

Position of the Mother during the Second Stage of Labor for Women who received Epidural Anesthesia

Abstract

Background: Epidural anesthesia increases instrumental delivery and prolongs the second stage of labor. During all or part of the second stage, it has been suggested that a more upright maternal position may mitigate these negative effects. This is an update of a Cochrane Survey distributed in 2017.

Objectives: Evaluate the effects of various birthing positions (upright or recumbent) on maternal and fetal outcomes in women receiving epidural analgesia during the second stage of labor.

Methods of search: We searched the reference lists of the retrieved studies, as well as the trials registers of ClinicalTrials.gov, the WHO International Clinical Trials Registry Platform (ICTRP), and Cochrane Pregnancy and Childbirth on June 5, 2018. Criteria for selection include pregnant women (primigravidae or multigravidae) receiving any kind of epidural analgesia in the second stage of induced or spontaneous labor in all randomised or quasi randomised trials. We did not find any cluster randomised controlled trials that could have been included. Additionally, abstract only studies were eligible. During the second stage of labor, we assumed that the experimental intervention was the mother's use of any upright position, while the control condition was the mother remaining in any recumbent position.

Collecting and analyzing the data: Two review authors performed independent assessments of trials for inclusion, risk of bias, and data extraction. To obtain the missing data, we contacted the study authors. Using the GRADE method, we assessed the evidence's quality. We excluded one study with a contervention (this was not prespecified) and conducted a planned sensitivity analysis of the three studies with low risks of bias for allocation concealment and incomplete outcome data reporting.

Conclusion: With epidural analgesia, women who labor in recumbent or supine positions during the second stage may experience little or no difference in operative birth. However, there is a wide range of study designs and interventions, as well as potential selection and attrition bias, contributing to the heterogeneity of the studies. Recumbent positions may reduce the need for operative birth and caesarean section without increasing instrumental delivery, according to sensitivity analyses of studies with a low risk of bias. Taking a recumbent position may help mothers feel better about their labor and delivery. The semi recumbent and or right lateral, positions were the focus of this review.

Keywords: Epidural anesthesia • Epidural Analgesia • Cochrane pregnancy • Supine position • Instrumental delivery

Introduction

A latent or passive phase in which the mother is fully dilated and the baby's head descends without the mother pushing is known as late labor, and an active phase in which the mother feels the urge to push and the baby is born is known

as the second stage. During the second stage of labor, we wanted to see if different birthing positions upright or lying down could affect birth outcomes both for mothers who had taken an epidural for pain relief and for their unborn children. Caesarean section, instrumental birth,

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excessive bleeding, and stitches after vaginal tears during birth were among the outcomes. We looked at whether babies were able to handle labor well or needed to be admitted to a special care baby unit. We also wanted to know how women felt about childbirth and how satisfied they were with it [1].

Why is this?

The best way to alleviate labor related pain is with an epidural. Despite the fact that it may prolong labor and necessitate the use of forceps and a vacuum (ventouse) to aid in birth, it is popular. These instrumental births may result in prolapse later on, leakage of urine, or painful. Lately low portion procedures, otherwise called 'strolling' or 'versatile' epidurals, have become famous. Women are able to move around more easily during labor due to the low doses, making it easier for them to stand up straight. It has been hypothesized that standing up straighter may facilitate labor [2].

Evidence of this Study

In June 2018, we looked for evidence from randomized controlled trials. Eight studies involving 4464 pregnant women and their offspring are now included in this updated review. Three quarters of the women in the review were included in one of the new studies, which had excellent research. There were two Spanish trials, one in France, and five in the UK. They compared lying down (recumbent) positions to various upright positions.

For caesarean section or instrumental vaginal (operative) births, there may be little or no difference between the upright and lying down positions (8 trials, 4316 women; inadequate evidence). The results of the studies varied significantly. However, when we focused solely on the high quality studies, we discovered that standing upright clearly causes harm (3 trials with 3609 women). There was evidence of a rise in the number of caesarean births and an increase in the risk of operative birth, also known as combined caesarean and instrumental births.

There was no distinction in the quantity of ladies who had tears requiring fastens (3 preliminaries, 3266 ladies; inadequate evidence) or excessive bleeding in one trial; 3093 women; evidence of moderate quality). We discovered that the quality of the evidence for these outcomes was very low, so it is unknown whether the upright position has any effect on instrumental vaginal birth or the length of the second stage of labor.

With lying down positions, mothers were

slightly happier (one trial with 2373 women). Even though more babies born in the lying down position had high acid levels in the cord at birth (2 trials, 3159 infants; moderate-quality evidence), there was no additional proof of harm to the baby. The best positions for lying down were on the left or right side, but not flat on their backs or with their legs in stirrups [3, 4].

