of an adnexal abscess, even if the systemic manifestations are mild, antibiotics which eliminate B.fragilis should be selected because most pelvic abscesses contain this organism. Clindamycin, Metronidazol, Cefoxitin, or Impinem should be used to treat pelvic abscess. If there is an intrauterine device it should be removed as soon as therapy is started. Surgery is indicated in the case of ruptured pyosalpinx or ovarian abscess. Colpotomy drainage usually is preferable when unruptured midline cul-de-sac abscess is present. Laparotomy is required for such problems as unresolved abscess or adnexal mass that does not subside, surgery should be

limited to the most conservative procedures that will be effective. Unilateral abscess respond to unilateral salpingoophorectomy.

Sexually transmitted diseases (gonorrhea, trichmoniasis, ureaplasmosis, micoplasmosis, chlamidiosis, candidosis, viral diseases)

Gonorrhea.

Gonorrhea - venereal disease caused by the gonococcus. Among the specific pelvic inflammatory disease gonorrhea occurs in 5-25% of patients taking second place after trichomoniasis. The main route of infection with gonorrhea and sexual in a very small percentage of cases it occurs asexually (via various household items - clothes, sponge, towel). Gonorrhoea is characterized by a primary lesion of the mucous membranes of the urogenital organs.

The clinical course distinguish, fresh and chronic gonorrhea. Fresh gonorrhea, in turn, is divided into acute, subacute and torpid. For gonorrhea typical multifocal lesions. There are two ways to spread gonorrhea: upward - the urethra, cervix, endometrium, tubes, peritoneum and hematogenous - penetration of gonococci into the bloodstream. Most often the infection spreads through the first, especially during menstruation. Diagnostics. Based on the clinical manifestations of the disease and detection of gonococci in smears taken from the urethra, cervix, or other foci of infection. gonorrhea diagnosis with certainty can only be made upon detection of Neisseria gonorrhoeae, so laboratory methods in the diagnosis of this disease is of paramount importance.

Treatment should be complex. It includes antibacterial, immunostimulant and a local anti-inflammatory therapy. By resorting to surgery if piosalpinks, piovara and tubo-ovarian structures.

Trichomoniasis.

Trichomoniasis - an infectious disease caused by Trichomonas vaginalis. Trichomoniasis is sexually transmitted. Inflammation that occurs under the influence of Trichomonas should be regarded as protozoal, bacterial, because along with Trichomonas it involves cocci, fungi, that should be considered in treatment. The most frequently hit Trichomonas vagina, at least - the urethra, bladder, excretory ducts of the glands large vestibule, the very threshold, the mucous membrane of the cervical canal, the epididymis. For trichomoniasis, as well as for gonorrhea, characterized by multifocal lesions.

The main manifestations of the disease are abundant foamy liquid bleach gray-yellow in color, which cause itching and burning in the vulva. Diagnosis is based on clinical manifestations of the disease and the detection of Trichomonas.

Treatment. At the same time we treat the wife and husband. In addition to specific therapy appointed agents affecting the accompanying flora. The main, most effective means of treatment of trichomoniasis is metronidazole (Trichopolum, flags). Control of cure is carried out within 2-3 menstrual cycles after treatment. Swabs taken on 1-3y day after menstruation.

Chlamydia, ureo- and mycoplasmosis.

Mycoplasma - the smallest micro-organisms that live in the mucous membranes of the mouth, respiratory tract, the lower parts of the urogenital tract. In inflammatory diseases of the genital organs of women, these microorganisms affect the vagina, cervix, endometrium, fallopian tubes. Mycoplasma is spread through sexual contact and is frequently found in patients with gonorrhea, trichomoniasis, as the accompanying flora.

Picture disease female urogenital organs, caused by mycoplasma, a little different from the manifestations of salpingitis, obesity, cervicitis of different etiology. The main laboratory diagnostic methods are mycoplasmoses isolation of a pure culture of mycoplasmas in the culture media and the establishment of their kind.

Clinic. Usually there are meager discharge from the urethra or vagina, itching in the urethra, in the external genitals, pain in the groin, perineum, lower back. Smear the study should be subjected to discharge lacunar ducts. Treatment. Tetracycline or erythromycin prescribe a daily dose of 1-1.2 for 7-14 days.

Treatment. The most effective antibiotics: tetracycline, monomitsin, kanamycin, chloramphenicol, lincomycin. Diseases of the reproductive system caused by chlamydia, often recur, and often take a chronic course. In women, this pathology is sometimes leads to the primary and secondary infertility.
Genital candidiasis.
Candidiasis - a disease caused by yeast fungi. Appearance it may be due to:
1) exogenous factors that contribute to the penetration of fungal flora in the body and reduces the overall reactivity of the female body;
2) endogenous factors leading to the reduction of body resistance (long ongoing disease);
3) pathogenic fungi that cause goiter, which in turn is the result of long-term antibiotic therapy.
There are candidiasis of the vulva, vagina, uterus and uterine appendages.
Candida vulvitis. This disease is characterized by redness of the skin and mucosa of vulva vestibule. On the skin of the vulva occur vesicles, erosions and then merging with each other and covered with a crust that is accompanied by itching and burning.
Candida coleitis. Currently, the most common. There burning, itching, pain in the vagina, leukorrhea. On examination of the vaginal walls reveal hyperemia, vaginal mucosa swelling, attacks white cheesy nature; when removing the plaque exposed eroded areas. Diagnostics. Based on the detection of pathogens in swabs taken from infected areas.

Treatment. Local therapy combined with the appointment of enteral or levorin nystatin (500 000 units. 3-4 times a day for 3 weeks.). At the same time appointed antihistamines, multivitamins, restorative therapy.
Genital herpes.
The causative agent of herpetic diseases of the genital organs is the herpes simplex virus (HSV). Genital herpes is transmitted sexually, and can be a source of infection not only patients with clinically severe symptoms, but carriers of herpes simplex virus.
Infection does not always cause clinically significant disease, there are carriers of latent and (often) during the process. The disease occurs in the following clinical forms:
I - acute primary;
II - chronic recurrent;
III - atypical.
A characteristic feature of herpes simplex virus - the emergence of single or multiple vesicles on the background of erythematous, edematous mucosa of the affected area. When expressed manifestations of the disease are often there are complaints of malaise, headache, irritability, sleep disturbances, sometimes there are low-grade fever and an increase in regional lymph nodes. Recognition of genital herpes promote history, complaints and objective research data. Diagnosis of HSV infection based on the detection of herpes simplex virus or antibodies in the blood serum of the patient.
Treatment of genital herpes is a difficult task due to lack of funds, have a direct, specific effect on the herpes simplex virus. In connection with the real threat of secondary infection recommend topical application of antibiotics (tetracycline, sintomitsinovaja ointment), or paste Lassara podsushivayuschee powder of talc, kaolin, zinc oxide; are used as solutions of aniline dyes, and other means.

