

Audio-Analgesia a Complementary Pain Relief Application within the Confining of Epidural Anesthesia

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Short Communication

Childbirth is a dynamic experience fraught with medical complications. The field of Anesthesiology has alleviated excruciating pain throughout modernity. The development of new medication and procedures have reduced adverse fatalities. Furthermore, epidural anesthesia have afforded rather painless childbirth. Before the advent of modern anesthesiology (epidural anesthesia), women were bereft of painless births. "Childbirth is painful, and we are in an era when most American women consider some chemical means of pain relief an accepted part of the delivery process" [1]. The advent of anesthesiology has remarkably reduced possible death of the fetus and the mother. However, complications arise notwithstanding the fact of the proper implementation of standard protocol. Aspiration of vomitus in obstetric anesthesiology is ubiquitous in the hospital setting. A sizeable amount of pregnant, expectant mothers have vomited during or immediately after following inhalation of anesthesia. In addition, death from epidural anesthesia or spinal anesthesia may result from hypotension. A physiological response to the implementation of an epidural anesthesia is hypotension associated with sympathetic blockade. Effectively managing the blood pressure of an expectant, pregnant mother is an ongoing issue of the utmost importance. Diligent Anesthesiologists adequately resolve the factors leading to hypovolemic state of the patients. There are intrinsic psychosomatic factors that may exacerbate the precarious hypovolemic state blood in expectant, pregnant women.

The primary issue associated with receiving epidural anesthesia is low blood pressure (hypovolemic state), often referred to hypotension. The decreased peripheral resistance that results in the circulatory system causes dilation of peripheral blood vessels. Fluid collects in the peripheral vasculature stimulating a condition that the body interprets as a low fluid volume. A measure to counteract this undesirable reaction is the infusion of 500-1,000 cc of fluid intravenously into the patient prior to the procedure. A prophylactic of methoxamine intramuscular has sharply reduced incidences of hypotension upon administration of epidural anesthesia. Ringer's lactate is preferable to a solution containing dextrose due to the underlying fact that elevated maternal glucose that accompanies the rapid infusion of solutions containing dextrose can result in hyperglycemia in the newborn with rebound hypoglycemia. The anesthetic agents that are infused through the small catheter block or impede spinal nerve roots in the epidural space and the sympathetic nerve fibers adjacent to them. Epidural anesthesia can block most of the pain of labor and birth for vaginal and surgical deliveries. Epidural analgesia is also used after cesarean sections to aid in the control postoperative pain. The medical community have extensively extrapolated data and postulated innovative therapies to reduce hypotension, anxiety, and fear during the birthing process. One non-pharmacologic therapy that may prove effective is music therapy. A current report from the Department of Psychology at the University of Sussex methodically elucidates how sounds can literally alter the internal composition or makeup of the human body and mind. Music engages sensory processes, attention, memory-related process, perception action mediation and the procession of musical syntax. "Music therapy can help all types of people to overcome obstacles or disabilities or can help them learn to cope with them. Listening to music

in the delivery room can help to keep a laboring mother in sync with her contractions. It affects many of the body's systems and can directly influence pulse, pressure, and activity of muscles. Music therapy is a growing field" [2].

Pregnant women receiving music therapy were documented as having lower anxiety levels and fewer psychological responses associated with labor pain. Researchers from Tel Aviv University's Sackler School of Medicine theorized that Mozart's highly repetitive melodies may be affecting organizational centers of the brain's cortex which makes patients less agitated. This finding is of the utmost importance in addressing complication with epidural anesthesia and childbirth. Audio-analgesia is the use of auditory stimulation, such as music, white noise, or environmental sounds to decrease pain perception. Most studies of audio analgesia during labor have reported that it can increase pain tolerance, reinforce or elevate moods, or cue the expectant women to breathe rhythmically, especially if she is conditioned herself to do so before contractions. There are no known potential adverse effects of using music during the administration of an epidural anesthesia or during the birthing process. Audio-analgesia is worthy of evaluation with properly controlled trials of adequate size to establish its true benefit or lack thereof. The intrinsic key to applying audio analgesia or music therapy is utilizing active listening. The expectant mother's assignment was to identify deviation in the pitch of songs or octaves in the songs. The people who benefited the most from pain reduction were those who rated highest on anxiety and the ability to become easily absorbed easily in the task. "Increasingly, music is used during childbirth education classes to enhance relaxation and during childbirth to decrease anxiety and pain. This chapter examines the properties of music, the research on music therapy and the application of music in childbirth education classes and during childbirth" [3].

Many of the same neuronal pathways that process music also process pain. Focusing on music engages your mind and triggers emotional responses to compete with pain pathways so you have less resource leftover to process pain. Researchers speculate that actively listening to music may accentuate the easing of acute pain of post-operative surgery. Engaging the mind with music can assist the expectant mother can alter the sense of time. This diminishes anxiety and the patient is actualizing the current moment.

In conclusion, music is an important topic for research in different

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fields of anesthesiology. The use of music preoperatively is aimed at reducing anxiety, stress and fear. However, the effect of music on perception of pain intra-operatively is controversial, according to studies for pregnant mothers undergoing epidural anesthesia. Music is a mild anxiolytic but is relatively ineffective when a pain stimulus is severe. However, music therapy or audio analgesia is relatively inexpensive, easily administered, and free of adverse effects. Audio analgesia can serve as a complementary method for treating preoperative stress such

as a caesarian section. Music's effectiveness depends on each individual patient's disposition and severity of pain stimulus.

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