Background

In labor, epidural analgesia is frequently used to alleviate pain. In the past, epidurals were administered with boluses containing relatively high concentrations of local anesthetic that were injected into the epidural space close to the pain transmitting nerves. This also causes women to temporarily lose motor function in their lower limbs, rendering them unable to move. Utilizing lower concentrations of local anesthesia with the addition of opiates or a combined spinal epidural (COMET 2001) has resulted in effective analgesia with less dense motor blockade in newer epidural techniques. According to systematic reviews of Randomised Controlled Trials (RCTs), epidurals are more effective than nonepidural methods for relieving pain. Although studies from 2005 onwards suggest that this effect is no longer evident with the newer epidural dosing techniques, epidurals typically result in a longer second stage of labor and a greater number of instrumental deliveries. This is important because, prolonged labor during the second stage may raise the risk of fetal respiratory acidosis and postpartum hemorrhage. Instrumental conveyances are related with prolapse, urinary incontinence, and dyspareunia (agonizing intercourse). An epidural was used in 22% of all births in UK National Health Service (NHS) hospitals in 2005 and 2006. This rate has remained constant, with 25% of women utilizing an epidural during labor in 2013. Epidural rates may be even higher in other nations, such as Canada and France. In this setting, it is important to use strategies to shorten the second stage of labor and reduce instrumental deliveries [5].

Objective of this Study

To determine how important maternal and fetal outcomes differ between upright and recumbent birthing positions during the second stage of labor for women receiving epidural analgesia.

Methods

Electronic searches

For this update, we contacted the Information

Specialist at Cochrane Pregnancy and Childbirth to search their Trials Register (5 June 2018). Over 25,000 reports of controlled trials in the field of pregnancy and childbirth are stored in the Register database. It addresses more than 30 years of looking. For the most recent and comprehensive search strategies utilized to populate the Trials Register of Pregnancy and Childbirth, which include in depth search strategies for CENTRAL, MEDLINE, Embase, and CINAHL. The searching strategies are

- monthly searches of the CENTRAL section of the Cochrane Central Register of Controlled Trials;
- week by week searches of MEDLINE (Ovid);
- weekly searches of Ovid's Embase;
- monthly searches of EBSCO's CINAHL;
- hand searches of thirty journals and major conference proceedings;
- weekly alerts for 44 additional journals, as well as monthly BioMed Central email alerts.

Two people go through the search results and read the full text of all relevant trial reports that were found by doing the aforementioned searches. Each trial report is added to the register with a number that corresponds to a specific Pregnancy and Childbirth review topic (or topics) based on the intervention described. Instead of using keywords, the Information Specialist uses this topic number to search the register for each review. As a result, the relevant review sections (Included studies) have fully accounted for a more specific search set. Additionally, on June 5, 2018, we used the search strategies described in Appendix 1 to conduct searches on ClinicalTrials.gov and the WHO International Clinical Trials Registry Platform (ICTRP) for reports on planned, ongoing, and unpublished trials. We did not place any limitations on the language or the date [6, 7, and 8].

Types of datas for Measurement

Continuous datas

Results for dichotomous data are presented as a summary Risk Ratio (RR) with a confidence interval of 95% for dichotomous data [9].

Discontinuous datas

The Mean Difference (MD) was used for continuous data when outcomes were measured

the same way between trials. We will combine trials that measured the same outcome using different methods using the standardised mean difference in subsequent updates [10, 11].

Outcome of this Study

For our combined primary outcome of operative birth (caesarean or instrumental vaginal), there was no discernible difference between upright and recumbent positions in all eight studies. This might be connected with the heterogeneity of these investigations and possibly mirrors the varying mediation as well as could be expected predisposition in portion camouflage, deficient result information and co-mediations. The sensitivity analysis of studies with a low risk of bias, which excluded those with unclear or high risk of bias for allocation concealment and incomplete outcome data or a co-intervention, produced very different outcomes. An absolute effect of 63 more operative births per 1000 women (although this number may be as low as 17 or as high as 115 operative births per 1000 women) was found in the sensitivity analysis to be associated with an upright position for epidural treated women. The upright group also has a 30% higher rate of caesarean sections, which means there are 25 more caesarean sections for every 1000 women (from 4 to 49 more), but there is no clear effect on the rates of instrumental deliveries. The second stage of labor lasted the same regardless of position, but the quality of the evidence was very low. Only one study reported blood loss, which they defined as a PPH that necessitates a blood transfusion. Position probably has little or no effect on the number of women who have a PPH.

Although women in the upright group were slightly less satisfied with their birth experience than women in the recumbent group, overall results for maternal satisfaction were very similar between the upright and recumbent groups in one study. Meta-analysis is only possible for one outcome low cord pH because there is insufficient evidence to draw reliable conclusions about many of the baby's outcomes. Anyway there is a proof to recommend that children brought into the world to moms in an upstanding position were more outlandish to have a low line upon entering the world, yet there were no distinctions shown in neonatal unit confirmation or perinatal demise [12].

Conclusion

During the second stage of labor with epidural

analgesia, women who adopt supine or recumbent positions may experience little or no difference in operative birth. However, there is a wide range of study designs and interventions, as well as potential selection and attrition bias, contributing to the heterogeneity of the studies. The current body of evidence supports the use of a recumbent position during the second stage of labor for women who have an epidural because sensitivity analysis of studies with a low risk of bias indicate that recumbent positions may reduce the need for operative birth and caesarean section without increasing instrumental delivery. Taking a recumbent position may help mothers feel better about the birth experience.

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