Department of Obstetrics and Gynecology №1 KazNMU

Extragenital pathology and pregnancy

Associate prof. Saduakassova Shynar Muratovna

Plan of lecture

- The course of pregnancy and childbirth in diseases of
- the cardiovascular system
- renal disease
- endocrine system
- respiratory and digestive systems

Cardiovascular diseases

- Cardiovascular disease in pregnant women occupy the first place among all extragenital pathology.
- Frequency detection of heart disease have ranged from 0.4 to 4.7%.
- Among heart diseases are the most common:
- Rheumatism
- Transposition of the great vessels
- The operated heart
- Acquired and congenital heart disease
- Abnormal Heart Rhythms (Arrhythmias)

Physiological changes in the cardiovascular system during pregnancy

- During pregnancy, there is an increase in cardiac output by increasing heart stroke volume and heart rate.
- Increasing CVS begins with 10 weeks of pregnancy and reaches a maximum of 29-36 weeks of pregnancy.
- Increasing CVS occurs due to the increase in plasma volume to 35-47% and the volume of circulating red blood cells at 11-30%, as a result, the hematocrit decreases to 33-38%.
- Pregnancy worsens CVD and can lead to emergency conditions that require urgent measures, not only from the obstetrician, but also from the therapist, cardiologist, surgeon.

Rheumatism

- Pregnant rheumatism occurs in 2.3 - 6.3%, moreover it occurs exacerbation of 2.5 - 25%, most frequently in the first trimester to 12 weeks and 24-32 weeks of pregnancy and in the postpartum period.
- Acquired rheumatic heart disease consist for 75-90% of all cardiac lesions in pregnancy.
- Of all forms of rheumatic origin vices
- most often seen in the form of mitral defects
- combination of insufficiency and stenosis of the left atrioventricular orifice

To predict the pregnancy outcome and childbirth

- The following factors are relevant:
- The activity of rheumatic process
- The form and stage of rheumatic
- Compensation or circulatory decompensation
- The degree of pulmonary hypertension
- Irregular heartbeat
- Joining obstetric pathology

Pregnancy in women with mitral stenosis mitral insufficiency

- The term of 24-32 weeks - commissurotomy.
- The term of 38-40 weeks - caesarean section.
- Mitral insufficiency - independent labor.
- In the presence of regurgitation - abortion in the early stages or early delivery.

Aortic Valve Stenosis and Regurgitation

- Aortic stenosis
- Pregnancy is permissible in the absence of left ventricular hypertrophy and circulatory failure.
- In aortic stenosis, severe - required valve replacement and to resolve the issue of the possibility of pregnancy.
- Aortic insufficiency
- Upon accession, the degree of heart failure 2B pregnancy is unacceptable.

Congenital heart defects

- Ventricular septal defect
- with early surgical correction of the defect, the absence of pulmonary hypertension, pregnancy and childbirth take place without complications. In heart failure, childbirth finish cesarean section.
- Patent ductus arteriosus (Botallo) flow - with a small diameter - pregnancy and birth can take place without complications.
- Tetralogy of Fallot - narrowing of the pulmonary arteries, high defekt ventricular septal DEXTROPOSITION aorta and right ventricular hypertrophy - at early surgical correction of pregnancy can take place without complications.
- Stenosis of pulmonary artery with signs of right ventricular circulatory failure is a contraindication to nurturing a pregnancy.

Classification of the degree of risk of adverse pregnancy outcomes in pregnant women with heart defects (for LV Vanina, 1972)

- 1 degree - Pregnancy with heart defects with no signs of heart failure and acute rheumatic process.
- 2 degree - Pregnancy with heart defects with initial signs of heart failure

(dyspnea , tachycardia) and there are indications that the active phase of rheumatism

- 3 degree - Pregnancy with decompensated heart diseases with symptoms of right heart failure, the presence of active-phase symptoms of rheumatism, atrial fibrillation, pulmonary hypertension.
- 4 degree - Pregnancy with decompensated heart diseases with symptoms of left ventricular failure, atrial fibrillation with thromboembolic manifestations of pulmonary hypertension.
- Saving pregnancy is permissible for 1 and 2 degrees of risk under the supervision of a cardiologist with a 3-fold hospitalization in obstetric hospital levels 3.

