

Table 1.

	Lean (BMI Less Than 20)	Normal (BMI 20–24.9)	Overweight (BMI 25–29.9)	Obese (BMI 30 or Greater)	P
Overall	(n=85)	(n=214)	(n=137)	(n=170)	
Delivery less than 35 wk	20.0	15.4	20.4	18.8	.614
Delivery less than 32 wk	8.2	6.1	9.5	8.8	.645
Delivery less than 24 wk	2.4	2.3	2.2	4.1	.682
One prior PTD	(n=51)	(n=151)	(n=94)	(n=113)	
Delivery less than 35 wk	15.7	11.3	16.0	15.0	.689
Delivery less than 32 wk	9.8	3.3	8.5	7.1	.240
Delivery less than 24 wk	2.0	2.0	2.1	4.4	.615
More than one prior PTD	(n=34)	(n=63)	(n=43)	(n=57)	
Delivery less than 35 wk	26.5	25.4	30.2	26.3	.955
Delivery less than 32 wk	5.9	12.7	11.6	12.3	.756
Delivery less than 24 wk	2.9	3.2	2.3	3.5	.989

BMI, body mass index; PTD, preterm delivery.
Data are expressed as %.

Administration of Antenatal Steroids

Is the Timing Optimal?

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OBJECTIVE: To determine the interval from administration of antenatal steroids and time of delivery.

METHODS: Preterm deliveries at 24–34 weeks from 2003 to 2005 were analyzed. We reviewed records from labor and delivery, the neonatal intensive care unit, and the hospital pharmacy. The following data were recorded: gestational age at administration of steroids, time interval from administration of the initial dose of steroid administration to delivery, and the primary indication for steroid administration. Deliveries were separated into three groups: 24–28 weeks, 28–32 weeks, and 32–34 weeks.

RESULTS: A total of 257 preterm deliveries occurred in the following gestational age groups: 24–28 weeks (n=64), 28–32 weeks (n=90), and 32–34 weeks (n=103). Spontaneous preterm delivery occurred in 168 patients (65%) and indicated preterm delivery in 89 patients (35%). Table 1 lists the steroid-to-delivery intervals.

CONCLUSION: The use of steroids is a critical intervention in the setting of anticipated prematurity. Our data

indicate that many preterm fetuses may not optimally benefit from a single course of antenatal steroids. In addition to studies evaluating repeat administration of steroids, strategies for optimizing timing of primary steroid administration need to be developed.

Twenty-Four Hour, In-House Obstetric Coverage in a Community-Based Tertiary Care Hospital

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OBJECTIVE: To analyze the cost-effectiveness of 24-hour, in-house obstetric coverage in a tertiary care community hospital.

METHODS: In 2006, we implemented paid 24-hour, in-house obstetric coverage. We prospectively collected cases in which emergency care was rendered.

RESULTS: A total of 1,857 women delivered 1,899 neonates in the first half of 2006. There were 21 events in which emergency care was provided, categorized into three groups: nonreassuring fetal status (n=11), rapid unattended labor (n=9), and maternal medical emergencies (n=1).

Table 1.

Steroid-to-Delivery Interval	Gestational Age (wk)		
	24–28 (n=64)	28–32 (n=90)	32–34 (n=103)
Less than 1 day	10 (16)	14 (16)	17 (17)
1–14 days	31 (48)	38 (42)	70 (68)
More than 14 days	14 (22)	23 (26)	0
No steroids	9 (14)	15 (15)	16 (15)

Data are expressed as n (%).



Seventeen of 21 cases occurred on week-ends or between 6 pm and 6 am. In 9 of 11 cases of nonreassuring fetal status, delivery was initiated before the primary physician arrived. Coverage was used in one of 88 deliveries, expediting delivery in one of 206 for nonreassuring fetal status. Assuming that 5% of delays in the nonreassuring fetal status group would be associated with a neurologically impaired infant, that 75% of cases would result in litigation, and that 75% of these cases would be successfully defended, cost-effectiveness is achieved at an annual delivery volume of 2,402.

