

153 TEMPORAL VARIATION IN CESAREAN DELIVERY RATES FOR NULLIPARAS AT TERM DWIGHT J. ROUSE¹, CHERRY L. NEELY¹, SUZANNE P. CLIVER¹, JOHN C. HAUTH¹, ¹University of Alabama at Birmingham, Birmingham, AL

OBJECTIVE: The ACOG task force on cesarean delivery (CS) recommended benchmarking of CS rates based on nulliparas with a vertex fetus at ≥ 37 weeks. Our purpose was to evaluate temporal trends in this rate and associated neonatal outcomes.

STUDY DESIGN: We used a computerized perinatal database derived from our clinic system that has served gravidas whose demographic profile has remained relatively stable over time to calculate annual CS rates and assess perinatal outcomes. The annual rates and outcomes were compared by the Mantel-Haenszel test of trend.

RESULTS: Over the period 1984-2000, 16,384 women met the inclusion criteria (nulliparous, vertex, ≥ 37 weeks). The CS rate was highest in 1986 (22%) and lowest in 1992 (11%) with an overall significant downward trend ($P = .002$) in spite of increasing rates of maternal obesity (> 100 kgs at first visit: 3.0% in 1984 to 9.5% in 2000, $P < .001$) and induction of labor (7.8% to 24.7%, $P < .001$). The aggregate CS rate for the last five years was 15.3%. Neonatal outcomes (e.g., Apgar scores, death) were not significantly associated with the CS rate.

CONCLUSION: In a single institution over a 17 year period, the CS rate for term nulliparas with a vertex fetus has fallen. We speculate that institution in our unit of consistent labor management rules for women undergoing induction and augmentation of labor have driven this decline. The ACOG benchmark rate of 15.5% (the 1996 national 25th percentile) is achievable and sustainable, despite increased use of induction of labor, and a rising prevalence of maternal obesity.

155 THE MFMU CESAREAN REGISTRY: CESAREAN HYSTERECTOMY—ITS INDICATIONS, MORBIDITIES, AND MORTALITY CYNTHIA SHELLHAAS FOR THE NICHD MFMU NETWORK¹, ¹NICHD MFMU Network, Rockville, MD

OBJECTIVE: To determine the frequency of cesarean hysterectomy, its indications, and associated complications.

STUDY DESIGN: A prospective, observational study at 13 academic medical centers of women who underwent a cesarean section and subsequent hysterectomy from January 1, 1999 to June 30, 2000. Women who underwent postpartum hysterectomy after a vaginal delivery were not included.

RESULTS: A total of 146 cesarean hysterectomies were performed (1 per 938 deliveries—0.1% and 1 per 198 cesarean sections—0.5%). Primary cesarean sections accounted for 41% of cases with 59% having had a prior cesarean. The leading indications for hysterectomy were placenta accreta (36%) and uterine atony (32%). Other common indications, each accounting for 6-8% of the procedures, included cervical cancer, uterine rupture, and leiomyomata. The majority of cases (68%) were total hysterectomies. Concomitant procedures included uterine artery ligation (46%), ovarian artery ligation (21%) and hypogastric ligation (4%). Mean operative time was 162 minutes and mean maternal length of stay was 10 days. The frequencies of these procedures, mean operative time, and complications did not differ significantly among accreta and atony cases.

CONCLUSION: Cesarean hysterectomy, usually performed for serious hemorrhage, was necessary in 1 out of 198 cesarean deliveries. It was frequently associated with significant maternal complications, including death. In contrast to other recent series, we observed fewer cases of placenta accreta as an indication. Comparably high frequencies of maternal morbidity can be expected for both atony and accreta cases, the two most common indications.

