

The Validity of Increasing the Frequency of Caesarean Section in Case of Pathological Changes in Fetal Cardiotocography

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ABSTRACT

Over the past 20 years, there has been a sharp increase in the frequency of caesarean sections in Russia, reaching 30.9% in 2023. However, according to the World Health Organization (WHO), a caesarean section rate exceeding 15% does not affect the level of perinatal losses or maternal mortality.

Keywords: Caesarean Section, Pathological, Cardiotocography, Postpartum Complications

Introduction

An increase in the frequency of CS led to a natural increase in purulent-septic postpartum complications, with a range of 12 to 75%, uterine scar failure after CS (56-84%), and bleeding due to placenta previa and incarceration (25.8%). 59% of newborns after CS have obesity, and 21% have bronchial asthma in the first 12 years after birth. In women after caesarean section, the frequency of pelvic inflammatory diseases increased by 1.7 times, the frequency of non-developing pregnancies increased by 1.9 times, and the frequency of repeated caesarean sections increased by 6.5 times.

Thus, there is an urgent need to find ways to reduce the frequency of caesarean sections without negatively affecting the level of perinatal losses and maternal mortality.

One way to at least partially solve this problem is to analyze the validity of C-sections, the main indication for which was a pathological change in CTG indicators, and to try to find additional criteria for assessing fetal condition that are available to medical institutions of any level.

Material and Methods

A retrospective analysis of births and newborns with normal Apgar scores (8-9 points) was conducted in 82 women who were delivered by caesarean section due to abnormal changes in CTG parameters at the Malinovsky Irkutsk City Perinatal Center. 78 women had full-term pregnancies, and 4 had premature births at 35-36 weeks of pregnancy.

All newborns had their venous blood taken to determine their clinical analysis and acid-base status (ABS). The ABI indicators determined the presence of chronic or acute fetal hypoxia during childbirth using the Eisenberg formula [1].

Among the analyzed contingent, 54 women (65.8%) had their first childbirth, 20 (26.8%) had their second childbirth, 4 (4.9%) had their third childbirth, and 2 women had their fourth childbirth. The most optimal reproductive age was 20 to 29 years (63%) in the studied women, in second place were women from 30 to 34 years (20%). In 15% of women, the age ranged from 35 to 39 years and 2% of women were over 40 years.

10 women (12%) did not have concomitant pathology. Mild iron deficiency anemia was detected in 42 (51%) patients, mild gestational arterial hypertension was observed in 14 (17%)

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patients against the background of 1 degree obesity in 8 people and in 6 combinations of gestational diabetes mellitus and obesity. Moderate preeclampsia was noted in 6 (7.3%) women in 29(34.5%) cases, labor developed spontaneously, 43(51.2%) pregnant women underwent programmed labor with amniotomy and induction or augmentation of labor due to weak labor forces, and 12(14.3%) had signs of pathological CTG before labor [2].

In 7 cases, there was premature rupture of membranes during labor, and in 6 cases, meconium was released into the amniotic fluid.

Pathological type of CTG was recorded mainly in the first 12 hours of labor activity in 62 people (48.8%) and only in 8 (12.6%) after 12 hours of labor activity. In 64 cases (78%), there were variable or late accelerations, a decrease in variability (the magnitude of instantaneous oscillations was less than 8 beats per minute), and a decrease in heart rate (basal level) to 110-120 beats per minute. In 8 (22%) observations, only late Dip-3 decelerations were recorded.

In 42 (51.2%) observations, STCs indicated the absence of both acute and chronic fetal hypoxia [3]. Acute fetal hypoxia was confirmed in 6 (7.3%) cases, which were accompanied by the release of meconium into the amniotic fluid. Chronic fetal hypoxia was recorded in 34 (41.5%) cases. In all cases of fetal hypoxia, RSO2 values exceeded the normative values, and lactate level was > 2.0 mmol/L.

It is interesting to note that the comparison of CTG indicators in women with fetal hypoxia and without hypoxia did not differ significantly from.

Conclusion

When referring women to programmed deliveries with amniotomy and birth stimulation with oxytocin, it is necessary to determine the adaptive capabilities of the fetus-placental complex by dynamically assessing blood flow in the uterine artery and umbilical cord artery after respiratory load, according to a generally accepted technique, when changing the CTG in labor.

Programmed births in women with medium and high perinatal risk during childbirth should take into account the perinatal risk increase index according to the methodology of Kostin I.N., Radzinsky E.V. (2007) when changing the CTG in childbirth.

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