Diagnostics, treatment and prophylaxis of bacterial vaginosis.
Bacterial vaginosis - a disease with characteristic heavy and prolonged vaginal discharge, often with an unpleasant odor. They do not exhibit gonococci, trichomonads and fungi. Use of the term "bacterial" due to the fact that the disease caused by the microflora polymicrobial; Vaginosis - because unlike vaginitis are no signs of an inflammatory reaction of the vaginal mucosa.
Causes of bacterial vaginosis
• Hormonal disorders. A number of gynecological and endocrinological diseases accompanied by disturbance of the cyclic change of the concentrations in the blood of female sex hormones. Hormonal disorders leading to changes in the update of the vaginal epithelium, the properties of the vaginal epithelial cells.

• Immunosuppression. Violation of the activity of the immune system leads to a reduced ability of the immune system to influence the composition of microflora is reduced secretory activity of antibody synthesis, the activity of immune cells.
• Violation of the intestinal microflora. Changing the composition of the intestinal bacteria leads to a change in the composition and vaginal microflora. Because intestinal dysbiosis may serve as the main cause of vaginosis.
• Antibiotics - in some cases can lead to a change in quality and size of vaginal mucus. The fact is that antibiotics do not have a selective effect on certain types of bacteria. For example, in the treatment of bronchitis, along with the destruction of bacterial bronchial tree antimicrobial destroys useful microflora of intestines and genital tract.

Symptoms of bacterial vaginosis

Intensity and the list of symptoms can vary widely, depending on the composition of the microflora and the state of the organism.

Abundant or scanty discharge from the genital tract. Most are purulent discharge, white, with unpleasant pungent odor, discharge waste activity after sexual intercourse or during menstruation.

Itching - permanent, may be exacerbated during menstruation.

The soreness in genital sexual contact. This symptom can be caused by changes in mucosal epithelium of the vagina and the aggressive properties of the vaginal microflora.

Adhesion of the labia minora - is associated with the active pus.

Burning sensation when urinating - this symptom rarely occurs, and may be associated with irritation of the external urethra.

Diagnostics of bacterial vaginosis

Diagnostics of bacterial vaginosis based on the symptoms of the disease, symptoms detected by gynecological examination and laboratory analysis of the data.

Gynecological examination

On examination, gynecologist reveals copious purulent discharge their genital tract, in some cases, labia glued to dry out pus. When viewed in the mirrors can be detected on the mucosal surface of the pus.

Laboratory research

Microscopic examination of the vaginal smear with mucous - is the main method in the diagnosis of vaginitis. Smear taken with the rear surface of the vaginal portion of the cervix during gynecological examination in mirrors. After staining reagents specific smear is examined under a microscope. The majority of known bacteria actively colonize the mucous uterine vaginosis can identify as a result of the survey. The sensitivity of this method is 100%.

Bacteriological examination is not as effective for the diagnosis of the causes of vaginitis. This method, however, in some cases indispensable for diagnosis of infection in companion.

Amino test effective test for rapid diagnosis of vaginitis caused by anaerobic bacteria. The result of the activity of these bacteria in the environment includes such organic materials as putrescine, cadaverine, trimethylamine. These substances create odor "tainted fish"

Definitions pH of vaginal secretion. Identifying a pH above 4.5 is one of the symptoms of vaginosis. As we have said above, low pH value in the acidic environment provides beneficial bacteria (Doderlyayna sticks). Lowering the acidity indicates that their number reduced.

Treatment

Bacterial vaginosis treatment consists of 2 stages: elimination of pathogenic and conditionally pathogenic bacteria (the same gardnerellas) and settlement of the vaginal lactobacilli normal. To combat pathogens using vaginal suppositories and gels with various antibiotics or antiseptics (eg, metronidazole or clindamycin). Selection of the desired spectrum is difficult to do alone, and even more so without analyzes. Sometimes antibiotics are administered in tablets for medical indication.

The choice of specific drugs and dosage forms (tablets, suppositories, solutions, etc.) Carries a gynecologist, according to the manifestations of the disease, the patient's condition and results of analyzes. True to the selection of treatment at this stage, can improve its efficiency, to avoid unnecessary side effects and costs. Keep in mind that not treated a separate infection (such as chlamydia or candidiasis), and recovering the balance of microflora, which is much harder to achieve.

In pregnancy, antibiotics are not used. In the second stage of treatment may be required, or drugs directly into the lactobacilli in the vagina. Traditionally, the recommended diet with Biokefir, yogurt, sauerkraut. Sometimes the treatment of bacterial vaginosis are using drugs that increase immunity. However, the effect of many of these agents has not been proven, and the doctors are guided primarily their own experience or tradition. The feasibility of various methods of treatment of intestinal dysbiosis is being challenged.
The main criteria for cure bacterial vaginosis and bacterial vaginosis are vaginal discharge termination and the normalization of the vaginal smear.
Prophylaxis of bacterial vaginosis
Most important in the prevention of recurrence of bacterial vaginosis is the elimination of predisposing factors:
- Rational use of antibiotics.
- Keeping on the normal intestinal microflora level (prevention of intestinal dysbiosis).
- Normalization of hormonal (hormonal treatment of gynecological diseases).
- Maintaining the protective properties of the body (immune system) at a high level
- In some cases, the use of vaginal hygiene products and contraceptives should be avoided.

Indications to surgical treatment.
1.Nalichie in adnexal tumor formation, are not amenable to conservative therapy. If the pain fades and dissolves tumor formation after conservative therapy, the treatment can be considered successful. However, if after 2-3 months. relapse, which again lends itself to treatment, and again after a short remission relapse, the patient should be operated.
2. The inability to exclude the presence of true ovarian tumor. In the presence of tumor formations to conduct therapy for more than 3 months. Not recommended. Anti-inflammatory therapy can be regarded as a diagnostic test and, if under the influence of education does not decrease healing factors, it is impossible to exclude the true tumor, and operative treatment.
3. Purulent tubovarialnoe education. In these cases, there are symptoms of irritation of the peritoneum, high leukocytosis, fever and leukocyte formula shift to the left.
Surgery Benefit in purulent inflammatory formations of the uterus belongs to the category of the most difficult, as it requires a broad general surgical and urological training. Any operation performed on the inflammation, especially purulent, formations of the uterus, is atypical. This is due to extremely diverse and sometimes unpredictable adhesions and inflammatory infiltrative process. During the operation, should be removed completely inflammatory tumor formation and freely lying necrotic tissue. If necessary, the volume of transactions may be extended to hysterectomy with appendages. Also, be sure to complete emptying of abscesses (if any) in the abdominal cavity and small pelvis. When diffuse peritonitis obshchehirurgicheskogo should act on the rules, namely widely drain the abdominal cavity through the lateral channels and leave mikroirrigatory for introducing antibiotics into the abdominal cavity and perform peritoneal dialysis, if necessary.

