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MODERN OBSTETRIC TACTICS AND PREVENTION OF FETAL HYPOXIA IN THE ANTENATAL AGE

Resume: Despite the variety and richness of methods of intranatal diagnostics, cardiotocography (CTG) currently plays a central role. This method of diagnosis is non-invasive, allows you to achieve a response in a short period of time, but the reliability of the results remains insufficient.

Often, with questionable CTG data, in fact, a large number of fetuses have no signs of decompensation of placental insufficiency and are evaluated on the Apgar scale of 7 points or more, which reflects the good physical condition of the newborn and indicates the low specificity of the method used.

Changes in the CTG curve do not always unambiguously indicate oxygen deficiency. The reason for the increase in the proportion of instrumental interventions, especially the number of cesarean sections (CS) in an emergency, may be the use of this method. That is why this method is increasingly being subjected to constructive criticism.

Keywords: hypoxia, antenatal period, prevention.

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СОВРЕМЕННАЯ АКУШЕРСКАЯ ТАКТИКА И ПРОФИЛАКТИКА ПРИ ГИПОКСИИ ПЛОДА В АНТЕНАТАЛЬНОМ ПЕРИОДЕ

Резюме: Несмотря на разнообразие и богатство методов интранатальной диагностики, в настоящее время центральная роль принадлежит кардиотокографии (КТГ). Этот способ диагностики является неинвазивным, позволяет достигнуть ответа в короткий промежуток времени, однако достоверность полученных результатов остается недостаточной.

Часто при сомнительных данных КТГ в действительности большое число плодов не имеет признаков декомпенсации плацентарной недостаточности и оценивается по шкале Апгар 7 баллов и более, что отражает хорошее физическое состояние новорожденного и указывает на низкую специфичность использованного метода.

Не всегда изменения на кривой КТГ однозначно указывают на дефицит кислорода. Причиной увеличения доли инструментальных вмешательств, особенно числа кесаревых сечений (КС) в экстренном порядке, может стать использование данного метода. Именно поэтому этот метод все чаще подвергается конструктивной критике.

Ключевая слова: гипоксия, антенатальный период, профилактика.

Introduction. Constant monitoring of vital signs of the fetus is the most important tool to guarantee a favorable completion of the pregnancy and childbirth process. Timely diagnosis of hypoxia and prevention of possible complications is the main goal of assessing the condition of the fetus in childbirth.

The solution to the urgent problem of interpreting the timely diagnosis of fetal condition was an invasive method for assessing the ST segment on an electrocardiogram (ECG) of the fetus and determining the T/QRS ratio in childbirth. Registration of the ST segment (in the English literature STAN) is carried out using a spiral electrode mounted on the adjacent part of the fetus [3]. In response to incipient hypoxia in the fetus, the ST segment rises from the basal

line, as well as an increase in the T / QRS ratio. The varying degree of change in ECG elements reflects the severity of fetal suffering [6].

This technique was developed in the 60-70s of the last century. E. Symonds et al. proposed to use vectorcardiography by the method of S. Larks et al. and thus established a connection between the electrical axis of the heart and the presence of acidosis in the fetus. Later, specialists from Sweden introduced the STAN S31 (Neoventa) device itself into medical practice, which automatically analyzes the ST segment on the fetal ECG.

This technique is additional to CTG. It is believed that without an assessment of the types of CTG curves, the interpretation of the indicators of the direct ECG of the fetus is unjustified [4]. The main purpose of using STAN in childbirth is to timely identify fetuses in need of emergency delivery due to the risk of developing metabolic acidosis. This method makes it possible to timely adjust the tactics of labor management in difficult-to-interpret types of CTG, to minimize the number of hasty surgical interventions [2].

Currently, there is also a tendency to increase the percentage of births by COP. At the same time, the structure of indications for surgery has changed, and relative indications, which most often do not justify themselves, come to the fore.

The improvement of traditional methods, namely the use of STAN technology, is an actual method of introduction into medical practice, which will allow to form a highly qualified, timely diagnosis of fetal conditions during childbirth.

The purpose of the study. Search for the optimal method of diagnosing fetal hypoxia in childbirth to choose the right tactics for their management.

Material and methods. The study was conducted at the Andijan Regional Perinatal Center. 100 birth histories for 2022-2023 were studied according to the set goal. The initial data of the gynecological and obstetric anamnesis, data on the current pregnancy, concomitant complications were carefully analyzed. The

criteria for selecting pregnant women in the observation groups were single pregnancy, fetal head presentation, gestation period of 36 weeks or more, antenatal fetal hypoxia, questionable or pathological type of CTG. The average age of women was 28±1.5 years.

Results and discussion. There were no statistically significant intergroup differences during the analysis of extragenital diseases (p=0.07).

