

330 Is there is a 'July Effect' on obstetric triage visits at an academic center?

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OBJECTIVE: To determine if the time of the academic year affects door-to-disposition time for patients presenting to our obstetric triage unit.

STUDY DESIGN: Triage records for 1813 patients at a tertiary academic center in July, December and June of two consecutive academic years, 2008 and 2009, were examined. The patients were triaged to one of three levels of acuity: emergent, urgent, and non-urgent. Admitted patients were excluded. Disposition times were compared across the academic year time periods at a particular acuity level with ANOVA and Kruskal-Wallis test as appropriate. Weekday versus weekend visits were evaluated using independent student t-test or Kolmogorov-Smirnov test. P was set at 0.05.

RESULTS: Over two academic years, there were 590 triage visits in May, 611 in July and 612 visits in December. Emergent, urgent, and non-urgent acuity levels represented 3.3%, 79.9%, and 16.8% of visits, respectively. When evaluating acuity across the months, a statistically significant difference was seen in disposition time (Table 1). Overall visit time significantly decreased between July, December and May (p<0.001). Pairwise comparisons were significantly different for urgent visits between July and May (p<0.001) and December and May (p<0.001). For non-urgent visits, pairwise comparisons were significant between July and May (p<0.05). A significant overall difference in disposition time across months was found for weekdays for urgent acuity (p<0.001, Table 4). No significant differences in disposition time between weekdays and weekends were found for any month at any acuity level. No significant overall differences in disposition time across months were found for weekdays or weekends for emergent acuity visits.

CONCLUSION: There was a continual decrease in door-to-disposition time over the academic year. This suggests that there is a "July Effect" with respect to the most common triage visits and that the month in the academic year does influence the length of triage visits in our cohort.

Table 1: Disposition Time by Month and Acuity in Minutes

	July		December		May		P-value
Acuity	N	Mean ± SD	N	Mean ± SD	N	Mean ± SD	
Emergent	19	157.3 ± 84.4	19	214.6 ± 107.6	20	181.9 ± 108.6	0.22
Urgent	492	182.9 ± 86.9	458	177.2 ± 85.8	433	154.8 ± 85.8	<0.001
Non-Urgent	81	189.4 ± 84.8	104	165.1 ± 73.9	107	163.7 ± 92.3	<0.05

331 Is It bad to be born in July?

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OBJECTIVE: Term patients are more likely to be managed by junior residents. The purpose of this study is to determine whether there is a "July" phenomena during the academic year in outcomes of term patients.

STUDY DESIGN: We compared 1st and 4th quarter delivery records of 3696 term patients at a single tertiary academic center over 3 academic years. Congenital anomalies and stillborns were excluded. Statistical comparisons were made using chi-square and independent t-tests as appropriate (P<0.05) with regards to mean Apgar scores, cesarean delivery, and a composite of NICU admission or low Apgar scores (1-minute <4 or 5-minute <7).

RESULTS: There were 1954 deliveries in the first academic quarter and 1742 deliveries in the fourth quarter between July 2008 and June 2011. There were no statistically significant differences between quarters in maternal characteristics or birth weight. The overall cesarean delivery rate was 26.5% in the first quarter and 23.1% in the fourth quarter. The primary cesarean rate was 15.4% versus 13.6% in the first and fourth quarter, respectively. There was no statistically significant difference between quarters in these respective rates. There was no difference between 1- and 5-minute mean Apgar scores in the first and fourth quarter. The composite rate of NICU admission or low Apgar scores was 4.1% in the first quarter and 3.6% in the fourth quarter. This difference was not statistically significant.

CONCLUSION: Our data suggest that there is not a July phenomenon in term obstetric patients at our institution. The quarter of the academic year does not influence route of delivery or neonatal outcome. Previous data shows no 'July' obstetric phenomena among all deliveries without regard to gestational age. We showed this phenomenon seems to hold true for term patients who are more likely to be managed by junior residents.

332 Necrotizing enterocolitis and risk of infant death

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OBJECTIVE: Necrotizing enterocolitis (NEC) is more common at earlier gestational ages. We sought to evaluate the neonatal and infant mortality of NEC by gestational age.

STUDY DESIGN: A retrospective cohort of infants delivered in California was stratified by gestational age and assessed for the presence or absence of death in infants within one year of life. These infants were then analyzed by the presence or absence of NEC.

RESULTS: When we examined the mortality by gestational age in infants with and without NEC, it was associated with increased mortality at 26 weeks and beyond (Table). However, the difference in mortality between those with and without NEC increased with increasing gestational age.

CONCLUSION: While NEC is associated with mortality, this association increases with gestational age. At earlier gestational ages, infants without NEC also have a high neonatal mortality rate. However, at later gestational ages the mortality rate for infants with necrotizing enterocolitis remains high even in term infants. Until treatment for necrotizing enterocolitis has improved, the prognosis for this condition, regardless of gestational age, is poor.

Death within one year of life			
Week Gest	Infants with Nec n (%)	Infants without Nec n (%)	P value
24	56 (35.9)	1186 (37.9)	0.6
25	57 (28.1)	870 (23.4)	0.1
26	40 (21.9)	667 (15.4)	0.02
27	36 (17.2)	515 (10.1)	0.001
28	37 (15.2)	422 (6.9)	<0.001
29	41 (16.3)	374 (4.8)	<0.001
30	33 (14.7)	411 (3.8)	<0.001
31	22 (10.5)	352 (2.4)	<0.001
32	13 (7.3)	358 (1.7)	<0.001
33	13 (7.9)	444 (1.3)	<0.001
34	10 (6.4)	532 (0.9)	<0.001
35	8 (6.6)	641 (0.7)	<0.001
36	17 (17.9)	787 (0.5)	<0.001

333 First and second trimester gestational weight gain and the risk of recurrent spontaneous preterm birth

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OBJECTIVE: To assess the association between first and second trimester gestational weight gain (GWG) and the risk of recurrent spontaneous preterm birth (sPTB).

