NEW HORIZONS

Alternative Obstetrics

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Introduction

Pain relief in labor and delivery is most important issue in obstetrics. Narcotics and sedatives may be used during the first stage of labor to help one to relax and relieve pain. The epidural block is commonly used as regional anesthesia. Other types of blocks to relieve pain are pudendal block, spinal block, saddle block, and paracervical block (1).

Risk Associated with These Methods (1)

Narcotics and sedatives can cause drowsiness and it may be harder for mother to push during delivery. More serious side effects are slowing of breathing or heart rate or a slowing of the baby's reflexes and breathing at birth. Regional anesthesia can make it harder for mother to push, can produce difficulty in head rotation which increases operative interventions. An epidural block can cause blood pressure to drop. This may slow the baby's heartbeat. Other possible side effects are difficult breathing, headache, cardiorepiratory arrest, vestibulocochlear dysfunction, urinary retension, migraine and backache etc. Pudendal block may cause convulsions due to systemic toxicity, hematoma or severe infection at the site of injection. Similarly paracervical block can produce fetal bradycardia or can result in hypertonus uterus. Spinal block can cause hypotension soon after the injection, spinal headace,convulsions, blader dysfunction, arachnoiditis and meningitis.

Recently patient-controlled analgesia (PCA) with remifentanil is emerging as a new safe and efficacious approach in systemic opioid analgesia during labor (2-3). However even this noble agent is suggested to have wide individual variation in the dose required for effective labor analgesia and potentially serious side effects, are observed frequently during remifentanil analgesia, which may limit its use in obstetrics (4). Combined spinal epidural analgesia (CSE) for labor pain relief has become increasingly popular. However, the effect of intrathecal sufentanil on the incidence of uterine hyperactivity and fetal heart rate (FHR) abnormalities remains controversial (5).

In spite of the fact there are numerous pharmacological modalities available to alleviate pain during labor but none is free from risks.Thus million dollar question arises that, how can pain during labor be relieved without drugs? Recently alternative obstetrics method to allivaiate pain during labour like hypnosis, acupuncture, transcutaneous electric nerve stimulation (TENS) and water births have gained importance. These alternative methods are reviewed in the present article.

Hypnosis: The usefulness of this procedure varies from person to person. Hypnosis requires a lot of time and classes with health care provider. Most hypnobirthing mothers give birth comfortably, easily and naturally. A popular tool is the balloon-breathing, used with each contraction. As the mother feels the surge of energy she welcomes it, instantly going into a relaxed focused state of hypnosis and breathing deeply and slowly. As she does this she imagines that she is filling up a balloon, and as she breathes out she releases it. Hypnobirthing mothers are encouraged to use active birth positions - including squatting, being on all fours and kneeling (6).

In one of the recent metaanalysis,where hypnosis during pregnancy and childbirth has been compared to a non-hypnosis intervention, suggest that women using hypnosis rate their labour pain less severe than controls. The others show that hypnosis reduce requirement of opioid and other pharmacological analgesia in labor (7). Hypnotherapy can also shorten the mean lengths of the

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first stage and second stage of labour in the primigravid women and parous women (8).

Acupuncture

One of the met analyses comparing various complementary and alternative therapies for pain management in labour suggests that the acupuncture decreases the need for pain relief during labour (9). Acupuncture treatment during labour significantly reduce the need of epidural analgesia. Participants who receive acupuncture, assess a significantly better degree of relaxation compare to the control group. No negative effects of acupuncture given during labour are found in relation to delivery outcome. Acupuncture involves the insertion of very fine needles into specific points of the body. Hence acupuncture can be a good alternative or complement to those parturients who seek an alternative to pharmacological analgesia in childbirth (10) and its use for induction of labour appears safe, has no known teratogenic effects, and may be effective (11).

Transcutaneous Electrical Nerve Stimulation (TENS*)* with surface electrodes connected to a small portable battery to stimulate large diameter nerves in the skin and subcutaneous tissues. Success depends on correct positioning of the electrodes and optimal adjustment of the electrical output, and these differ from person to person. It is relatively free of side effects, but it is difficult to predict which patients will benefit and efficacy often declines over a few weeks as an alternative method for analgesia in labour (12).

Water Births (13)

The newest form of gentle delivery, which honors the spiritual and emotional, as well as the physical aspects of birth, and incorporates the use of water into obstetrics - waterbirth, also known as underwater birth. Waterbirths were introduced in 1991 as part of a new birth concept. The waterbirth rates have risen steadily and stabilized at around 40-50% of the spontaneous births (14).

Method

For nine months the infant develops inside the mother's body, nestled in the warm amniotic fluid. Warm fluid is the element most familiar and comfortable to the fragile infant, so he or she does not experience fear or pain when coming in contact with it after birth. The room is semi-dark, to avoid a shock to the baby's eyes, and quiet, except for some soothing music. Mother is in the warm tub feeling relieved, her weight supported by the water. The comfort of the bath relaxes tension and eases labour pains, while providing the freedom to move into whatever position is most comfortable. Ideally, the midwife, nurse or doctor waits patiently nearby, offering the mother encouragement and support. Together they wait for the baby to emerge. After the infant has descended through the birth canal into the warm water, the mother can even choose to deliver the infant herself and the birth attendants can wait nearby for any help. It is a remarkably simple method for the mother, after she has the last contraction which expels the baby, to reach down, take it in her arms and bring her child up out of the water and to her breast. Within seconds, because of air touching the skin and cord, the physiological system is signaled, and the baby easily begins to use lungs for breathing, without being slapped or roughly stimulated. Since the cord is usually not cut for several minutes, the baby's transition to air breathing is gradual and non-traumatic, and the newborn can take its time to become familiar with using lungs (13).

Advantages (15-20)

In spite of the highest episiotomy rates, the bed births also show the highest 3rd- and 4th-degree laceration rates (4.1%), thus the difference between the rates for bed births and alternative births methods for severe lacerations is significant. The mothers' blood loss is the lowest in waterbirths. Fewer painkillers are used in waterbirths and the experience of birth itself is more satisfying after a birth in water. The average arterial blood pH of the umbilical cord as well as the Apgar scoring at 5 and 10 min are significantly higher after waterbirths. Infections of the neonate do not occur more often after waterbirths. No case of water aspiration or any other perinatal complication of the mother or child which might be water-related is reported (15). Water and landbirths do not differ with respect to maternal and neonatal infections. After landbirths, there is a higher rate of newborn complications with subsequent transfer to an external NICU. There are neither maternal nor neonatal deaths related to spontaneous labor. Hence, waterbirths are associated with low risks for both mother and child when obstetrical guidelines are followed (16). Water birth is a safe method for cephalic presentation. Waterbirths pose no thermal risk (17). Risks, such as preeclampsia and meconium-stained amniotic fluid are found more frequently in land

births (18, 19). A statistically significant, decrease in the use of oxytocin is observed in women who have water births. Manual placenta removal, severe postpartum haemorrhage (blood loss > 500 ml) is significantly lower in women who are delivered in water (20). Thus, waterbirth nowadays is one of legitimate methods of alternative obstetrics.

Conclusion

In spite of the fact there are numerous pharmacological modalities available to alleviate pain during labor but none is free from risks. Recently alternative obstetrics methods to allivaiate pain during labour like hypnosis, acupuncture, transcutaneous electric nerve stimulation (TENS) and water births have gained importance.However, the risk/ benefit profile of these alternative methods of analgesia needs well-designed larger trials to confirm the effectiveness of these methods in childbirth before they are adopted in routine practice.

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