Pregnancy and the operated heart

- Recently, more often pregnant underwent heart surgery before and during pregnancy.
- Often after surgery relapse underlying disease, such as
- commissurotomy restenosis.
- Therefore, the possibility of carrying the pregnancy and permissibility of birth must be resolved individually before pregnancy, depending on the general condition of the pregnant woman.
- Pregnancy permissible 6-12 months after surgery.

Prenatal care in cardiovascular diseases

- Pregnant with CVD should be hospitalized for at least 3 times during pregnancy.
- The first 12 weeks, preferably in a specialized hospital for careful cardiologic examination and a decision on the possibility to prolong pregnancy.
- Upon detection of grade 3 and 4 show the risk of termination of pregnancy after cardiac and antirheumatic therapy.
- The second in the 26-32 weeks of pregnancy in a specialized hospital for examination CAS functions.
- The third in the 36-37 weeks of gestation to decide on the method of delivery.

Indications for interruption of pregnancy in cardiovascular diseases

- Mitral stenosis with symptoms of heart failure
- Combined mitral defect with predominance of stenosis
- The combination of mitral stenosis with aortic insufficiency
- Expressed failure tricuspid valve
- Stenosis of the orifice pulmonary artery, aortic coarctation
- "Blue vices"
- Cardiomegaly, myocarditis, cardiomyopathy, subacute bacterial endocarditis, rheumatic heart disease
- The combination of heart disease with hypertension, glomerulonephritis or thyrotoxicosis
- Signs of decompensation any heart defects, that is, heart failure (shortness of breath, edema, increased heart rate, cough, increased heart size)

Pregnancy and childbirth in Arterial hypertension

- Hypertension detected in 5% of pregnant women,
- of this number:
- in 70% of cases of gestational hypertension
- 15-25% - chronic arterial hypertension (diagnosed before pregnancy, or 20 weeks of pregnancy)
- 2-5% - secondary hypertension

Arterial hypertension

- In 7% of pregnant women at diagnosis using 4 criteria:
- Increase of systolic blood pressure to 140 mmHg
- Increased diastolic blood pressure 90 mmHg
- Persistent increase in systolic blood pressure by 30 mmHg from initial
- Increased diastolic blood pressure by 15 mm Hg from initial
- Resistant hypertension is considered to be at an elevated blood pressure at intervals of 6:00

Complications of hypertension

- Preeclampsia
- Violations of placental function system
- delay intrauterine development of the fetus

- Treatment of hypertension includes the creation of a pregnant psycho-emotional rest, the compliance regime of the day, a diet with salt restriction, medication and physiotherapy.

Diseases of the kidneys and urinary tract

- Among extragenital pathology in pregnant kidney disease and urinary tract infections are the second after diseases of the cardiovascular system and can be dangerous for both mother and fetus.
- During pregnancy, there is hypotension, and the expansion of the renal pelvis and ureter system due to the impact of placental progesterone, the uterus is deflected to the right

Paths spreading the infection. Clinical forms.

- ascending path (from the urethra, bladder)
- descending - lymphogenous (from the intestine, especially for constipation)
- hematogenous (in various infectious diseases)
- Pathogens - Enterobacteriaceae (Escherichia coli, Proteus, Klebsiella), enterococcus, streptococcus, fungi Candida type, Staphylococcus aureus, Pseudomonas aeruginosa.
- Common clinical forms:
- Pyelonephritis, hydronephrosis, asymptomatic bacteriuria. Less - glomerulonephritis, urolithiasis, tuberculosis, kidney disease, abnormalities of the urinary tract, pregnancy with a single kidney.

Pyelonephritis

- It is the most common disease in pregnancy (6 to 12%), at which suffers the concentration ability of the kidneys.
- There gestational pyelonephritis - pyelonephritis, appearing for the first time during pregnancy.
- Pyelonephritis has an adverse effect on pregnancy and the fetus.