Peculiarities of inflammatory diseases in different age periods, management tactics.
Adolescent girls who have not had sexual debut, the incidence of genital disease increases from year to year, among which the leading position occupied by non-specific inflammatory diseases of the genital organs, while somatic pathology is reduced. Stable, highly informative risk factors for reproductive disorders and somatic health is the low cultural level of the family, malformed sanitary installations, lack of medical activity, poor living conditions, diet disorder burdened perinatal history. Frequency genital pathology and structure varies depending on the age of the child. The older girl, the more inflammation of the vulva and vagina are complicated by the nature of the development of nonspecific cervicitis with little severe clinical manifestations with a tendency to chronic and recurrent course.
Girls with impaired physical health are at risk for the formation of associated non-specific inflammatory disease of the vulva, vagina and cervix with a tendency to chronic process with the prepubertal period.

As the child grows, the number of adverse factors that contribute to the formation of vulvovaginal increases, the importance of risk factors vary in age aspect Highly informative migratory factors include biomedical and relatively stable controlled - social and sanitary.
High-risk groups for the formation of nonspecific inflammatory diseases of lower genital tract are children who live in poor housing and living conditions in families with low sanitary culture, with insufficient hygienic skills, low medical activity with the structural features of the external genitalia, born of mothers with occupational hazards and harmful habits, with complications of pregnancy and childbirth, the risk of anemia, dystrophy and atopic dermatitis, with high infection index somatic burdened history.
Practical recommendations
1. The girls at high risk for the formation of genital disease should be kept under constant medical observation gynecologist
2. Prepubertal girls with chronic pathology naso - and oropharynx, frequent viral diseases, lesions of the gastrointestinal tract and urinary system require a joint dynamic observation JlOP-physician, nephrologist, gastroenterologist, pediatrician and obstetrician-gynecologist.
3. When protracted course of inflammation of the external genitalia and the ineffectiveness of the therapy should be expanded diagnostic search using additional methods of research (Vaginoscopy, pelvic ultrasound) to clarify the nature of the inflammation and the interest of the vaginal part of the cervix.
4. With a view to the early formation of the risk group for the development of inflammatory diseases of the genitals is necessary to conduct routine inspection gynecologist girls in the first year of life.
5. In order to assess the risk of gynecologic pathology is recommended to use in the practice of pediatricians and obstetricians predictive algorithms developed tactics of adolescent girls to risk subgroups.
A feature of intrauterine pathological processes in patients with middle and old age is their predominantly asymptomatic, and the diagnosis can be made on the basis of ultrasound screening.
Anatomic features of the uterus in patients with middle and old age, creating difficulties in the operation, are its small size, atrophic changes of tissues and partial or complete atresia of the cervical canal.
The most common pathology of the endometrium in women elderly are glandular-fibrous polyps of the endometrium, an increased incidence of endometrial adenocarcinomas.
Given the age-related changes of the pelvic organs, presence of concomitant extragenital pathology, often expressed by emotional lability, high risk of complications, it is advisable
1. Carefully adjust comorbidities prehospital.
2. To exclude gastric aspirate greater responsibility to monitor compliance with the food regime.
3. Carry out the operation with the use of sedative premedication to avoid high blood pressure.
4. In view of the high risk of uterine perforation operation should be performed only by highly skilled surgeon.
5. To reduce the risk of cervical trauma hysteroscopic use forceps and scissors to cervical dilatation at full and partial atresia of the latter.
6. It is an important role in maintaining the health of women should be given the continuity clinic-hospital system, as well as dispensary examination of the observed population.

Rehabilitation of patients after inflammatory diseases.
Rehabilitation is a complex of therapeutic and preventive measures that are aimed at restoring the health of the woman, the recovery of all the functions of the female body systems disturbed as a result of the disease. In this chapter we will talk about the female body rehabilitation after inflammatory diseases of the genital organs, which is very important for maintaining or restoring the health of the woman.
Rehabilitation involves the following steps: proper medical rehabilitation or restorative treatment aimed at prevention of chronic disease, occurrence of exacerbations; professional and social rehabilitation - a period of social, labor and consumer devices. At these stages of activities are carried out directly by medical and health institutions, the legislative acts on maternal and child health, the Labour Code, as well as the efforts of the woman. In general medical problem issues of rehabilitation

of patients after acute inflammation of the genital organs occupy a special place, since, in addition to rehabilitation of women, great importance is the preservation or restoration of impaired fertility of the female body. It is known that the most common among all causes of infertility in marriage pathology of the fallopian tubes. Approximately 80% of tubal infertility is a consequence of myocardial inflammation of the uterus nonspecific or specific origin. In connection with this intensive treatment of acute inflammatory diseases of the uterus and prevention of their occurrence are of great social importance. Modern methods of treatment carried out in hospital, follow-up care on an outpatient basis antenatal clinic, dispensary observation and spa treatment contribute to the successful rehabilitation of the patients. Reducing follow-up care on an outpatient basis (in the clinic, in the enterprise, in the sanatorium, the resort) is based on the extensive use of natural factors, physiotherapy, therapeutic exercises, nutrition and others. The result of this treatment is to restore immune function, endocrine, cardiovascular and nervous female body systems. This increases the ability to work, defining the professional and social rehabilitation of women after inflammatory diseases of the genital organs. The first focuses on prevention, early targeted anti-inflammatory treatment (after discharge from the hospital the patient continues treatment in the antenatal clinic, dispensary), as well as clinical observation of women with inflammatory diseases of the genital organs.

3. **Formation of professional skills and practical abilities.**

1.Patient '18 addressed with complaints of itching in the vagina, increasing emissions. Sick 3 days. On the eve suffered anhynu, treated with antibiotics. OBJECTIVE: peredvirrya vagina, small and large labia swollen, congested. The mucosa is congested, swollen, covered with white bloom that is easily removed. Whites in large numbers, white, thick "syrkopodibnoho character." The uterus and appendages normal.
Possible diagnosis?

2.Male 35, not married, turned to the gynecologist with complaints to the emergence discharge hnoyevydnoho nature, frequent urination, pain during urination and itching in the urethra that appeared on day 5 after casual sex. OBJECTIVE: swelling urethral sponge hyperemic, discharge from the urethra hnoyevydnoho character.
What is the preliminary diagnosis?

3. Female 18 years appealed to the gynecologist with a desire screened for chlamydia. What is a "gold standard" in the diagnosis of urinary chlamydia?

4.Male '28 complained of watery vaginal discharge with a foul fishy smell. Microscopy discharge from the genital tract has found the key cells. Amine test positive.
Your diagnosis?