STUDY DESIGN: We performed a retrospective cohort study of all live spontaneous preterm (24 weeks). Subjects were excluded for missing weight gain data in the subsequent pregnancy, multifetal gestation, pre-gestational diabetes or gastrointestinal disease. Clinical variables were abstracted from direct review of medical records from both pregnancies. Weight gain at 24-28 weeks in the subsequent pregnancy was evaluated in order to avoid the bias of greater total weight gains in subjects who went to term. Logistic regression, adjusting for pre-pregnancy BMI and the clinical variables which were significant in univariate analysis, was used to assess the association of mid-trimester gestational weight gain with recurrent preterm birth.

RESULTS: Of 166 included subjects, 48 (28.9%) had a recurrent sPTB. Subjects with recurrent sPTB were younger and had an earlier gestational age of index sPTB compared to those with a subsequent term delivery. GWG at 24-28 weeks was not associated with recurrence of sPTB (aOR 0.99, 95% CI 0.95-1.03). This remained non-significant when GWG was assessed as a binary variable dichotomized at the mean or quartile or when stratified by obesity. A post-hoc power analysis demonstrated sufficient power for a weight gain difference between groups of 5 pounds or more. Gestational age in the index pregnancy was the only variable significantly associated with recurrence of sPTB (aOR 1.29, 95% CI 1.11-1.49) in multivariate regression.

CONCLUSION: In women with a prior sPTB, there is no association between first and second trimester weight gain and the risk of recurrence.

334 Do women with a history of LEEP and active vaginal infections during pregnancy have an increased risk for preterm birth?

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OBJECTIVE: Both loop electrode excision procedures (LEEP) and vaginal infections have been associated with an increased risk for preterm birth. Changes in the physiologic mucosal barrier of the cervix after a LEEP may alter the susceptibility to ascending infection and inflammation during pregnancy. This study is designed to estimate whether a history LEEP and a vaginal infection during pregnancy together amplify the risk for preterm birth.

STUDY DESIGN: A retrospective cohort study of women who underwent Pap screening and did or did not undergo LEEP was identified from a surgical pathology database. Medical and obstetric history was obtained by phone interview and review of medical records. Women who underwent LEEP (n=616) were compared to those who did not (n=1839). The index pregnancy was defined as the first pregnancy after LEEP which progressed beyond 20 weeks of gestation. Baseline maternal characteristics were compared using chi-square and student t-tests as appropriate. Univariable analysis was used to estimate the risk of preterm birth at < 37 and <32 weeks in study groups. Vaginal infections including bacterial vaginosis (BV), Chlamydia trachomatis (CT), Neisseria gonorrhoea (NG), and trichomonas were assessed. The association between LEEP and preterm birth was analyzed stratified by the presence or absence of each infection. Logistic regression was then used to model the effect modification of various infections on the association between LEEP and preterm birth, adjusting for confounding variables.

RESULTS: Women who underwent LEEP were significantly older and more likely to smoke but less likely to be black than those who did not have LEEP. There was no significant increase in preterm birth at <37 or <32 weeks in women who underwent LEEP compared to controls and there was no significant interaction between LEEP and vaginal infections for risk of preterm birth at <37 weeks (table).

CONCLUSION: In women who have a history of LEEP, vaginal infection during pregnancy does not amplify risk for preterm delivery. Further, LEEP does not independently increase the risk for prematurity.

Risk Factor	AOR* (95%CI) (n=324)	p value
LEEP alone (no infection)	1.2 (0.8-1.7)	0.38
LEEP + BV	2.2 (0.8-5.7)	0.11
LEEP + CT	1.3 (0.3-6.4)	0.36
LEEP + GC	0.1 (0.1-1.8)	0.13
LEEP + trichomonas	1.0 (0.4-2.6)	0.94

335 The degree of fetal bowel dilation as a predictor of postnatal surgery: risk stratification by the degree of dilation

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OBJECTIVE: Prenatal ultrasound diagnosis of fetal bowel dilation is associated with a number of gastrointestinal diagnoses and suggests the presence of bowel obstruction, but is non-specific. Our objective is to evaluate ultrasound diagnosis of the degree of fetal bowel dilation and its correlation with postnatal outcome and need for surgery.

STUDY DESIGN: This is a retrospective chart review of fetuses with a prenatal diagnosis of bowel dilation. Patients that were followed antenatally, delivered, and managed postnatally at our institution from January 2004 until December 2010 were included in the study. Maximal bowel diameters were compared using gestational age normograms at the 50th and 90th percentiles, and the degree of dilation was calculated. The degree of bowel was determined by the percentage increase over the 90th percentile. Data collected also included gestational age at delivery, mode of delivery, postnatal surgery, surgical diagnosis, and neonatal length of stay. The cases were grouped into 2 categories: surgical (excluding abdominal wall defects), and medical.

RESULTS: During this time period, 38 infants with a prenatal diagnosis of bowel dilation were identified: 13 surgical, and 25 non-surgical