Clinical presentation and laboratory evidence in pyelonephritis

- Fever, tachycardia
- Pain in the lumbar region
- Headache, nausea, weakness
- Pain during urination
- Laboratory data:
- leukocytosis
- Pyuria, bacteriuria
- Anemia

Glomerulonephritis

- Glomerulonephritis - 0.1 - 0.2% in pregnant women.
- The causative agent of B-hemolytic streptococcus group A.
- It occurs 10-15 days after undergoing a sore throat. There are acute and chronic.
- Pregnant chronic glomerulonephritis occurs in the following forms - hypertension, nephrotic mixed and latent.
- Obstetric tactics in the form of latent and nephrotic gestation pregnancy is not contraindicated.
- In hypertensive and mixed form in combination with azotemia pregnancy is absolutely contraindicated.

The course of pregnancy and childbirth in renal disease

- Premature delivery
- Preeclampsia
- Septic complications during the postpartum period
- Indications for termination of pregnancy in renal disease:
- Hypertensive and mixed form of glomerulonephritis
- Pyelonephritis, hydronephrosis single kidney
- Bilateral hydronephrosis
- Tuberculosis of the kidney with renal scarring

Diabetes and Pregnancy

- The problem of pregnancy in women with diabetes is relevant worldwide. It adversely affects fetal development, increased frequency of malformations, perinatal morbidity and mortality.
- Diabetes is divided:
- type I diabetes - insulin-dependent (IDDM);
- type II diabetes - insulin dependent (NIDDM);
- diabetes type III - gestational diabetes (GD), which develops during pregnancy and is a violation of transient utilization of glucose in women during pregnancy.

IDDM and NIDDM

- There are 3 types of diabetes.
- The most common IDDM. The disease is usually diagnosed in girls in childhood, during puberty. It is characterized by absolute insulin deficiency, prone to ketoacidosis and progression of vascular complications.
- NIDDM meet in older women (over 30 years) and occurs less severe, often against a background of obesity is characterized by relative insulin deficiency often occurs without vascular complications.
- Gestational diabetes is first diagnosed during pregnancy is more common in 27-32 weeks of pregnancy.

Physiological changes in pancreatic function in pregnancy

- In physiological pregnancy, the following changes of the pancreas:
- Lowering glucose tolerance
- Reduced sensitivity to insulin
- Intensified insulin decay
- Increased circulation of free fatty acids
- Change of carbohydrate metabolism due to the influence of placental hormones placental lactogen, estrogen, progesterone, corticosteroids.
- Insulin - an anabolic hormone that promotes glucose utilization and biosynthesis of glycogen, fat and protein.

Diabetes

- Risk factors for gestational diabetes:
- Obesity (> 90 kg. Or 15% of the weight before pregnancy)
- Family history
- Childbirth large fetus
- polyhydramnios
- glycosuria
- Recurrent candidiasis, repeated urinary tract infection.
- Diabetes type of sugar according to the WHO curve fasting 7 mmol / L after 1 hour (100g.) Glucose - 11.1 mmol / L, 2 hours- 7.8 mmol / l and glycosuria

Current diabetes during pregnancy

- In the I trimester of pregnancy. Marked improvement in the disease course, increased insulin sensitivity, decreased blood glucose levels, may develop hypoglycemia, which is associated with increased glucose utilization fruit. insulin dose reduced by 1/3.
- In the II trimester of pregnancy is deteriorating carbohydrate tolerance, marked hyperglycemia, ketoacidosis can be.
- With 32 weeks for diabetes improves. By the end of pregnancy again improves carbohydrate tolerance, due to the influence of the fetal insulin and glucose utilization mother to fetus. insulin dose reduced by 20-30%.

Diabetes in Pregnancy

- Need 3 fold hospitalization up to 12 weeks or in the diagnosis of pregnancy, 20-24 weeks, 32-34 weeks.
- Joint management with the endocrinologist
- At 14-18 weeks, the definition of blood alpha-fetoprotein.

Obstetric complications in the second half of diabetes in pregnancy and childbirth :

- В 75-85% случаев беременности с осложнениями:
- преэклампсия;
- многоводие;
- инфекции мочевыводящих путей;
- пороки развития плода.
- Текущая поставка является сложным:
- слабость родовой деятельности;
- несвоевременное излитие околоплодных вод;
- наличие крупного плода;
- развитие функционально узкого таза;
- Трудность рождение плечевого пояса;
- родовая травма матери и плода.