5.Male 27, who lives a sexually active life, complaining about the presence of numerous vesicles on the right sexual lip, itching and burning. The rash occasionally appear before menstruation and disappear in 8-10 days.
The likely diagnosis?

## TOPIC 8

## " Acute abdomen" in gynaecological practice."

**Purpose:** a clinical questioning of the activity of treatment-prophylactic establishments testifies that the most difficulty for the doctor are clinical situations, which demand urgent help. Most frequently, the discussion is, first of all, about saving a patient’s life, therefore wrong or delayed actions, mistakes in the

choice of tactics, methods and means of providing urgent help to pregnant women are serious and have some very tragic consequences. On the contrary, correct and prompt, rationally planned and cautious methods of conducting urgent help can not only save the patient's life, but also save her reproductive function.

**Basic concepts (list of questions):** execution of the algorithm of actions at emergence of urgent conditions in gynecology.

**Theoretical questions for the lesson:**

1. Extrauterine pregnancy: clinics, diagnostics, tactics of GP, emergency care.

2. Ovarian apoplexy: clinics, diagnostics, tactics of GP, emergency care.

3. Rupture of ovarian tumor capsule: clinics, diagnostics, GP tactics, emergency care.

4. Torsion of tumor pedicle: clinics, diagnostics, GP tactics, emergency care.

5. Rupture of purulent tuboovarian mass: clinics, diagnostics, GP tactics, emergency care.

6. Blood supply disturbance in myomatous node: clinics, diagnostics, GP tactics, emergency care.

7. Traumatic damage of genitals: clinics, diagnostics, GP tactics, emergency care.

8. Preoperative preparation and postoperative care of gynecological patients, anesthesia during gynecological operations.

9. Rehabilitation after gynecological operations.

**Plan:**

**1.Knowledge control.**

1. A woman complains of sudden pain in the abdomen, which irradiye the anus, nausea, dizziness, dark bloody discharge from the genital tract during the week, delay menstruation for 4 weeks. Symptoms of peritoneal irritation positive. In the mirror, cyanosis of the mucous membranes of the vagina and cervix. In bimanual study notes symptom of "uterus floating" pain and bulging rear and right side of the vaults of the vagina. The most likely diagnosis?

A. Acute appendicitis.

B. apoplexy ovary.

S. acute right-adnexitis.

D. tilting legs ovarian tumor.

+E. ectopic pregnancy.

**2.** The 24-year-old woman complains of bloody spotting, vaginal discharge and pain in the right iliac region. In the history of irregular menstrual cycle. Last menstruation 7 weeks ago. During bimanual examination the uterus is not enlarged, painless. Title chorionic gonadotropin 1000. Tactics doctor?

A. diagnostic laparoscopy.

B. Ultrasound pelvic organs.

C. Kuldoskopiya.

+D. Re-definition CG 24 hours.

E. Repeated studies of hCG in a week.

3.Woman '17 worried about sharp pain below the abdomen. Notes the delay menstruation for 2 weeks. Sex life during the year. Guarded pregnancy interrupted sexual intercourse. Objectively: pale. 36,60S body temperature, blood pressure 95/60 mm Hg, pulse 90 beats / min. If bimanual examination is defined slightly enlarged uterus, cervix tours painful appendages expressly konturuyutsya, rear arches vypnute. Discharge from the genital tract dark bloody miserable. The most informative method:

A. Ultrasound of the pelvic organs.

B. Complete blood.

C. puncture the abdominal cavity through the posterior vaginal vault.

D. colposcopy.

+E. Laparoscopy.

4. A woman worries acute abdominal pain, fever up to 38,0 ° C. Knows the presence of uterine fibroids 3 years. Symptoms of peritoneal irritation positive in the lower abdomen. WBC 10.2 T / L, erythrocyte sedimentation rate 28 mm / h. In bimanual study of uterine body increased to 8-9 weeks of pregnancy, on the front surface - dramatically painful myoma node size 4x4 cm, uterine appendages not changed. Ultrasound confirms that subserous myoma node. What is the most likely diagnosis?

A. Internal endometriosis.

B. tuboovarialnogo tumor.

+C. Necrosis myoma node.

D. Acute adnexitis.

E. perimetrity.

2.**Discussion of theoretical questions.**

| **From gynecologic diseases, the picture of "acute abdomen"** | **The clinical picture** |
|---|---|
| Extra-uterine pregnancy | Acute beginning, which for some women is preceded by a delay in menstruation, pain in the lower stomach distributed to the rectum, subclavicular and supraclavicular areas, shoulder or scapula, is accompanied by nausea or vomiting, dizziness, to the point of loss of consciousness, sometimes diarrhea. |

| | |
|---|---|
| | The patient is frequently hindered, less often shows attributes of anxiety; the skin and mucous are pale, extremities are cold, rapid, superficial respiration. Tachycardia, weak-filling pulse, arterial pressure is reduced. Tongue is moist, not covered with a film. The stomach is a little bloated; tension of muscles of the abdominal wall is absent. During palpation – pain in the lower stomach, more on the affected side, also symptoms of irritation of the abdomen are expressed. During percussion - dullness in the stomach.<br>During examination with the speculums: cyanosis and paleness of the mucous of the vaginas and exocervix. Bimanual examination (very painful) reveals a flattening or protrusion of the posterior or one of the lateral vaults. The uterus is easily shifted, as though it is "floating" in free liquid.<br>If there is any doubt in the correctness of the diagnosis, a puncture of the abdominal cavity through the posterior vaginal vault is done. |
| Ovarian apoplexy | The pain attack is accompanied by weakness, loss of consciousness, nausea, sometimes vomiting, cold sweat, unconsciousness. During examination, pallor of the skin and mucous membranes, tachycardia with a normal body temperature are paid attention to. Depending on the volume of blood loss, the arterial pressure can decrease. The stomach remains soft, a little bloated. Tension of the muscles of the abdominal wall is absent. During palpation of the stomach, extended pain in the lower half of the stomach is found. Symptoms of irritation of the abdomen are expressed in different degrees. Percussion of the stomach can reveal the presence of free liquid in the abdominal cavity.<br>During bimanual (rather painful) examination, the normal sizes of the uterus, sometimes – an enlarged painful spherical ovary are determined. During significant bleeding, overhanging and painful posterior and\or lateral vaginal vaults are found. |
| Rupture of ovarian tumor capsule | Start acute disease. Sharp pains in the stomach, sometimes with loss of consciousness. Breath of learning, can be shortness of breath. Pulse frequent, blood pressure can be reduced. Contact with the contents of the cyst or tumor in the abdominal cavity causing peritoneal irritation symptoms. In some cases, the capsules rupture accompanied by profuse |

| | |
|---|---|
| | bleeding from the ovary of vessels and the development of shock. The general condition of the patient moderately severe, severe or very severe. Bloating, sharply painful to palpation, anterior abdominal wall muscles are tense, Shchetkina-Blumberg positive symptom. The clinical picture is often similar to that in an ectopic pregnancy, occurring both on the type of tubal abortion, and the type of rupture of the fallopian tube, ovary apoplexy when, pelvioperitonit. |
| Torsion of tumor pedicle | The disease, as a rule, begins with strong pains in the lower stomach, which are accompanied by nausea and vomiting. The body temperature during the first hours of the disease remains normal; the leucocytic reaction is not expressed.<br>The patient takes a compelled position in bed because of sharply occurring pain. During palpation – tension of the anterior abdomen wall, positive Blumberg's sign, intestinal paresis, delay of stool, less often - diarrhea. The body temperature can increase, rapid pulse, pale skin, cold sweat. During internal gynecologic examination a tumour is determined in the area of the uterine appendages; any attempt to shift it causes a sharp pain. Such patients demand urgent operative treatment. |