Table

MAJOR MATERNAL COMPLICATIONS	NUMBER OF WOMEN (%)
Intra-operative transfusion	105 (72)
Post-operative transfusion	65 (45)
Coagulopathy	52 (36)
Fever	17 (12)
Subsequent laparotomy	14 (10)
Death	2 (1)

154 A DECADE OF EXPERIENCE: THE EVALUATION OF CAUSATION FOR A RISE IN CESAREAN SECTION RATE AT A LARGE ACADEMIC CENTER KELLY, LANE-CAPERTON, MD¹, ELLY XENAKIS, MD¹, JEANNA PIPER, MD¹, DEBORAH CONWAY, MD², ¹University of Texas Health Science Center at San Antonio, Obstetrics and Gynecology, San Antonio, TX; ²University of Texas Health Science Center at San Antonio, Obstetrics and Gynecology, San Antonio, TX

OBJECTIVE: To evaluate the difference in cesarean section (C/S) rate over the past ten years at our institution.

STUDY DESIGN: A retrospective review of consecutive deliveries occurring in 1991-92 (n = 2824) and 2000 (n = 3069) were reviewed in a systematic fashion. Comparison was made between these groups with regard to mode of delivery (C/S vs vaginal), indication for C/S (labor abnormality, failed induction, abnormal presentation, nonreassuring fetal testing, previous C/S, other), induction, and maternal medical complications (preeclampsia, diabetes, chorioamnionitis, premature delivery, prolonged gestation).

RESULTS: The cumulative C/S rate increased from 14.8% in 1991 to 23% in 2000. C/S rates by category are listed below. The percentage of women with one prior scar attempting VBAC decreased from 94.3% to 55.5% however, the success rate remained unchanged (75%). The overall rate of labor induction increased from 14.3% to 17.2% ($P = .003$) with the vaginal delivery rate unchanged at ~80%. There were significantly more women with medical complications of pregnancy in 2000 (30.7% vs 38.6%, $P < .0001$) and the C/S rate rose in this group from 26% to 32.1% ($P = .003$).

CONCLUSION: The C/S rate has increased over 58% in our institution over the last decade. The majority of this increase (61%) is directly related to the number of repeat C/S. An effect is also attributable to the increase in inductions performed in more recent years for maternal medical complications or fetal well-being.

Table

Cesarean delivery rates

	PRIMARY REPEAT		MULTIPS PRIMIPS	MULTIPS NO SCAR	1 PRIOR SCAR	2 PRIOR SCARS
	C/S	C/S				
1991-92	9.6%	5.2%	15.1%	6.2%	28.5%	73%
2000*	12.8%	10.2%	21.8%	10.2%	58.5%	94.3%

* $P \leq .001$ vs 1991-92.

156 MYOMECTOMY AT TIME OF CESAREAN SECTION ASHLEY SMITH¹, KHALIL TABSH², ¹University of California, Los Angeles, Obstetrics and Gynecology, Los Angeles, CA; ²University of California, Los Angeles, Obstetrics and Gynecology, Los Angeles, CA

OBJECTIVE: A retrospective, case-control study was performed to determine whether myomectomy at time of cesarean section leads to increased intrapartum and postpartum morbidity and to identify myomectomy subgroups which may be at higher risk of developing complications.

STUDY DESIGN: A computer search of medical records from May 1991 to April 2001 identified a total of 111 women who underwent myomectomy during cesarean section and 257 women with documented fibroids during the referent pregnancy who underwent cesarean section alone. Charts were then reviewed for the following outcome variables: change in hematocrit, length of postpartum stay, incidence of postpartum fever, and rate of reoperation within one year after cesarean section. Hemorrhage was defined as a change in pre- to postpartum hematocrit of 10 points or the need for intraoperative blood transfusion.

RESULTS: The incidence of hemorrhage in the study group was 12.6% as compared with 12.8% in the control group ($P = .95$). After stratifying the myomectomies by type of fibroid and size of fibroid removed, intramural myomectomy was found to be associated with a 20.5% incidence of hemorrhage which was not statistically significantly different from the control group ($P = .28$). Size of fibroid did not appear to affect the incidence of hemorrhage. There was also no statistically significant difference in the incidence of postpartum fever or the length of postpartum stay. While none of the myomectomy group required reoperation, 2.3% of the control group required either a hysterectomy or a myomectomy within one year of their cesarean section ($P = .10$).

CONCLUSION: In selected patients, myomectomy during cesarean section does not appear to result in increased intrapartum and postpartum morbidity. Further investigation of intramural myomectomy during cesarean section and rate of reoperation is merited.