Treatment. Contraindications diabetes in pregnancy

- Treatment: Insulin therapy is required during pregnancy, even in mild forms of diabetes.

- Contraindications to pregnancy in diabetes
- The presence of rapidly progressive vascular complications: microangiopathy, retinopathy, nephrosclerosis
- insulin-resistant diabetes labile forms
- The combination of diabetes with active tuberculosis
- The combination of diabetes with sensitization
- Diabetes mellitus of both parents

Liver disease and pregnancy

- Liver provides lipid metabolism, carbohydrate and protein, and protein synthesis and blood clotting factors, detoxification function.
- Due to the increase in CBV change biochemical liver values.
- Fibrinogen trimester 1 - 2.95 g / l during 2 trimester 3.11 g / l, 3 trimester - 4.95 g / l
- Alkaline phosphatase - increased to 75 IU versus 25 IU is pregnant
- Increased cholesterol levels by about a factor of 2
- The content of total protein and albumin s blood plasma is reduced by 20%
- The level of bilirubin and transaminases does not change

Liver disease and pregnancy

- Acute steatosis pregnant - a serious disease, often occurs in the III trimester of pregnancy.
- Clinical presentation:
- Jaundice occurs in 90% of pregnant women
- Pain in the right upper quadrant in 60% of pregnant women
- Arterial hypertension, proteinuria, swelling 50%
- Fever in 45% of pregnant women
- Ascites in 40% of pregnant women

Acute steatosis pregnant

- Laboratory data:
- Increased transaminases 2-3 times
- Leukocytosis up to 20-30 thousand
- Increased bilirubin
- Advanced - ultrasound of the abdomen, CT
- Liver failure is accompanied with renal failure, it is not accompanied by encephalopathy
- Treatment - delivery is regardless of gestational age

Intrahepatic cholestasis of pregnancy (Cholestatic steatosis)

- Pathogenesis:
- It involves a violation of metabolism of estrogen in the liver
- The excess of endogenous sex hormones associated with pregnancy stimulates bile formation and inhibits biliary excretion
- Clinical presentation
- generalized itching
- Jaundice (intermittent symptom)
- Marked increase in the level of direct bilirubin
- Increased alkaline phosphatase levels in the 7-10 times
- Increasing the level of bile acids 10-100 times
- Transaminase level or rises slightly changed
- Treatment - symptomatic

The virus hepatitis A

- Clinical presentation
- Loss of appetite
- Headache
- Nausea
- vomiting
- Loose stools
- Fever
- Jaundice
- The darkening of the urine and faeces discoloration
- The appearance of antibodies to hepatitis A virus

The virus Hepatitis B

- Clinical presentation
- Loss of appetite
- Nausea
- vomiting
- Fever
- Jaundice
- The emergence Hbs antigen
- There is a high risk of bleeding during the postpartum period, especially at PTI - 50% or less, in severe
- Delivery is recommended only on completion of the acute stage of the disease at any viral hepatitis

Thyroid Disease and Pregnancy

- The thyroid gland - is an endocrine organ that produces the most important for the body's hormones - thyroxine (or tetraiodothyronine - T4) and triiodothyronine (T3).
- During pregnancy can take place without an increase in thyroid dysfunction and hyperthyroidism (hyperthyroidism) and hypothyroidism (hypothyroidism).
- Changes in thyroid function during pregnancy is associated with an increase in the degree of binding of thyroid hormones to plasma proteins, increasing levels of hCG, failure of the thyroid gland with iodine supply.

Diffuse toxic goiter

- The most frequently encountered during pregnancy diffuse toxic goiter (DTG) (from 0.2 to 8%), which is binding on the symptoms of hyperplasia and hyperthyroidism.
- The course of pregnancy:
- In the I half - in the majority of pregnant marked exacerbation
- In II the second half due to the blockade of the excess hormones in pregnant women with easy degree of thyrotoxicosis comes improvement.