3. **Formation of professional skills and practical abilities.**

**1.**14 years old girl addressed doctor with complaints on absence of menstruation, monthly pains in abdomen. In anamnesis: childhood infections.

Objectively: skin and mucous membranes are pink. Pulse - 78 beats/min, BP - 100/60 mm Hg. Body temperature - 36,7ºC.

On examination: breasts and genitals are developed properly; female type of hair growth in pubic area. Vaginal entrance is covered with cyanotic mucous membrane that protrudes slightly.

On rectal examination: uterus and appendages are without abnormalities, flexible formation (size 8x6 cm) is palpated in vagina.

What are the doctor's tactics?

**2.**Woman, 67 years old, addressed family doctor with complaints on profuse bleeding from genital tract during the past 3 months. Menopause since 10 years ago.

On speculum examination: no pathology was revealed.

Bimanual examination: body of the uterus is enlarged up to 4-5 weeks of pregnancy, dense, immobile, and painless on palpation; appendages are without pathological changes; vaginal vaults are deep and painful. Discharge is bloody, moderate.

What are the doctor's tactics?

## TOPIC 9

## " Infertility in couples. "

**Purpose:** because of worsening of demographic setting in Ukraine, increased frequency of infertility marriages (rises up to 15-20% from all marriages), problem of treating damages of reproductive function became very actual. Combination of many etiologic factors which lead to infertility often does not give an opportunity to reveal main and secondary causes of the problem and set adequate treatment. During last few years main methodic for treating infertility stays endoscopy.

**Basic concepts (list of questions):** counseling on infertility in a couple. Study of the causes of female and male infertility. Patient assessment. A routine examination is needed to identify the causes of female infertility. Recommendations for the treatment of infertility in a married couple.

**Theoretical questions for the lesson:**

1. Determine and classify main etiological and pathogenic factors of infertility.
2. Make examination plan and analyze data of laboratory and instrumental tests in infertility.
3. Determine management tactics in infertility.
4. Rate laboratory, cytological, radiological, methods of examination, ultrasound.
5. Make a plan of examination of patients with suspected pipe genesis infertility.
6. Choose from the history data that indicate the cause of infertility.
7. To review the cervix in the mirrors, and vaginal examination put the preliminary diagnosis.
8. Make a plan endocrine infertility treatment, depending on its origin.
9. Interpret the results of semen.

### Plan:

**1.Knowledge control.**

1. Female 26 years has addressed with complaints of infertility for 3 years. Menstruation in 14 years, painless, moderate. Cycle 4.5 / 28 regular. At the age of 16 underwent appendectomy. Postcoital test and analysis of sperm in the normal range. According to the measurement of basal body temperature ovulatory cycles, lyuteinova phase is 12-14 days. Define the most appropriate method of diagnosis:

+ A. Laparoscopy and hromosalpinhoskopiya.

B. hysteroscopy.

C. colposcopy.

D. endometrial biopsy.

E. hysterosalpingography.

**2.** Before she turned gynecologist '28 complaining of infertility. Married 6 years, first pregnancy was the first year of marriage and ended in induced abortion, which uskladnylsya inflammation of the uterus. Menstrual disorders are not celebrating. More pregnancies were not. What the survey should be conducted?

A. Spermohramu.

+B. metrosalpingography.

C. functional diagnostic tests.

D. determination of hormone levels on cycle day 7-8.

E. bacteriological study of discharge from the genital tract.

3.A woman complains of irregular menstrual cycle for 2 years. The duration of the menstrual cycle of 30-50 days. During the year there were no pregnancies. What research should be assigned primarily to clarify the causes of infertility?

A. Laparoscopy.

B. semen sex partner.

+C. Measurement of basal temperature.

D. postcoital test.

E. Hysteroscopy.

4.Patient 29 years, a history of three pregnancies, frozen, for the last 3 years has not vahitnyuye.

What should be assigned to identify the causes of this disease?

A. bacteriological study of discharge from the genital tract.

B. Testing for syphilis.

C. Screening for tuberculosis.

D. Clinical analysis of blood.

+E. Screening for TORCH-infection, medical and genetic counseling.

2.**Discussion of theoretical questions.**

| **Causes of female infertility** | **labaratory methods of examination of women with infertility** |
|---|---|
| Tubal infertility | blood type, Rh factor |
| Tuboperitoneal infertility | general blood analysis |
| Endocrine infertility | tested for HIV, Hbs-Ag (Hepatitis B), HCab (hepatitis C), RW discs (syphilis) |
| Infertility associated with endometriosis. | antibodies to rubella, toxoplasmosis antibodies (the latter two need to take only a woman); |
| | test for gonorrhea and chlamydia, mycoplasma, ureaplasma; |

| | |
|---|---|
| | cervical cytology. |
| **Instrumental methods of examination of women with infertility** | Gisterosonografiya - a holding transvaginal ultrasound with simultaneous introduction of a small amount of sterile fluid into the uterus. If the fallopian tubes are passable, it can be seen on ultrasound as the liquid is poured behind the uterus. Sami fallopian tubes in most cases are not visible on ultrasound. The method is practically painless and requires no special training.<br>• Hysterosalpingography - an introduction to the uterus of contrast material and then performing a series of X-rays. If the pipes are passable, contrast freely poured into the abdominal cavity, and this is clearly seen in the photographs.<br>• Laparoscopy. The uterus is introduced sterile liquid color is blue, and the surgeon directly assesses the eye, the fluid fills and pours the fallopian tubes into the abdominal cavity. Existing barriers to exit of fluid from the pipe, if possible, can be immediately eliminated. |

3. **Formation of professional skills and practical abilities.**

1.Patient, 20 years old, addressed women's health clinic with complaints on menstruations delay for 10 days. From anamnesis: no disorders of menstrual cycle previously. Sexual life is regular, she doesn't use contraceptives. On examination: general condition is satisfactory, BP - 120/80mm Hg, pulse - 72 bpm. Abdomen is soft, painless on palpation. The symptoms of peritoneum irritation are negative.

