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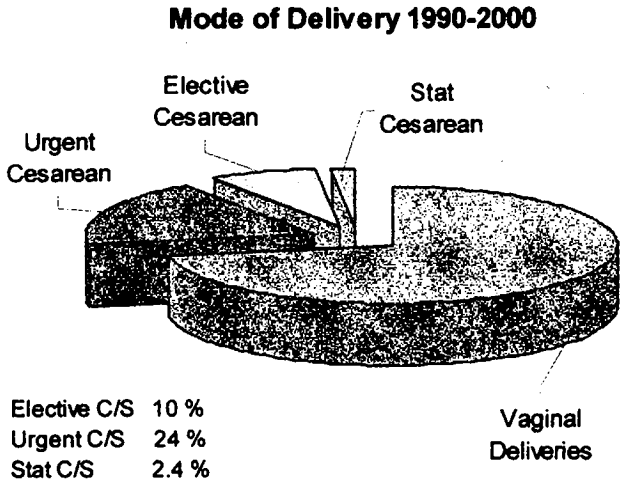
FETAL ACIDEMIA AND ANESTHESIA *Froelich, M.A.*[1] *Caton, D.*[1,2] 1. Anesthesiology, University of Florida, Gainesville, FL; 2. Obstetrics and Gynecology, University of Florida, Gainesville, FL The purpose of this analysis is to evaluate whether neuraxial anesthesia (spinal and epidural, NA) is associated with lower umbilical venous blood gas pH values than general anesthesia (GA) in patients undergoing elective cesarean sections (CS) or in patients undergoing "stat" CS. This study is a retrospective database analysis of 12,192 operative deliveries at Shands Hospital at the University of Florida during the years 1990 to 2000. We selected two categories based on 14 available obstetrical diagnoses. The categories of interest were "elective" CS (n=3,986)and "stat" CS (abruptio placentae and cord prolapse, n = 240). Patients with obstetrical diagnoses that did not clearly fit in those two categories were not considered for analysis. A two-tailed t-test was used to compare cord gas pH values for GA versus NA within our two categories of interest ("elective" versus "stat" CS). Our alpha level for statistical significance was 0.05. Our sample size estimate was 100 for both groups with 90% power if 0.05 was considered a clinical significant difference in pH value means with a standard deviation of 0.075. Results are being presented in table 1 and figure 1. In our analysis fetal umbilical venous blood gas pH values were not different when comparing GA to NA in both diagnostic categories ("elective" CS and "stat" CS). This finding is in conflict with data from Roberts et al (1) who claimed an association of fetal acidemia and regional anesthesia. This apparent dichotomy of results may be attributed to differences in study design or different institutional anesthesia/obstetrical practice patterns. *1. Roberts SW, Lveno KJ, Sidawi JE, Lucas MJ, Kelly MA. Fetal acidemia associated with regional anesthesia for elective cesarean delivery. Obstet Gynecol 1995;85:79-83.*



	Elective CS		Stat CS	
Anesthesiatype	General	Regional	General	Regional
UV pH	7.33±0.05	7.31±0.08	7.21±0.10	7.25±0.17
Patients (n)	812	3986	172	68

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FETAL EFFECTS OF MATERNAL ANALGOSEDATION *Froelich, M.A.*[1] *Euliano, T.Y.*[1] *Caton, D.*[1,2] 1. Anesthesiology, University of Florida, Gainesville, FL; 2. Obstetrics and Gynecology, University of Florda, Gainesville, FL The purpose of this study is to evaluate whether the intravenous administration of midazolam and fentanyl prior to the placement of a spinal anesthetic in the pregnant patient will affect fetal well-being. This study is a randomized placebo-controlled double-blinded clinical trial. Currently, 14 healthy patients scheduled for elective Cesarean delivery have been enrolled. Subjects received either a combination of 1 mcg/kg fentanyl and 0.02 mg/kg midazolam (n=8) or normal saline (placebo, n=6)immediately prior to the placement of their spinal anesthetic. Neonates underwent a routine pediatric evaluation at the time of delivery and were monitored for three hours using continuous pulse oximetry thereafter. Desaturation events (drop of oxygen saturation to less than 96% for at least 10 seconds) and fetal heart rate variability (expressed as standard deviation of fetal heart rate) were recorded and analyzed. At the end of this observation period a neurologic and adaptive capacity score (NACS) was obtained. Maternal recall was assessed by questionnnaire in the recovery room. Neonates fared well in both study groups. Date are presented in table 1. All mothers recalled their delivery. Today, maternal premedication is still the exception because of concerns about adverse fetal effects. This is based on historical reports (1,2). Our preliminary data indicate that a small amount of maternal analgosedation prior to cesarean delivery is safe for the fetus and does not result in maternal amnesia. If this trend can be substantiated in a larger series, maternal premedication prior to spinal anesthesia may become acceptable as standard care. *1) Gillberg C. Floppy infant syndrome and maternal diazepam. Lancet 1977;2: 244. 2) Haram K. Floppy infant syndrome and maternal diazepam. Lancet 1977;2:612-13.*

Midazolam and Fentanyl Group (n=8)

	A1	A5	naloxone	UV pH	NACS	Desat(n)	HR (SD)
Mean				7.34	32	7.3	9.3
SD				0.04	3.6	6.1	
Median	9	9					
Range	8 - 9	9					
Proportion			0 %				

Placebo Group (n=6)

	A1	A5	naloxone	UV pH	NASC	Desat(n)	HR (SD)
Mean				7.26	33.4	12.7	12
SD				0.15	2.9	4.8	
Median	9	9					
Range	8 - 9	9					
Proportion			0 %				

Legend: A1 APGAR score at 1 minute, A5APGAR score at 5 minutes UV pHumbilical venous blood gas pH NACSNeurologic and Adaptive Capacity Scoring System Desat(n)number of desaturations to less than 96% for more than 10 seconds SD (HR) standard deviation of fetal heart rate