Complications of pregnancy, childbirth and the postpartum period in diffuse toxic goiter

- Complications during pregnancy:
- Preeclampsia
- Premature delivery
- Bleeding during the postpartum period
- The delivery can often occur decompensation of the cardiovascular system.
- Exacerbation of during the postpartum period thyrotoxicosis demands:
- 1) treatment Mercazolilum
- 2) suppression of lactation (milk it passes through to the fetus)

Hypothyroidism

- There are three degrees of severity:
- Mild - increased nervous irritability, sweating, tachycardia up to 100 beats per minute, body weight loss of up to 15%, working capacity is not compromised.
- Average degree - increased nervous irritability, sweating, tachycardia up to 120 beats per minute, weight loss of more than 20%, proptosis, decreased disability.
- Severe - increased nervous irritability, sweating, tachycardia up to 140 beats per minute, weight loss up to 50%, proptosis, atrial fibrillation, abnormal liver function, adrenal cortex, the ability to work completely disrupted.

Tactics obstetrician-gynecologist and endocrinologist

- Hospitalization in the early period of up to 12 weeks for examination and a decision on the possibility of pregnancy.
- Pregnancy probably to bear only with a mild degree of hyperthyroidism and positive treatment diyodtirozina
- Pregnancy is contraindicated in moderate to severe severity of diffuse goiter and nodular goiter, if a woman does not plan to be operated in pregnancies up to 14 weeks.

Anemia

- Asiderotic anemia
- It occurs in 20-30% of pregnant women (normal HB - 110 g / l)
- It develops after 20 weeks of gestation in 65% of pregnant women
- Preventive courses 12, 20, and 32 weeks of lactation
- Obstetric tactics - independent labor, taking into account the expected blood loss of 0.3% by weight of the body of a pregnant
- aplastic anemia
- It occurs in 0.4% of pregnant women. The analysis indicated a decrease in red blood cells, reticulocytes, leukocytes. In the early period indicated termination of pregnancy after 28 weeks - caesarean section with splenectomy

Hemolytic anemia

- Detect abnormal red blood cells (spherocytes), there is a violation of the immune system
- In laboratory assays microspherocytosis, reticulocytosis up to 80% with a sharp decrease in osmotic resistance of red blood cells, a positive Coombs, splenomegaly
- Obstetric tactics: in early pregnancy - abortion, in the period after 28 weeks of pregnancy - independent labor

Risk factors for evolution lung diseases

- pernicious habits (smoking, alcohol, drugs);
- chronic lung disease;
- endocrine disease;
- immunodeficiency states;
- heart failure;
- surgery conducted on the chest, the abdominal cavity;
- Exposure to a horizontal position.

Diseases of lungs

- Acute pneumonia - an infectious disease, in which the formation of the inflammatory infiltrate in the lung parenchyma.
- There is a seasonal incidence of pneumonia, including among pregnant women: often suffer during the cold season.
- In full-term pregnancy it is preferable to conduct the birth vaginally.
- The indication for Caesarean section in patients is the presence of cardiopulmonary failure, a decrease in forced expiratory volume <60% of normal, the presence of spontaneous pneumothorax in anamnesis.

The active tuberculosis of the lungs

- Indications for abortion up to 12 weeks: • widespread destructive process in the lungs are badly giving in treat; • exacerbation the process during a previous pregnancy; • pregnancy less than 2 years after suffering a miliary TB

Diseases of lungs

- Chronic respiratory failure Votchal B. E. divided into 4 degrees:
- Grade I - shortness of breath occurs when unusual loads (short-run, fast, climbing stairs); ?? II degree - shortness of breath occurs when normal load of everyday life; III degree - shortness of breath occurs at low loads (dressing, washing); IV degree - shortness of breath occurs at rest.

References

- 1. Gynecology: Textbook / Ed. G.M.Savelevoy, V.G.Breusenko. - 3rd Ed. - M., 2008. - 432 p.
- 2. Smetnik VP, LG Tumilovich Non-immediate gynecology - 3rd ed, stereotip.- MA, Medical Information Agency. 2002.
- 3. EM Vikhlyaeva Manual Endocrine Gynecology. - M., 2002.
- 4. Shechtman MM Extragenital pathology and pregnancy, M., 2006.

Thank you for your attention!