Analysis of the course of this pregnancy showed that the most frequent complications were edema — in 40 (25%) and 48 (30%) in the CTG and CTG+ECG groups, respectively, the threat of termination — in 17.5% (28 observations) in group 1, and in group 2 - 21.2% (34 observations). Chronic fetoplacental insufficiency (CFPN) was noted in 92 (28.7%) of all pregnant women examined, in 42 (45.6%) patients in group 1 and 50 (54.3%) in group 2. At the same time, fetal development delay syndrome (FDD) — in 10 (3.1%), in 6 and 4 in groups 1 and 2, respectively.

In 12 (7.5%) patients in group 1 and 15 (9.3%) in group 2, water scarcity was detected in the third trimester of pregnancy, polyhydramnios - in 10 (6.2%) and 9 (5.6%) pregnant women in groups 1 and 2, respectively.

Pregnancy on the background of preeclampsia occurred in 27 (16.8%) patients in group 1 and 19 (11.8%) in group 2.

We also conducted an analysis of the "umbilical cord entanglement" factor. This pathology was diagnosed ante- and intranatally using ultrasound diagnostics. The total number of observations of umbilical cord entanglement was 21.3% (68). In group 1 - 38 (23,755) observations and in group 2 - 30 (18.75%) observations. The relationship of the presence of umbilical cord entanglement with the development of acute fetal hypoxia was revealed — p=0.03 at pH = 7.2.

It is worth noting that in groups with pathological type of CTG, the number of observations of this factor was 7.8% in group 1 and 13.3% in group 2 among all cases of its detection.

All the above diagnosed complications of a somatic and obstetric-gynecological nature created an unfavorable environment for the onset of pregnancy, and also increased the risk of neonatal disease. The analysis revealed no statistically significant differences between the groups.

In group 1, among 100 observations, the operative resolution was 35.6% (57), while CS was performed in 45 (78.9%) patients, the use of a vacuum extractor in childbirth - in 12 (21.1%). Questionable type of CTG was registered in 85% (29) of observations, the share of pathological type was 14.7% (5). Upon receipt of these results of CTG monitoring, a decision was made on emergency delivery of 34 pregnant women by CS. The number of planned CS was 11 (24.4%).

Among 12 (21.1%) observations in which a vacuum extractor was used, according to CTG data, a questionable type was found in 10 women in labor. In 2 observations, a physiological basal rhythm was noted, and the indication for the vacuum extraction operation was the prolonged course of the second period of labor, the presence of extragenital pathology.

When studying the structure of indications for operative delivery in this group, it was found that the main indications were acute fetal hypoxia (35.2%), clinically narrow pelvis (10.5%), weakness of labor (15.7%), placental abruption (12.2%).

The percentage of natural delivery in group 1 was 64.4% (103). During the analysis of the obtained CTG monitoring data and classification of types according to the International Scale (FIGO), a decrease in fetal motor activity was recorded, and the functional capabilities and compensatory mechanism were regarded as questionable, pathological and preterminal. The data obtained served as an indication for urgent delivery by CS. However, it was found that with a satisfactory condition of newborns with an Apgar score of more than 7 points, almost 1/3 of the examined patients registered the type of CTG as doubtful and pathological (low specificity). This indicates the existence of

unjustified surgical interventions in childbirth that do not benefit the fetus, thereby causing distrust of the reliability of CTG diagnostics. A thorough analysis revealed that out of 34 emergency CS operations, only 22 (64.7%) objectively confirmed the presence of intranatal fetal hypoxia (cord blood pH 7.2—7.3) with an Apgar score of 5 and 6; 6 and 8; 7 and 8 points. Out of 12 observations of the use of a vacuum extractor, 7 (58.3%) confirmed intranatal fetal hypoxia (lactate 4.3—4.6 mmol/L) with an Apgar score of 5 and 7; 7 and 8 points.

In group 2, the following indicators were established: among 160 deliveries, 30 (18.7%) surgical interventions were performed, of which 19 (63.3%) observations of emergency CS, the indication for which was in 15 (78.9%) observations of questionable type of CTG, in 4 (21.1%) — pathological type. The number of observations of the planned CS was 10%.

Out of 8 (26.7%) observations of the use of vacuum extraction based on CTG results, a doubtful type was established in 6 cases, and a physiological basal rhythm was established in 2 (25%) cases. The use of surgical intervention in the last observation is justified by the addition of other obstetric indications, in which prolonged and strong attempts are contraindicated.

Conclusion. The method of transabdominal ECG of the fetus with the introduction of a spiral electrode into the skin of the fetal head is safe, no complications were detected during its implementation.

Reducing the frequency of operative delivery reduces the risks to the health of the mother and fetus and reduces material costs.

In the context of current trends towards an increase in the number of surgical delivery, an invasive method of monitoring the condition of the fetus can play an important role in the timely diagnosis of life-threatening conditions of the fetus, adopting the right tactics and optimizing the management of childbirth.

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