What diagnosis should be made?

**2.** Woman, 32 years old, visited family doctor with complaints of infertility. She has regular sexual life without contraception for 7 years.

From anamnesis: chronic bilateral adnexitis for 5 years, for whih she was treated in hospital and ambulatory services. She has no history of previous pregnancies. Menstruations started at the age of 13, usually regular, but for the last 2 years it is irregular. On speculum examination: cervical epithelium is intact. On bimanual examination: limited mobility of the uterus was revealed. Husband's spermiogram: asthenospermia- and oligozoospermia of II degree.

What diagnosis should be made?

3.Patient, 29 years old, has arrived at gynecological department with complaints on infertility during 5 years, general weakness, sweating, increase of body temperature up to 37,2°C, pain in the lower abdomen.

From anamnesis: tonsillectomy at the age of 18. She had a contact at work with a person infected with tuberculosis. Menstruations since 13 years old (for 5-6 days, cycle interval - 28 days), regular,

moderate, painless. During the last 3 years, menstruations duration became 5-10 days. She had no pregnancies, doesn't use contraceptives.

Objectively: general condition is satisfactory. Temperature - 37,0°C, pulse - 78 beats/min, of satisfactory properties. Skin and visible mucous membranes are pale. Patient is of normosthenic constitution with malnutrition. Abdomen is soft and painless on palpation.

Examination in specula: mucous of vagina is pink, cervix of uterus is conic, os is closed, and discharge is light. Bimanual examination: vagina of nullipara. Cervix and body of uterus are normal, their shift is painless. In the area of uterine appendages on both sides are defined dense formations. Vaginal vaults are deep and painless. The preliminary diagnosis: chronic bilateral salpingitis (specific etiology?). Primary infertility.

Microbiological examination: in analysis of microflora of vagina, cervical canal and urethra – leucocytes and mixed microflora. Metrosalpingography: fallopian tubes are impassable, of various shape on X-ray.

What are the doctor's tactics?

## TOPIC 10

### " Family planning/contraception methods."

**Purpose:** international and domestic experience shows that family planning (FP) through the use of modern contraceptives, taking into account risk factors, is an inexhaustible reserve in maintaining women's health.

Reproductive health, including the provision of family planning services and related information, is not only considered a key means of preserving the health of women and men, but is also a fundamental human right.

Half a million young women worldwide die each year from factors related to pregnancy or abortion. World experience shows that the use of modern methods of contraception as a means of preventing unplanned pregnancies leads to a decrease in the frequency of artificial and illegal abortions, which reduces maternal mortality by 25 - 50%.

**Basic concepts (list of questions):** family planning counseling: directions, benefits, counseling process. Overview of contraceptive methods: COCs, vaginal ring, contraceptive patch, PTP, injectables, IUDs, barrier methods and spermicides. Methods of recognizing fertility, voluntary surgical sterilization, emergency contraception. Patient assessment. An examination is required, which is carried out in a planned manner before deciding on the use of a particular method of contraception. Family planning for people living with HIV.

**Theoretical questions for the lesson:**

1.Principles of choosing a method of contraception.
2.Classification of contraceptive methods.
3.Types, rules of application, advantages and disadvantages of COCs and CRC.
4.Rules of application, advantages and disadvantages of vaginal hormonal rings and hormonal patches.
5.Types, rules of application, advantages and disadvantages of intrauterine contraception.
6.Rules of application, advantages and disadvantages of MLA.

7. Types, rules of application, advantages and disadvantages of barrier methods of contraception and spermicides.

8. Types, rules of application, advantages and disadvantages of natural contraception.

9. Types, rules of application, advantages and disadvantages of surgical contraception.

10. Types, rules of application, advantages and disadvantages of emergency contraception.

**Plan:**

**1.Knowledge control.**

1. In what situations the use of MLA is impractical?

A. No more than 6 months have passed since the birth.

B. A woman breastfeeds exclusively.

C. A woman feeds a child on demand.

+D. The woman is breastfeeding irregularly, menstruation has resumed.

2. What types of COCs do not exist in terms of hormone composition?

A. Single-phase.

B. Two-phase.

C. Multiphase

+D. Four-phase.

3.A woman went to see a doctor to choose a method of contraception. Postpartum period of 7 months. Breastfeeding. Menstruation is available for 2 months. Which method of contraception CANNOT be used in this case?

A. Intrauterine spiral.

B. Progesterone birth control pills.

C. Progesterone injectable contraceptives.

D. Condoms.

+E. Method of lactation amenorrhea.

2. A woman who had undergone surgery for breast cancer 6 months ago applied to a doctor for a method of contraception. Which method of contraception CANNOT be used in this case?

+A. Combined oral contraceptives.

B. Copper IUDs.

C. Surgical sterilization.

D. Condoms.

2.**Discussion of theoretical questions.**

| kind | COC | CIC | TNK | IUC | Condoms | cervical caps | Contraceptives the prevention of for congestion | female sterilization | Vazectomy |
|---|---|---|---|---|---|---|---|---|---|
| Examination of the mammary glands | C | C | C | C | C | C | C | C | Not done |
| Examination of the pelvic / genital organs | C | C | C | A | C | A | C | A | A |
| Screening of cervical pathology | C | C | C | C | C | C | C | C | Not done |
| Standard laboratory examination | C | C | C | C | C | C | C | C | C |
| Determination of hemoglobin level in the blood | C | C | C | B | C | C | C | B | C |
| STD risk assessment: history taking and general examination | C | C | C | A* | C* | C** | C** | C** | C |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Screening for STD / HIV: laboratory examination | C | C | C | B* | C* | C ** | C** | C** | C |
| Blood pressure measurement | *** | *** | *** | C | C | C | C | A | C**** |

**Class "A" -** this examination / analysis is definitely recommended in all cases and is a guarantee of safety and effectiveness of a particular method of contraception.

**Class "B" -** conducting this examination / analysis largely ensures the safety and effectiveness of the use of a particular method of contraception.

**Class "C" -** conducting this examination or analysis does not provide any significant guarantee of the safety and effectiveness of a particular method of contraception.

* If a woman is at high risk of contracting a gonorrhea or chlamydial infection, then the introduction of IUDs is not recommended, except in cases where the use of alternative methods of contraception for one reason or another is impossible or unacceptable.

