A review of obstetric anesthesia in the new millennium: where we are and where is it heading?

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PURPOSE:

The purpose of this lecture is to serve as a comprehensive review of the safe state-of-the-art anesthetic management of pregnant women during labor, non-operative delivery and cesarean delivery in the new millennium. Obstetric anesthesia is a relatively new and still evolving subspecialty of anesthesiology, and obstetric anesthesiologists have become essential members of the peripartum care team, who closely work with the obstetricians, perinatologists, midwives and labor & delivery nurses to ensure the highest quality care for pregnant women and her children (1).

RECENT FINDINGS:

Obstetric anesthesia is a subspecialty of anesthesiology dedicated to peripartum, perioperative pain and anesthetic management of women during pregnancy and the puerperium. In February 2016 the American Society of Anesthesiologists Task Force on Obstetric Anesthesia and the Society for Obstetric Anesthesia and Perinatology published an updated Practice Guidelines for Obstetric Anesthesia (2). This new document replaced the Practice Guidelines for Obstetric Anesthesia: An Updated Report by the ASA Task Force on Obstetric Anesthesia adopted by the ASA in 2006 and published in 2007. The guidelines center on the anesthetic management of pregnant women during labor, non-operative and operative delivery and selected aspects of postpartum care and pain management.

Perianesthetic evaluation and preparation of obstetric patients should include (1) a history and a physical examination, (2) an intrapartum platelet count, (3) a blood type and screen, and (4) perianesthetic recording of fetal heart rate.

Aspiration prophylaxis includes (1) clear liquids, (2) solids, and (3) antacids, H2-receptor antagonists, and metoclopramide.

Anesthetic care for labor and vaginal delivery includes (1) timing of neuraxial analgesia and outcome of labor, (2) neuraxial analgesia and trial of labor after prior cesarean delivery, and (3) anesthetic/analgesic techniques.

Techniques for removal of retained placenta include (1) anesthetic techniques for removal of retained placenta and (2) nitroglycerin for uterine relaxation.

Technical issues of labor analgesia include (1) positioning of the pregnant patient, (2) locating the needle insertion site, (3) preanesthetic antiseptic preparations, and (4) selection of needles, syringes and catheters (3,4).

Anesthetic care for cesarean delivery consists of (1) equipment, facilities, and support personnel; (2) general, spinal, epidural or combined spinal-epidural (CSE) anesthesia; (3) IV fluid preloading or coloading; (4) ephedrine or phenylephrine; and (5) neuraxial opioids for postoperative analgesia after neuraxial anesthesia.

SUMMARY:

The pain that women experience during labor is affected by multiple physiological and psychosocial factors and there is no such thing as 'an ideal approach' when it comes to labor analgesia. Obstetric anesthesia is an art and science combined. Obstetric anesthesiologists are concerned simultaneously with the lives of at least two patients - the mother and her child. Exchange of information and communication skills in the ever changing environment of labor and delivery is essential for perfect outcome, which is always expected when providing passage for the mother and her baby from the antepartum to postpartum period. The safety and efficacy of neuraxial analgesia is well established and it remains the most commonly utilized methods for relief of labor pain (5-8).

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