

**CLINICAL - HEMODYNAMIC ASSESSMENT OF RHYTHM  
DISORDERS IN PREGNANT WOMEN ACCORDING TO HOLTER  
MONITORING DATA**

**O.M. Makhsudov .**

*Assistant to the department of propaedeutics of internal diseases*

*Andijan State Medical Institute*

*Andijan, Uzbekistan.*

***Abstract.** Disturbances of a heart rhythm and conductivity of pregnant. Rhythm disturbances during pregnancy are the special medical problem as they may cause fetus life activity disturbances. The article describes the current problems of heart rhythm disturbances of pregnant women, possibilities of drug and non-drug correction. Is demonstrated a clinical study.*

**Key words:** *heart rhythm disturbances, pregnancy , xolter monitoring .*

Heart rhythm disorder (HRD) is a change in the basic electrophysiological properties of the heart (automatism, excitability, conduction), leading to a violation of the coordinated contraction of the whole heart or its departments and manifested by a change in the frequency, regularity of the rhythm and conduction of excitation through the conduction system of the heart. Quite often (from 5.1% to 38.7%) in practically healthy pregnant women, a variety of rhythm disturbances can occur. They represent a serious medical problem for a number of reasons. Firstly, the arrhythmias themselves can pose a threat to the health and life of a pregnant woman and fetus. Secondly, the frequency of arrhythmias during pregnancy increases, due to significant physiological

changes in the mother's body. Pregnancy alone can act as a proarrhythmic factor [1].

Diagnosis of cardiac arrhythmias and dynamic monitoring during pregnancy do not differ significantly from those in non-pregnant women. Pregnant women with complaints of palpitations, "interruptions" in the work of the heart, as well as healthy pregnant women with asymptomatic arrhythmias detected on the electrocardiogram, should undergo a thorough examination, including Holter daily ECG monitoring and, if necessary, an electrophysiological study (transesophageal to diagnose, clarify the mechanism of tachycardia, possibly providing relief therapy).

Holter monitoring is desirable to be carried out in dynamics (at the 28-30th week, before delivery and 2 months after delivery). If rhythm disturbances are detected in healthy pregnant women, a more detailed examination is required to exclude, first of all, an organic pathology of the heart. Heart rhythm disturbances are most often accompanied by heart defects, in addition to the pathology of the bronchopulmonary system, thyroid dysfunction, electrolyte disturbances and other pathological conditions.

Of course, the analysis of the course of previous pregnancies is important. To diagnose heart rhythm disorders, as well as the causes that cause them, in the first half of pregnancy, patients should be sent for examination to the cardiology department of a therapeutic hospital, and in the second half of pregnancy - to the pathology department of pregnant maternity hospitals. Pregnant women with a history of arrhythmias, as well as patients in whom rhythm disturbances were detected in previous pregnancies, should be under dispensary observation at antenatal clinic therapists.

NRS are found in almost 20% of pregnant women, and most often, according to various authors, supraventricular extrasystoles (SVEP) are detected (in 28-67% of cases) and ventricular extrasystoles (VEP) (in 16-59% of cases). NRS are clinically more often asymptomatic and are determined only during

routine ECG registration or ECG Holter monitoring [2]. In the vast majority of cases, extrasystolic heart rhythm disturbance is not a contraindication to natural childbirth and does not require medical treatment.

The appointment of antiarrhythmic drugs, primarily cardioselective  $\beta$ -blockers, is indicated for poor subjective tolerability of extrasystole and in pregnant women with high grade extrasystole, prognostically unfavorable.

Regarding the incidence of SVT during pregnancy, data are conflicting. According to the literature, the risk of a primary occurrence of SVT during pregnancy increases by 34%, and the risk of recurrence of SVT by 29%. On the other hand, in women with accessory pathways, tachycardia episodes are much more common than in women with AV reciprocal tachycardia [3].

The management of pregnant patients with paroxysmal AV tachycardia is the same as in non-pregnant patients. Initially, vagal samples should be used. With successful relief of paroxysm using vagal tests, no additional antiarrhythmic therapy is required. In the event that tachycardia continues, according to the recommendations of the American Heart Association, the method of choice is intravenous administration of ATP. A retrospective analysis showed the safety and efficacy of this drug in the second and third trimesters of pregnancy. The efficacy and safety of ATP in the first trimester has not been studied. For the purpose of timely detection of bradycardia, fetal cardiac monitoring is recommended. It is inappropriate to administer ATP to pregnant women with WPW syndrome (it is possible to develop atrial fibrillation with a high frequency of ventricular excitations). If ATP is ineffective, intravenous propranolol and metoprolol may be used. Verapamil should be avoided due to the long-term hypotensive effect.

EIT is also indicated for patients with unstable hemodynamics. Fetal monitoring should be performed during and immediately after ET. Antiarrhythmic therapy with drugs IA- (disopyramide), IC- (propafenone), III- (sotalol) classes is indicated for patients with recurrent atrial fibrillation and

flutter to prevent recurrence of AF, as well as for patients with hemodynamic disorders.

A special problem is the solution of the issue of the possibility of pregnancy and childbirth in women with an implanted artificial pacemaker (IVR). IVR with a constant pacing rate does not allow the heart to respond flexibly to changing hemodynamic conditions during pregnancy, which in some conditions complicates the situation. Implantation of an IVR with an adjustable stimulation frequency makes it possible to maintain pregnancy under the condition of frequent monitoring of the IVR.

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