** Women at high risk of HIV infection should not use spermicides that contain nonoxynol-9.

*** It is recommended to measure blood pressure before using COCs, TCPs, ICPs.

****** Procedures performed using local anesthesia.**

**Family planning for different categories of the population and according to the periods of life (order №59 from 21.02.2014)**

| **Position protocol** | **Rationale** | **Necessary actions** |
|---|---|---|
| 1. Methods of contraception for adolescents and young people. | Adolescent pregnancy is always unplanned. First of all, teenagers have a higher risk of health than the younger ones (it is especially significant for 13-16-year-olds). | *Required:*<br>1. Conduct counseling on healthy living, sex education, prevention of unplanned pregnancy and STIs.<br>2. Start a consultation on contraceptive methods by talking about the most reliable method of avoiding pregnancy<br>**- lack of sexual contact.**<br>3. Suggest methods of contraception:<br>***Condom:*** |

| | | |
|---|---|---|
| | | - protects against STD / HIV;<br>- easy to use and without a visit to the doctor;<br>- has no side effects.<br>***COC:***<br>-for young women who have a regular sex life and a regular sexual partner;<br>- does not protect against STIs / HIV.<br>Double method (simultaneous use of COCs with a condom).<br>***IUD:***<br>- not to offer to teenagers and young women who have not given birth and do not have one sexual partner;<br>- does not protect against STD/ HIV.<br>***Fertility recognition methods:***<br>- can be offered to disciplined girls with a regular menstrual cycle, who are highly motivated to use this method and have one partner;<br>- does not protect against STD / HIV.<br>***Emergency contraception:***<br>- high efficiency;<br>- can not be used as regular contraception, only for occasional use with irregular sex;<br>- does not protect against STD / HIV. |
| 2. Methods of contraception for women in the postpartum period. | The key issues of postpartum contraception are the beginning of the period of prevention of unplanned pregnancy and the impact of contraception on lactation.<br><br>According to studies, the resumption of menstruation up to 6 months after birth occurs in 11.1 - 39.4% of cases, and the contraceptive effectiveness of MLA is from 93.5 to 100%. Progestogen-only contraceptives do not affect the quality and quantity of breast milk and the health of the baby. | <u>*Required:*</u><br><br>1. To consult on the peculiarities of the postpartum period and the use of family planning methods.<br><br>2. Suggest methods of contraception:<br><br>Method of lactation amenorrhea (MLA):<br><br>- breastfeeding immediately after birth and up to 6 months exclusively breastfeeding (at least 8-10 times a day) in the absence of menstruation (amenorrhea);<br>- High efficiency and significant benefits for both maternal and child health.<br>***Progestogen-only contraceptives:***<br>- women who use MLA, only 6 months after birth;<br>- women who are not breastfeeding can be used immediately, provided there is no pregnancy; |

| | | |
|---|---|---|
| | The use of COCs in the first 6 months after birth reduces the amount of breast milk and may adversely affect the normal growth of the child and in the first 3 weeks after birth COCs increase<br>risk of thrombosis.<br>IUDs are contraindicated for women with complicated childbirth (bleeding, anemia, infections);<br>IUD and DHS do not affect the quantity and quality of breast milk (WHO 2012). | - women who are breastfeeding, but alternate with complementary foods - 6 weeks after birth.<br>***Intrauterine contraceptives:***<br>- postplacental or within 48 hours after childbirth or cesarean section autopsy, which occurred without complications;<br>- - in the postpartum period only after 4 weeks, if not administered postplacentally.<br>***Combined oral contraceptives (COCs):***<br>- Not recommended for women who<br>- fed in the first 6 months after<br>childbirth;<br>- - if a woman is not breastfeeding, COCs can be used 3 weeks after delivery.<br>Voluntary surgical sterilization (DHS):<br>- immediately after delivery, during caesarean section or within 7 days after delivery;<br>- - if sterilization is not performed after 7 days, perform only 6 weeks after delivery.<br>***Barrier methods:***<br>- from the time of resumption of sexual activity (cervical caps - 6 weeks after birth).<br>Fertility recognition methods:<br>- It is not recommended to start using before the resumption of regular menstruation. |
| 3. Methods of contraception for women after abortion. | Post-abortion family planning services:<br>- advising on the need for contraception and all available methods of contraception, their characteristics, effectiveness and side effects;<br>- providing an opportunity to make an informed choice of contraceptive methods;<br>- providing information on the need for protection against STIs. | <u>*Required:*</u><br>1. Advise on the specifics of the post-abortion period and the use of family planning methods.<br>Uncomplicated abortion:<br>- after abortion up to 12 weeks should not delay the use of contraceptive methods.<br>- After an abortion after 12 weeks, barrier methods (cervical caps), surgical sterilization and introduction of IUDs can be recommended in 4-6 weeks.<br>**Uncomplicated abortion:**<br>Hormonal drugs: |

| | | |
|---|---|---|
| | The provision of family planning services for women after abortion should begin<br><br>immediately, because ovulation can occur on the 11th day after abortion and usually occurs before the first menstruation.<br><br>The ability to conceive is restored very quickly - within 2 weeks after an abortion or miscarriage that occurred in the 1st trimester of pregnancy, and within 4 weeks after an abortion or miscarriage that occurred in the second trimester of pregnancy.<br><br>After uncomplicated abortion in the first trimester, all methods of contraception are suitable. | - the first tablet of COC or TKP is given immediately on the day of surgery;<br><br>- hormonal patch, vaginal ring can be used immediately after surgery.<br><br>***Injectable drugs:***<br><br>- - can be administered immediately after abortion or within 7 days after surgery.<br>- IUD (containing copper) or IUD (with levonorgestrel):<br>- - immediately after abortion or within 7 days (for IUDs with levonorgestrel) and 12 days (for IUDs containing copper) provided there are no symptoms of infection.<br>***Barrier methods (condoms, spermicides):***<br><br>**-** since the resumption of sexual activity.<br><br>***Fertility recognition methods:***<br><br>**-**only after the resumption of the regular menstrual cycle.<br><br>**Complicated abortion:**<br><br>-you can use hormonal oral contraceptives, injection methods, condoms;<br><br>- Postpone IUD and sterilization until complications are eliminated.<br><br>**- Medical abortion:**<br><br>- you can start using hormonal contraception after taking the first pill under the scheme of medical abortion;<br><br>- complete abortion should be confirmed before intrauterine contraception or sterilization. |

**3.Formation of professional skills and practical abilities.**

**1.**A 25-year-old woman who has been using COCs for contraception for the last 3 months has applied for a women's consultation. The woman's main complaint is that she often forgets about taking pills every day.

What is the doctor's advice in this case?

2.A 25-year-old woman applied to a women's clinic to choose a method of contraception. The patient complains of oily skin, acne and excessive hair growth on the face and inner thighs.

What are the doctor's tactics in this case?

3.A 32-year-old woman consulted a female doctor with complaints of chronic pelvic pain, which is exacerbated during menstruation, dyspareunia, blood smear before and after menstruation. The last menstruation is 3 weeks later. When examined in mirrors: on the cervix 2 cysts with a diameter of 3 and 5 mm blue-purple color, from which a dark brown liquid.
On bimanual examination: the body of the uterus is spherical, enlarged to 6 weeks of pregnancy, painful on palpation. Appendages on both sides without features. The doctor was informed that the birth of a child is not planned in the near future.
What are the most appropriate treatment tactics for this patient?