CONCLUSION: Twenty-four hour, in-house obstetric coverage reduces delay in emergency delivery, with significant potential to circumvent adverse neonatal outcomes and medical-legal sequelae. Most interventions occurred during week-nights and week-ends. Consideration of actual medical expenses associated with such adverse outcomes would further improve the cost/benefit ratio.

Antenatal Pyelonephritis and Pregnancy Outcome

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OBJECTIVE: Approximately 2% of pregnancies are complicated by acute pyelonephritis. Complications include preterm births, low birth weights, maternal respiratory insufficiency, septic shock, and perinatal mortality. Our study aimed at evaluating pregnancy outcomes in patients treated for antenatal pyelonephritis using the patients' own previous or subsequent uncomplicated pregnancies as controls.

METHODS: Kern Medical Center Institutional Review Board approval was obtained. Charts of inpatients admitted with acute antenatal pyelonephritis were reviewed from January 2000 to March 2006. Final diagnoses had been confirmed by positive urine cultures, with treatments tailored to the susceptibility panels. Patients were used as their own controls, comparing pregnancies complicated by pyelonephritis with their previous or subsequent uncomplicated pregnancies. Compared data included gestational age at delivery, birth weights, newborn gender, and Apgar scores. We used paired *t* test or Wilcoxon rank test for continuous measures and McNemar test for categorical data.

RESULTS: A total of 31 of 395 pregnant women met the inclusion criteria. There was no significant difference in the gestational age at delivery between pregnancies complicated by pyelonephritis and those that were uncomplicated ($P=.080$). There was no significant difference in the birth weights ($P=.251$). There was no significant difference in the averaged Apgar scores ($P=.809$). There was no significant correlation between the newborn gender and the occurrence of pyelonephritis ($P=.346$).

CONCLUSION: Treated antenatal pyelonephritis does not adversely affect birth weights, gestational age at delivery, or Apgar scores. Furthermore, there is no correlation between antenatal pyelonephritis and the newborn gender.

Correlation of Serial Urine Protein/Creatinine Ratios With 24-Hour Urine Protein in Pregnancy

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OBJECTIVE: The study objective was to examine the correlation of serial protein/creatinine ratios and 24-hour urine protein collections to determine if the protein/creatinine ratio can reliably be used to follow the progression of proteinuria in a pregnant hypertensive patient.

METHODS: Women admitted for suspected preeclampsia with at least one corresponding protein/creatinine ratio and 24-hour urine protein were included in this prospective, observational study. To confirm the validity of the protein/creatinine ratio to determine proteinuria in our study population, the correlation, percentage matching diagnosis, sensitivity, specificity, positive predictive value, and negative predictive value were calculated for a single corresponding protein/creatinine ratio and 24-hour urine protein collection. Subsequently, patients who were being managed expectantly, were followed with serial protein/creatinine ratios and 24-hour urine protein collections. The correlation between tests was determined.

RESULTS: There was a significant correlation ($r=0.92$, $P<.001$) between a single protein/creatinine ratio and 24-hour urine collection. There was a significant correlation between the first ($r=0.86$, $P<.001$), second ($r=0.84$, $P<.001$), and third ($r=0.93$, $P<.001$), serial protein/creatinine ratios and 24-hour urine collection. For preeclampsia, the protein/creatinine ratio had a sensitivity and specificity of 75.6% and 85.7%, respectively. Positive and negative predictive values were 87.2% and 73.2%, respectively.

CONCLUSION: The protein/creatinine ratio has a good correlation to the gold standard 24-hour urine protein and can be reliably used to follow progression of proteinuria in pregnancy.

The Distribution and Predictive Value of Bishop Scores in Nulliparas Between 37 and 42 Weeks of Gestation

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OBJECTIVE: To evaluate the natural distribution of Bishop scores and the ability of this measure to predict cesarean delivery in nulliparas between 37 and 42 weeks of gestation.

METHODS: Data were collected prospectively. Beginning at 37 weeks, patients underwent digital cervical examination to determine their Bishop scores. Exams were repeated weekly until delivery. Bishop scores was categorized as less

