

ANEMIA AND CARDIOVASCULAR DISEASES DURING PREGNANCY: DIAGNOSIS, MANAGEMENT, AND GP TACTICS

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Abstract: This article examines the impact of anemia and cardiovascular diseases during pregnancy on the female body, their diagnosis, management strategies based on modern approaches, and the role of the General Practitioner (GP). Pregnancy is a period marked by significant physiological changes, during which preexisting chronic diseases may worsen or new pathological conditions may emerge. In particular, cardiovascular and hematological disorders pose serious risks to maternal and fetal health. The article highlights practical recommendations for clinical case management, modern diagnostic capabilities, and the primary care role of GPs in ensuring maternal and fetal well-being.

Keywords: pregnancy, anemia, cardiovascular system, diagnosis, GP, perinatal risk, medical tactics

Introduction: During pregnancy, the physiological changes that occur in a woman's body may exacerbate existing chronic illnesses. In particular, anemia and cardiovascular disorders are among the leading causes of maternal and fetal complications. Anemia is the most frequent hematologic disorder in pregnancy and is associated with oxygen deficiency, difficult labor, and intrauterine growth restriction. Cardiovascular diseases, on the other hand, lead to increased cardiac workload and create complications in the management of pregnancy. Therefore, the GP's role in early diagnosis and management is of great importance.

Currently, the main causes of anemia identified during pregnancy include iron deficiency, vitamin B12 deficiency, and folate deficiency. Globally, nearly half of women of reproductive age suffer from anemia. Among cardiovascular diseases, arterial hypertension, heart failure, and arrhythmias are the most common. Modern medicine employs a wide range of laboratory and instrumental diagnostic tools, including complete blood counts, biochemical analyses, electrocardiography (ECG), echocardiography, and Doppler sonography. The GP is responsible for regular monitoring of pregnant women, assessing vital signs during each visit, and evaluating clinical symptoms. Mild anemia can be treated with multivitamins and oral iron preparations, while severe cases require inpatient treatment. In cardiac pathologies, management plans are developed in cooperation with cardiologists.

ANEMIA IN PREGNANCY

Anemia is one of the most common hematologic disorders during pregnancy and develops primarily due to iron, folate, and vitamin B12 deficiencies. Physiological hemodilution in pregnancy leads to a relative decrease in hemoglobin concentration, but true anemia adversely affects maternal condition, immunity, and fetal development.

Clinical manifestations: - General weakness and fatigue

- Dizziness and headache
- Tachycardia
- Pallor of skin and mucous membranes
- Hair loss and brittle nails

Diagnosis: - Hemoglobin <110 g/L indicates anemia

- Erythrocyte count and hematocrit levels
- Serum ferritin, iron, and total iron-binding capacity (TIBC)
- Serum vitamin B12 and folate levels

Treatment: - Mild anemia: oral iron supplements and multivitamins

- Moderate to severe anemia: parenteral iron therapy
- Dietary modification with iron-rich foods (meat, liver, greens, legumes)
- Vitamin supplementation for B12 and folate deficiencies

GP Tactics: - Evaluate hemoglobin each trimester

- Identify underlying causes and develop individualized treatment plans
- Provide nutritional counseling
- Monitor treatment response and refer severe cases to specialists

CARDIOVASCULAR DISEASES IN PREGNANCY

During pregnancy, the cardiovascular system undergoes substantial physiological stress. Cardiac output, heart rate, and blood volume increase, which can decompensate pre-existing cardiac disorders such as hypertension, heart failure, arrhythmias, and valvular defects.

Common cardiac pathologies: - Arterial hypertension (gestational or chronic)

- Heart failure
- Arrhythmias
- Rheumatic heart disease
- Congenital heart defects

Clinical manifestations: - Dyspnea (especially in recumbent position)

- Palpitations or irregular heartbeat
- Peripheral edema (especially in the legs)
- Fatigue and chest pain

Diagnosis: - ECG to assess rhythm and rate

- Echocardiography to evaluate cardiac structure and function
- Regular blood pressure monitoring

- Laboratory tests (NT-proBNP, electrolytes)

- Fetal Doppler assessment

Treatment: - Conducted jointly with a cardiologist

- Selection of pregnancy-safe cardiac medications (careful use of beta-blockers, diuretics, anticoagulants)

- Limitation of salt and fluid intake

- Ensuring adequate rest

- Anticoagulant therapy when indicated (e.g., valve prostheses, arrhythmias)

GP Tactics: - Early identification of women with heart disease

- Routine monitoring of cardiac function (ECG, pulse, blood pressure)

- Referral to cardiologists for co-management

- Early detection of preeclampsia, gestosis, and other complications

- Multidisciplinary planning for delivery with obstetrician and cardiologist

MATERNAL AND FETAL RISKS

Anemia and cardiovascular diseases increase the risk of multiple pregnancy complications, including: - Fetal hypoxia

- Intrauterine growth restriction (IUGR)

- Postpartum hemorrhage

- Preterm labor

- Perinatal mortality

- Maternal cardiac decompensation

Preventing these complications requires early diagnosis, continuous monitoring, and multidisciplinary collaboration. The GP, as the primary healthcare provider, plays a key role in identifying risks early, maintaining follow-up, and ensuring timely referrals when necessary.

DIAGNOSIS

The diagnosis of anemia is based on hemoglobin concentration, erythrocyte indices, ferritin level, and B12 and folate measurements. Cardiovascular diseases are identified through ECG, echocardiography, blood pressure monitoring, and patient history. Diagnosis is essential not only for identifying pathology but also for stratifying pregnancy into risk categories.

GP TACTICS

GPs should employ an individualized approach when managing pregnant patients. Each case requires risk assessment based on medical history, laboratory results, and instrumental findings. In anemia, GPs should provide dietary advice, prescribe iron preparations, and monitor progress. For cardiovascular disorders, the GP should ensure cardiac monitoring, coordinate with specialists, and supervise pregnancy outcomes. Additionally, psychological support, childbirth preparation, and postnatal care guidance are important elements of comprehensive management.

CONCLUSION

Anemia and cardiovascular diseases are among the most common and dangerous conditions during pregnancy, posing significant risks to maternal and fetal health. Early detection and appropriate treatment are key to preventing complications. The GP serves as the main link in this process, providing primary healthcare, monitoring, and referral as needed. Effective use of modern diagnostic tools and therapeutic strategies plays a crucial role in ensuring the health of both the pregnant woman and her unborn child.

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