EPIDURAL ANALGESIA IN THE LATENT PHASE OF LABOR AND ITS EFFECTS ON THE LENGTH OF LABOR, MODE OF LABOR, FETAL OUTCOME AND DOPPLER INDICES

Thesis

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LIST OF ABBREVIATIONS

ACTH	Adrenocorticotropic hormone
ADRs	Adult respiratory distress syndrome
CTG	Cardiotocography
CA-MRSA	Community-associated methicillin-resistant Staphylococcus aureus
CT	Computed tomography
CN	Cranial nerve
EA	Epidural analgesia
EB	Epidural bupivacaine
IVRA	Intra venous regional anesthesia
ITS	Intrathecal sufentanil
MRI	Magnetic resonance imaging
MCA	Middle cerebral artery
MCAPI	Middle cerebral artery pulsitility index
PCEA	Patient-controlled epidural analgesia
PDPH	Post–Dural Puncture Headache
PI	Pulsitility index
RI	Resistance index
ACOG	The American College of Obstetricians and Gynecologists
UA	Umbilical artery
UAPI	Umbilical artery pulsitility index
VAS	Visual acoustic stimulation

Abstract

In this study the effect of epidural on the Umbilical artery Resistance index (RI) was recorded among 50 patients in active phase and 50 patients in latent phase of labor before and after epidural with P value was 0.98 and 0.71 before and after epidural respectively. The Umbilical artery Pulsitility index (PI) was recorded with p value was 0.96 and 0.16 before and after epidural respectively. Middle cerebral artery (MCA) RI was recorded with p value was 0.48 and 0.12 before and after epidural respectively. The values of Middle cerebral artery (MCA) RI were recorded with p value 0.025 and 0.046 before and after epidural respectively.

Key word:

Epidural analgesia
Cardiotocography
Epidural bupivacaine
Intrathecal sufentanil
LENGTH OF LABOR
LABOR, FETAL

INTRODUCTION

INTRODUCTION

Labor is a physiologic process during which the products of conception (i.e. the fetus, membranes, umbilical cord, and placenta) are expelled outside of the uterus. Labor is achieved with changes in the biochemical connective tissue and with gradual effacement and dilatation of the uterine cervix as a result of rhythmic uterine contractions of sufficient frequency, intensity, and duration (***Norwitz** et al., **2003).***

Although delivery is a normal physiologic process, it causes a certain level of pain in women. Today, the most frequently preferred and the most used method is epidural anesthesia for pain control ***(Kukulu and Demirok, 2008)***.

Laboring women often experience intense pain. Uterine contractions result in visceral pain, which is innervated by T10-L1. While in descent, the fetus' head exerts pressure on the mother's pelvic floor, vagina, and perineum, causing somatic pain transmitted by the pudendal nerve (innervated by S2-4). Therefore, optimal pain control during labor should relieve both sources of pain (***ACOG. 2002).***

During the first stage of labor, pain impulses arise primarily from the uterus. Uterine contractions may result in myometrial ischemia, which ultimately causes the release of bradykinin, histamine, and serotonin. In addition, stretching and distention of the lower uterine segment and cervix may stimulate mechanoreceptors. These noxious impulses follow the sensory nerve fibers that accompany sympathetic nerve endings; they

travel through the paracervical region and the hypogastric plexus to enter the lumbar sympathetic chain ***(Eltzchig et al., 2003)***

Analgesia for Labor and Vaginal Delivery:

Psycho prophylaxis, Systemic Medication as; Meperidine 25-50 mg IV every 1-2 hours or 50-100 mg IM every 2-4 hours, Fetal exposure to meperidine is highest between 2 and 3 hours after maternal administration, or Fentanyl The usual dose of fentanyl for labor analgesia is 50-100 mcg IV every hour 25 to 50 µg intravenously. The peak effect occurs within 3 to 5 minutes and has duration of 30 to 60 min others as Butorphanol, Nalbuphine and Remifentanil Inhaled, Analgesia, Para cervical and Pudendal Blocks, Local Anesthetics (Bupivacaine, Lidocaine Xylocaine, or lignocaine, 2-Chloroprocaine, Levobupivacaine).

Epidural analgesia (EA) is the most effective treatment for pain control during labor and delivery. The effect of regional analgesia on progress of labor and mode of delivery has often been debated. Results of randomized controlled trials (RCTs) and systematic reviews published between 2002 and 2004 did not demonstrate any difference in the rate of caesarean deliveries between women who had received EA and women who only received intravenous analgesia (***Liu and Sia 2004).***

Patient-controlled epidural analgesia (PCEA) is a safe and effective technique. This method of delivery offers equally effective labor analgesia and excellent patient satisfaction. It reduces the total amount of local anesthetic used; consequently, it lessens unwanted effects such as motor block and hypotension. It

also reduces the demands on staff on the labor floor, and it gives many parturient a feeling of empowerment (**Paech MJ 19)**

Complications of Regional Anesthesia include:

Hypotension, Accidental Dural Puncture, Post–Dural Puncture Headache (PDPH), Central Nervous System Infections, Spinal and Epidural Hematoma.

AIM OF THE WORK