Title: WHAT POSITION IS MORE COMFORTABLE FOR THE PARTURIENT DURING INDUCTION OF EPIDURAL ANESTHESIA?

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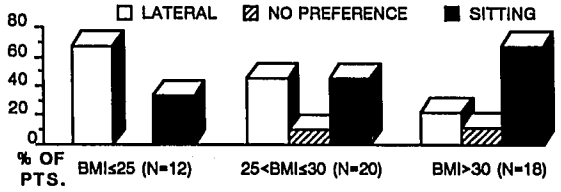
Anesthesiologists ask parturients to assume either the sitting or the lateral decubitus position for the placement of an epidural catheter. Many favor the lateral decubitus position, believing that it provides greater patient comfort than the sitting position.[1,2] The purpose of this study was to determine which of the two positions is more comfortable for pregnant patients and which position facilitates easier identification of the L3-4 interspace.

The protocol was approved by the institutional review board for human research. Informed consent was obtained from 50 term (≥ 36 wks EGA) parturients who were either not in labor or were in early labor (≤ 4 cm cervical dilation). Exclusion criteria included: 1) oxytocin administration; 2) opioid administration within 12 hours; 3) multiple gestation; and 4) previous history of cesarean delivery. Patients were positioned in the left lateral and sitting positions (in random order) for 60 seconds each to achieve maximal flexion of the lumbar spine. While in each position an investigator palpated the patient's back to determine which of the two postures allowed easier identification of the L3-4 interspace. Patients were questioned as to which position they felt would be more comfortable for the 10 to 15 minute period often necessary to place an epidural catheter. Patients were assigned to one of three groups according to BMI [Wt(kg)/Ht(M)^2] (≤ 25, 25 < BMI ≤ 30, or > 30). Additionally, patients were asked to comment regarding the relative merits and disadvantages of the two positions. Statistical analysis was by Spearman rank correlation test. $P < 0.05$ was considered significant.

Among all patients neither position was clearly superior with regard to patient comfort. However, smaller patients preferred the lateral position, and larger patients preferred the sitting position ($P=0.05$). (See figure) The presence of uterine contractions did not influence patient preference. Neither position was clearly superior in allowing identification of the L3-4 interspace.



The merits of the lateral position over the sitting position include improved placental blood flow, a more negative pressure in the epidural space, and the lack of need for an assistant to facilitate patient positioning. But the lateral position is not consistently more comfortable for the parturient as has been suggested.

References.

1. Bridenbaugh PO, Greene NM: Spinal (subarachnoid) neural blockade. Neural Blockade in Clinical Anesthesia and Management of Pain. Edited by Cousins MJ, Bridenbaugh PO. Philadelphia, JB Lippincott, 1988, p 239.
2. Spinal (lumbar) epidural block. Principles and Practice of Obstetric Analgesia and Anesthesia. Edited by Bonica JJ. Philadelphia, FA Davis, 1969, p 630.

Title: Epidural Butorphanol Augments Lidocaine Analgesia During Labor

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Epidural butorphanol has been shown to augment analgesia during labor using 0.25% bupivacaine (1). The present study was undertaken to evaluate its effects when added to lidocaine for epidural analgesia during labor.

Fifty healthy parturient at term were studied. The study was approved by the Institutional Review Board and informed consents were obtained from all patients. Epidural catheters were placed in the usual manner and after prehydration with 700 ml of lactated Ringer's solution a test dose of 3 ml of 1.5% lidocaine plus 1 mg butorphanol (0.5 ml) plus 1:300,000 epinephrine. Group II patients (n=25) received 6.5 ml of 1.5% lidocaine plus 1:300,000 epinephrine plus 0.5 ml saline. The study ended at the time of redosing. Subsequent epidural injections were made using bupivacaine 0.25% followed by continuous infusion of 0.125% bupivacaine. Analgesia was evaluated using the Visual Analog Scale, pain intensity scores (0-3) and pain relief scores (0-4). Motor block, sensory levels of analgesia, fetal heart rate, maternal vital signs and the incidence of side effects were also noted. Neonates were evaluated by Apgar Scores at 1 and 5 min, cord acid base status and the Neonatal Adaptive Capacity Scores (NACS) at 2 and 24 hours of age. Data were analyzed for statistical significance using analysis of variance and chi-square when appropriate. A P value of less than 0.05 was considered statistically significant.

Addition of butorphanol to 1.5% lidocaine improved the duration and the quality of analgesia 124 ± 8 vs 99 ± 6 (min X ± SEM) for groups I and II respectively ($P<0.05$). There were no significant differences between groups for the incidence of motor weakness or the sensory levels of analgesia. Side effects of hypotension, somnolence, nausea and vomiting occurred equally in both groups. There were no adverse effects on fetal heart rate parameters, neonatal outcome did not differ significantly between groups and was equally good.

TABLE

	Group I	Group II
Duration of Analgesia (min)	124 ± 7*	99 ± 6
No of Segments Blocked	9	10
Motor Blocked (%)	2 (8%)	4 (6%)
Side Effects (%)		
Hypotension	16	16
Somnolence	100	72
Nausea	0	8
Vomiting	0	4

* $P < 0.05$

Lidocaine is a drug with a safe history in the obstetrical patient, but its use for lumbar epidural analgesia is limited due to its short duration of action. Adding 1 mg of butorphanol with small dose of epinephrine resulted in a fairly long duration of analgesia of approximately 2 hours without adverse maternal or neonatal effects. We conclude that a combination of lidocaine, butorphanol and epinephrine is a safe alternative to bupivacaine during lumbar epidural analgesia in labor, the latter has a duration of action of approximately 1.5 hours (1).

Reference:

1. Abboud TK, Afrasiabi A, Zhu J, et al. Epidural morphine or butorphanol augments bupivacaine analgesia during labor. Reg Anesth 1989, 14: 115-120.