4.A 26-year-old woman who gave birth 7 months ago has been worried about nausea, vomiting in the morning, and drowsiness for the last two weeks. Breastfeeding, no menstruation. She was not warned about pregnancy.
Which of the methods should be used to clarify the diagnosis?

3. **Summing up:**

Differentiated Testing

**List of recommended literature:**

**Main:**


1. Obstetrics and gynecology: in 2 books. – Book 2. Gynecology: a textbook (III-IV university) / edited by V.I. Hryshchenko, M.O. Shcherbyny , B.M. Ventskivskyi - 3 - there is ed., ex., 20 20 . - 376 p.
2. Clinical Obstetrics and Gynaecology: 4th Edition / Brian A. Magowan, Philip Owen, Andrew Thomson. - 2021. - 454 p.
3. Family planning and contraception: study guide / V.I. Boyko, N.V. Kalashnyk, A.V. Boyko and others; in general ed. Dr. Med. Sciences, Prof. V.I. A fight – Sumy: Sumy State University, 2018. – 223 p.
4. Obstetrics and Gynecology: in 2 volumes. Volume 2. Gynecology: textbook/ VI Gryshchenko, MO Shcherbina, BM Ventskivskyi et al. — 3rd edition, 2022. – 360 r .
5. Comprehensive Gynecology - 8 th Ed. / DM Hershenson, GM Lentz, FA Valea et al. Elsevier. 2021 - 881 p.
6. Pragmatic obstetrics and gynecology [Text]: [manual] / LB Markin [et al.]. - Lviv: Lviv Nat. Danylo Halytsky Med. Univ., 2021. - 236 p.
7. Oxford Textbook of Obstetrics and Gynecology / Ed. by S. Arulkumaran, W. Ledger, L. Denny, S. Doumouchtsis. - Oxford University Press, 2020 - 928


**Additional:**


1. Endoscopic surgery: training. manual / V.M. Zaporozhan, V.V. Grubnik, Yu.V. Grubnik, A.V. Malinovsky and others; under the editorship V.M. Zaporozhana, V.V. Grubnika - K.: VSV "Medicine", 2019. - 592 p.
2. Diagnostics of obstetric and gynecological endocrine pathology: [educational manual for intern doctors and trainee doctors of institutions (fac.) post-diploma. of Education of the

Ministry of Health of Ukraine] / edited by V.K. Likhachev; V.K. Likhachev, L.M. Dobrovolska, O.O. Taranovska and others; UMSA (Poltava). – Vinnytsia: E.V. Maksimenko Publisher, 2019. – 174 p.
3. Zaporozhan V.M. Simulation medicine. Experience. Acquisition Prospects: practice. advisor / V.M. Zaporozhian, O.O. Tarabrin – Sumy: University. Book, 2018. – 240 p.
4. Gynecology: a guide for doctors / V.K. Likhachev. – Vinnytsia: Nova Kniga, 2018. - 688 p.
5. Family planning. Educational and methodological manual / N.G. Hoyda, O.V. Hryshchenko, V.P. Kvashenko, O.V. Kravchenko et al. / Kyiv, 2016. – 444 p.
6. Infertility in marriage: study. study guide higher honey. education closing III-I V yr. acre. - Kh.: Khnist National Medical University, 2014. - 126 p.
7. Reproductive function in women with uterine fibroids and endometriosis / N.M. Rozhkovska, D.M. Zhelezov, T.V. Kossei // Women's health - 2018. - #2. - P.5-7.
8. Ovarian reserve during surgical treatment of ovarian endometrioma / A.H. Volyanska, L.M. Popova, T.P. Todorova, O.P. Rogachevskyi, O.I. Shevchenko // All-Ukrainian scientific and practical conference with international participation "Innovative technologies in obstetrics and gynecology: from science to practice" - Ivano-Frankivsk, 2019. - P. 12-13.
9. The influence of surgical energies on the ovarian reserve during endoscopic treatment of ovarian endometriosis / T.P. Todorova // Scientific and practical conference with international participation dedicated to the 150th anniversary of the birth of V.V. Voronov "Modern theoretical and practical aspects of clinical medicine" - Odessa, 2020. - p. 118.
10. Situational problems in gynecology: teaching. manual/ I.Z. Gladchuk, A.H. Volyanska, G.B. Shcherbina and others; under the editorship of Prof. FROM. Gladchuk - Vinnytsia: "Nilan-LTD" LLC, 2018. - 164 p.
11. Williams Gynecology, 4th Edition by Barbara Hoffman, John Schorge et al&. - Mac Grow Hill Education. - 2020 . – 1328
12. Oats , Jeremy Fundamentals of Obstetrics and Gynecology [ Text ]: Liewellyn - Jones Fundamentals of Obstetrics and Gynecology / J. Oats, S. Abraham. – 10 th ed. – Edinburgh [etc.]: Elsevier, 2017. – VII, 375 p.
13. Dutta , Durlav Chandra. DC Dutta's Textbook of Gynecology including Contraception / DC Dutta; ed/ Hiralal Konar. - 7th ed . - New Delhi: Jaypee Brothers Medical Publishers, 2016. - XX, 574 p.
14. Current "Clinical protocols", approved by order of the Ministry of Health of Ukraine for Obstetrics and Gynecology.

**Electronic information resources:**

1. https://www.cochrane.org/ - Cochrane / Cochrane Library
2. https://www.acog.org/ - American Association obstetricians and Gynecologists / The American College of Obstetricians and Gynecologists
3. https://www.uptodate.com – UpToDate
4. https://online.lexi.com/ - Wulters Kluwer Health
5. https://www.ncbi.nlm.nih.gov/ - National center biotechnological of information / National Center for Biotechnology Information
6. https://pubmed.ncbi.nlm.nih.gov/ - International medical library / National Library of Medicine
7. https://www.thelancet.com/ - The Lancet
8. https://www.rcog.org.uk/ - Korolevska Association obstetricians and gynecologists / Royal College of Obstetricians & Gynaecologists
9. https://www.npwh.org/ - Practitioners nurses with protection I 'm healthy women / Nurse practitioners in women's health
10. http://moz.gov.ua – Ministry of Health of Ukraine
11. www.ama-assn.org - American medical association / American Medical Association
12. www.who.int - World Health Organization
13. www.dec.gov.ua/mtd/home/ - State Expert Center of the Ministry of Health of Ukraine
14. http://bma.org.uk - British Medical Association
15. www.gmc-uk.org - *General Medical Council ( GMC )*

16. www.bundesaerztekammer.de – German Medical Association
17. www.euro.who.int - European Regional Office of the World Health Organization.