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Research Article

Is Painless Childbirth Possible? Possibilities Of Modern Obstetrics

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ABSTRACT:

This article analyzes the relevance of labor pain relief in modern obstetrics, existing methods, and their impact on maternal and fetal health. The study provides a comparative analysis of the effectiveness of pharmacological (epidural analgesia) and non-pharmacological methods. The primary objective of the research is to highlight the possibilities of reducing obstetric complications and improving the overall childbirth experience through effective pain management. The findings serve as a scientific basis for the widespread implementation of modern perinatal technologies into clinical practice.

Keywords: *Painless childbirth, epidural analgesia, obstetrics, perinatal care, pain threshold, psychoprophylaxis, regional anesthesia, labor activity, maternal and child health.*

INTRODUCTION

One of the main principles of modern medicine is to improve the patient's quality of life and minimize the invasiveness and pain level of any procedure. In obstetrics, severe pain during childbirth not only negatively affects the psycho-physiological state of the woman, but can also cause discoordination of labor activity, fetal hypoxia, and the development of various obstetric complications.

In recent decades, the development of medical technologies has transformed the concept of "Painless childbirth" from a utopia into everyday practice. Today, epidural anesthesia and other regional anesthesia methods allow blocking pain sensation while preserving the woman's consciousness and without harming the physiological course of childbirth. However, the correct assessment of indications and contraindications when using these methods, as well as the prevention of complications, still remain the focus of attention of specialists.

The relevance of this study is determined by the need to improve the quality of medical care provided to women during childbirth and to scientifically substantiate the place of the concept of "painless childbirth" in modern obstetrics.

METHODS

This study aimed to assess the effectiveness of labor pain relief methods in modern obstetrics, and the following methods were used to conduct the study:

1. Systematic analysis and comparative method:A comparative analysis of data on obstetric practice in international (PubMed, Cochrane Library) and local scientific publications published over the past 10 years was conducted. The study examined the effect of epidural analgesia (EA) on the first and second stages of labor, as well as the effectiveness of non-pharmacological methods (water birth, acupuncture, psychoprophylaxis).
2. Statistical grouping:Visual Analogue Scale (VAS) scores were used to assess the pain level during labor. Clinical data on the effects of different anesthesia methods on fetal hemodynamics and the Apgar score of newborns were summarized.
3. Clinical-practical approach:Based on the experience of modern perinatal centers, a methodology was used to assess the doses of pharmacological drugs used in labor management (mainly bupivacaine,

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ropivacaine) and their effect on maternal motor function.

The object of the study was determined to be various physiological and pathological conditions during childbirth and the modern anesthesiological technologies used in them.

RESULTS

The results of the study show that epidural analgesia (EA), which is used in modern obstetrics, is highly effective in reducing labor pain in 90-95% of cases. The pain level on the visual analog scale (VAS) was observed to decrease from 8-9 points before anesthesia to 2-3 points after the procedure. At the same time, it was found that when using modern low-concentration local anesthetics (for example, 0.125% ropivacaine), the mother's motor activity (no motor blockade) was preserved.

Non-pharmacological methods (psychoprophylaxis and water procedures) help improve psychological adaptation in 30-40% of women in the early stages of labor, but are inferior to EA in controlling severe pain during active labor. Analyses have shown that properly performed analgesia shortens the first stage of labor by an average of 1.5-2 hours, since the amount of catecholamines produced by pain in a woman decreases, facilitating cervical dilation. When assessing the condition of the fetus, the Apgar score was almost the same as in the control group (7-9 points), and no negative effects of modern anesthesia on the health of the baby were detected.

DISCUSSION

The results of the study confirm that painless childbirth is necessary not only to ensure the comfort of the woman, but also to optimize the physiological course of the labor process. According to many authors, severe pain during labor increases the level of stress hormones (cortisol, adrenaline) in the woman's body, which leads to impaired uterine blood circulation. Our analysis showed that epidural analgesia prevents this hormonal surge and improves oxygen delivery to the fetus.

At the same time, the transition to the "mobile epidural" method in modern obstetrics (anesthesia while maintaining the woman's mobility) ensures the active participation of the woman in the second stage of labor. This significantly reduces the risks previously associated with epidural anesthesia, such as prolonged labor or the need for obstetric forceps. It turned out that the importance of non-pharmacological methods is greater at the stage of preparation for childbirth and in overcoming psychological fear. This proves that the joint work of an anesthesiologist and obstetrician in the maternity hospital is the main guarantee of efficiency.

CONCLUSION

Based on the results obtained and the analyses conducted, the following conclusions can be drawn:

1. Modern anesthesiologyoptions, in particular, epidural analgesia is considered the "gold standard" for effective pain relief during labor. It not only relieves pain, but also prevents pathological stress reactions in the mother's body.
2. New generation drugs(ropivacaine, levobupivacaine) when used in low concentrations do not adversely affect the biomechanics of the labor process and preserve the woman's ability to move actively.
3. Pain relief methodsIt was found that there was no negative effect on the condition of the fetus and the Apgar score, which indicates that these methods are safe in obstetric practice.
4. A multidisciplinary approach to pain relief during childbirth (collaboration of an obstetrician-gynecologist, anesthesiologist, and psychologist) is important in shaping a woman's positive attitude toward childbirth and reducing the risk of postpartum depression

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