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NEWEST METHODS OF ARRHYTHMIA MONITORING IN PREGNANT PATIENTS

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Аннотация. *У ERT есть больше шансов обнаружить серьезную аритмию у всех беременных женщин, потому что они носит монитор в течение гораздо более длительного периода времени [4]. Основываясь на полученных результатах, мы считаем, что ERT является лучшим методом диагностики у беременных женщин, как и у небеременного населения. Поскольку у женщин с предшествующей аритмией чаще диагностировалась серьезная аритмия, необходима агрессивная стратегия диагностики и лечения. Однако акушерские вмешательства могут быть неоправданны у женщин с аномальными нарушениями ритма, которые прошли адекватное лечение.*

Ключевые слова: *беременные женщины, нарушения сердечного ритма, холтеровское мониторирование, регистраторы цикла событий.*

Annotation. *ERT should be more likely to detect a serious arrhythmia in all gravidas because she wears the monitor for a much longer period of time [4]. Based on findings, we believe that ERT is a better method of diagnosis in pregnant women, as it is in the nonpregnant population. Because women with a previous arrhythmia were more likely to be diagnosed with a serious arrhythmia, an aggressive diagnostic and management strategy is warranted. However, obstetric interventions may not be warranted in women with abnormal rhythm disturbances that have been adequately treated.*

Keywords: *pregnant women, cardiac arrhythmias, Holter monitoring, event loop recorders.*

Palpitations, dizziness, and syncope are frequent complaints in pregnancy. In fact, Shotan et al documented that these complaints were among the most frequent cause of referral to the high-risk obstetric clinics at the University of Southern California medical center [1]. An increased incidence of arrhythmias has been reported during pregnancy in patients with known heart disease, and adverse fetal outcomes occur more commonly in women who suffer antepartum arrhythmias compared with gravidas who do not have this disturbance [2].

The presence of unexplained palpitations, syncope, near syncope, or episodic dizziness is considered a class 1 indication for ambulatory electrocardiogram (ECG) monitoring according to recent guidelines published by the American College of Cardiology and the American Heart Association [3].

Previous studies of pregnant women with arrhythmias have usually employed Holter testing, ECG with symptoms to assess for presence of arrhythmia. Holter ambulatory monitors typically record the ECG continuously for a period of 24 to 48 hours. Unfortunately, the yield from Holter testing may be diminished compared with newer techniques as day-to-day variation in frequency of arrhythmias is high. Ambulatory event loop recorders (ERTs) document the ECG in a continuous manner and store a few seconds in memory but only when an event

marker is triggered by the patient at the time of symptoms. These devices can transfer data readily over conventional telephone lines and can be used for several weeks to identify infrequently occurring arrhythmias. Newest event recorders have autocapture modes, which will automatically record abnormal rhythms meeting predetermined parameters even in the absence of symptoms. Event recorders were demonstrated by Kinlay et al to be twice as likely to provide a diagnostic rhythm strip during symptoms and to be more cost-effective when compared with Holter monitoring [4].

In the current studies, assessed by European scientists the frequency of various rhythm disturbances obtained following placement of a Holter monitor or an ERT in patients referred to the Women and Heart Disease program at the University of Illinois at Chicago (UIC) medical center for clinical symptoms. Planned a subgroup analysis of the ERT group. As suspected, it found that benign arrhythmias were more frequently diagnosed than serious arrhythmias regardless of type of testing performed and that benign arrhythmias were associated with benign outcomes in women referred for symptoms. Also demonstrated that women with a history of arrhythmias had an eightfold increased risk of experiencing a serious rhythm disturbance during gestation, but not those with preexisting heart disease. However, contrary to hypothesis, a diagnosis of serious rhythm disturbance did not result in greater chance of cesarean delivery, a greater risk for induction of labor, nor having a newborn with cardiac arrhythmias during the neonatal hospitalization. Referral group was a relatively healthy group of women including only a small number of women with underlying structural heart disease, which likely explains inability to demonstrate a relationship between structural heart disease and serious arrhythmia. Founded that obese women (BMI 30 kg/ m2) in the ERT group had a fourfold increased risk in the occurrence of a serious rhythm disturbance during gestation. It may be that obese pregnant women have more sleep apnea and are predisposed to rhythm disturbances. Also discovered that higher calcium and magnesium levels were more protective against arrhythmias. Total calcium falls in

pregnancy because of physiological hypoalbuminemia, but free calcium should not change.

