

A53 (Poster 12)

A Prospective Randomized Controlled Trial of Oral Intake of Liquids During the First Stage of Labor

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Restrictive policies pertaining to oral intake during labor have been based on concerns about risks of aspiration. Liberal policies have been primarily based on concerns about maternal comfort during labor. There are, however, no evidence-based studies that have evaluated the effect of oral intake on labor and delivery outcomes. The purpose of this prospective randomized trial was to compare labor and delivery outcomes in women given oral liquids during the first stage of labor with a control group of women given intravenous hydration and ice chips. We hypothesized that oral intake would result in a shortening of the length of labor.

The study was approved by the institutional review committee of Bridgeport Hospital. We recruited medically and obstetrically uncomplicated women who presented at term in spontaneous labor. Patients were randomized to receive either 1) liberal oral intake of nonparticulate clear liquids or 2) intravenous hydration and ice chips. We collected data on maternal demographics, neonatal outcome variables and labor and delivery outcome variables. Univariate and multivariate analyses were used to determine the effect of interventions on outcomes.

103 patients have been recruited to date and the data analyzed (oral intake = 48, controls = 55). There were 60 multiparous patients and 43 primiparous patients. The groups were demographically similar with the exception of age; the study subjects were younger than the control patients (23.5 ± 5.5 vs. 27.3 ± 6.8 , $p = .006$). Cervical dilation, gestational age at the time of admission, birthweight, and the use of epidurals, were similar in both groups. The second stage of labor was significantly shorter in primiparous women receiving oral intake of liquids (49.8 ± 39.3 minutes vs. 97.8 ± 82.4 minutes, $p = 0.024$). The cesarean section rate in the control group was 9% (5/55); there were no cesareans in the oral intake group ($p = 0.04$). There were no occurrences of aspiration in either group.

Preliminary analysis reveals that oral intake of liquids during the first stage of labor is associated with a shorter second stage in primiparous women and an overall increased likelihood of vaginal delivery.

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A55 (Poster 14)

Audit of the Anesthetic Implications of Induction of Labor

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Introduction: Practice in this unit is to initiate induction of labor (IOL) in the morning. Local perception is that this leads to high levels of anesthetic-related activity occurring "out-of-hours" (5pm - 8am) when levels of direct supervision of trainees may be lower. This audit was established to examine this hypothesis.

Method: Retrospective case-note review of all women undergoing elective IOL during a one year period (1997) at our institution was performed.

Results: Data from 112 women (53 primiparous, 59 multiparous) who underwent IOL with vaginal Prostin E2 were analysed. Most women (80%) received the 1st dose of Prostin between 6am - 10am (median time 07.37am). Primiparous women were younger than multips (mean [sd] 29.1 [6.3] vs. 32.2 [5.9] years $p=0.007$), but there were no other differences with respect to gestation, Bishop score, ethnicity or indications for IOL. In primips, the IOL to delivery time was longer than in multips (median 25.3 hours vs. 14.2 hours $p=0.0006$), and epidural analgesia was used more often (30/53 vs. 18/59 $p=0.005$). The SVD rate was lower in primips (19/53 vs. 47/59 $p=0.00001$), who more often required assisted delivery (15/53 vs. 4/59) or cesarean section (19/53 vs. 8/59). In primips, epidural analgesia was associated with a lower SVD rate compared to women without an epidural (5/30 vs. 14/23). Presence of the anesthesiologist was more common at delivery of primips than multips (26/53 vs. 9/59 $p=0.0001$). Most women (74%) who required C-section received regional anesthesia, but all 7 women given general anesthesia already had an epidural catheter *in situ*. In primips, 81% of all deliveries (and 81% of deliveries where the anesthesiologist attended) and 70% of epidural insertions occurred "out-of-hours". Extrapolation of timing data in primips suggests a trend towards lower rates of "out-of-hours" epidural insertion (43% vs. 67%) and delivery (57% vs. 77%) if IOL were to be initiated at night rather than in the morning.