A higher percentage of malignant arrhythmias were detected with ERT (21% by ERT and 5% by Holter monitor) but due to the small numbers this was not significant. It would seem logical that a recorder worn for several weeks by a pregnant woman would be better able to detect an abnormality compared with a recorder worn for 24 to 48 hours, as Kinlay et al demonstrated in a nonpregnant population, although we cannot exclude a selection bias explaining the sensitivity of the two techniques as patients were sent for an event recorder or Holter monitor at the discretion of the ordering cardiologist [4].

Moreover, a high percentage of women diagnosed by ECG had serious arrhythmias in comparison with other modalities. This also reflects a selection bias in that the women were symptomatic long enough for an ECG to be obtained during an arrhythmia and that once a diagnosis was made, no further evaluation was performed. It also appears that BMI has a strong influence on the occurrence of serious rhythm disturbances detected during gestation by ERT. It is interesting that in the Women's Health Study, increased BMI was associated with both short- and long-term increase in atrial fibrillation risk [5]. Similarly, obesity-associated sleep disorder has been found to be associated with paroxysmal atrial fibrillation and nonsustained ventricular tachycardia. Obesity may contribute to arrhythmias through effects on heart rate as seen in ECG interval changes (increased QTc interval, QT dispersion, and repolarization abnormalities). Prolongation of the QT interval, a risk factor for arrhythmias, has been described with visceral obesity in healthy, premenopausal women. However, when assessed the entire group of gravidas presenting with symptoms by multivariate analysis, BMI was no longer significant, which may be due to the fact that Holter testing has reduced sensitivity for arrhythmia detection in comparison to ERT.

ERT should be more likely to detect a serious arrhythmia in all gravidas because she wears the monitor for a much longer period of time [4]. Based on findings, we believe that ERT is a better method of diagnosis in pregnant women,

as it is in the nonpregnant population. Because women with a previous arrhythmia were more likely to be diagnosed with a serious arrhythmia, an aggressive diagnostic and management strategy is warranted. However, obstetric interventions may not be warranted in women with abnormal rhythm disturbances that have been adequately treated. Women with benign rhythm disturbances can be reassured that the risk of adverse outcome is low. Referral to cardiology should be performed in the setting of prior arrhythmias, obesity, and structural heart disease. An evaluation with a thorough history, physical exam, ECG, cardiac echo, and ERT is a reasonable initial diagnostic strategy. Our data may aid in streamlining diagnosis and therapy.

ЛИТЕРАТУРА/REFERENCES

1. Shotan A, Ostrzega E, Mehra A, Johnson JV, Elkayam U. Incidence of arrhythmias in normal pregnancy and relation to palpitations, dizziness, and syncope. Am J Cardiol 1997;79:1061–1064
2. Silversides CK, Harris L, Haberer K, Sermer M, Colman JM, Siu SC. Recurrence rates of arrhythmias during pregnancy in women with previous tachyarrhythmia and impact on fetal and neonatal outcomes. Am J Cardiol 2006;97:1206–1212
3. Атаханова Н.С. Частота факторов риска сердечно-сосудистых заболеваний среди населения Ферганской долины // Re-Health journal 2020, №2-3 (6), стр 1-3.
4. Kinlay S, Leitch JW, Neil A, Chapman BL, Hardy DB, Fletcher PJ. Cardiac event recorders yield more diagnoses and are more costeffective than 48-hour Holter monitoring in patients with palpitations. A controlled clinical trial. Ann Intern Med 1996;124(1 Pt 1): 16–20
5. Tedrow UB, Conen D, Ridker PM, et al. The long- and short-term impact of elevated body mass index on the risk of new atrial fibrillation the WHS (women's health study). J Am Coll Cardiol 2010;55:2319–2327