Discussion: IOL in primiparous women was associated with long labors and high levels of assisted or cesarean delivery. Anesthesiologist involvement was correspondingly high in these women. Numbers are small, but this audit suggests that in primips, night-time administration of the 1st dose of Prostin may potentially reduce the number of interventions performed by anesthesiologists "out-of-hours". However, further larger studies are needed to examine more fully the temporal relationship between IOL and consequent anesthetic workload.

A54 (Poster 13)

Obstetric Anesthesia In Turkey

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Introduction: Turkey is located between Europe and Asia with 65 million inhabitants and one million annual births. Five major hospital systems provide obstetric care but obstetric anesthesia practices have not been assessed. The purpose of this survey was to learn if regional anesthesia is utilized in Turkey for labor analgesia and for cesarean section.

Methods: In March 1999, 108 hospitals received questionnaires regarding obstetric and anesthesia practices in 1998. All 27 university hospitals were surveyed, as well as government, maternity, social security and private hospitals, mainly in metropolitan areas.

Results: Twenty-five (93%) of the university hospitals responded and the overall response rate was 52%. Surgical deliveries varied widely by hospital category (Table) and instrumental (forceps/vacuum) deliveries were infrequent. Labor epidural analgesia was provided for 11.4% of the university hospital patients and in < 2% of the patients in the other hospital categories. CSE analgesia was used in 1.6% of private hospital labor patients and less in the other hospitals. General anesthesia was most frequently given for cesarean section.

Hospital Category	Delivery Mode (%)			Anesth C/S (%)	
	C/S	SVD	Instr	General/Regional	
Social Security	17	81	1.3	95	5
Government	19	80	0.5	88	12
Maternity	23	75	2	98	2
University	42	56	2	71	29
Private	75	24	0.7	89	11

Conclusion: Regional analgesia and anesthesia are not commonly used for labor analgesia and cesarean delivery in Turkey. Efforts are underway to improve obstetric anesthesia education, primarily in university hospitals, to increase pain relief options and safety for women in labor.

A56 (Poster 15)

Ropivacaine and fentanyl for intrathecal labor analgesia

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Bupivacaine has been shown to augment labor analgesia from intrathecal fentanyl¹. The purpose of this study was to investigate the use of ropivacaine as an adjunct to fentanyl for intrathecal labor analgesia.

49 ASA I and II nulliparous term parturients in active labor gave written informed consent and completed this double-blinded, IRB-approved study. Upon enrollment, patients were randomized to one of three groups to receive either fentanyl 25 µg (I, n=16); fentanyl 25 µg and ropivacaine 2 mg (II, n=17); or fentanyl 25 µg and ropivacaine 4 mg (III, n=16) intrathecally as part of a combined spinal-epidural technique. VAS pain scores were obtained before injection and at intervals afterward. A modified Bromage score of muscle strength was obtained before injection and 20 min after. A VAS scale for pruritus was obtained 20 min after injection. Duration of analgesia was defined as the patient's first request for further analgesia. Data were analyzed with ANOVA and *a posteriori* tests as appropriate.

Groups were demographically similar. Duration of analgesia in both ropivacaine groups (II & III) was longer than the plain fentanyl group (I), but groups II and III were not different from each other (I: 74 ± 8 ; II: 97 ± 8 ; III: 107 ± 7 minutes, mean \pm SEM). Onset of analgesia was similar among all three groups, with no differences noted (two-way ANOVA, $p=N.S.$). No patient in any group developed clinically detectable weakness (modified Bromage score < 6). Pruritus scores at 20 minutes were not different among groups (range 30 - 33, scale 0 - 100, $p=N.S.$).

The addition of ropivacaine to fentanyl 25 µg significantly prolonged the duration of analgesia, similar to the addition of bupivacaine to fentanyl. Unlike bupivacaine however, ropivacaine did not speed the onset of analgesia. Assuming these doses are equipotent, there appears to be little difference between the local anesthetics as adjuncts to intrathecal fentanyl for labor analgesia.

Reference: 1. Anesthesiology 1999;91:84-89.