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FACTORS PREDICTING FAILURE OF LABOR EPIDURAL CATHETERS DURING CESAREAN SECTION *Habib, A.S. Drysdale, S.; Olufolabi, A.J.; Phillips-Bute, B.G.; Muir, H.A. Anesthesiology, Duke University Medical Center, Durham, NC* Introduction Most cesarean sections (CS) are performed under spinal or epidural anesthesia. The aim of this study was to determine the incidence of failed blocks in a teaching institution and to examine factors that might predict failure of labor epidural catheters in providing adequate analgesia for CS. Methods: Following IRB approval, we examined the anesthetic records of patients who had a CS during 2001. We collected information about the type of anesthesia, need for analgesic supplementation or conversion to general anesthesia (GA) in case of inadequate/ failed blocks. We defined a failed block as that requiring conversion to GA or supplementation with > 50 mcg fentanyl, >2 mg midazolam, morphine, ketamine, propofol or nitrous oxide. With labor epidurals progressing to CS, we also collected information about the need for > 2 top-ups during labor while using patient-controlled epidural analgesia (PCEA), repositioning or replacement of epidural catheters, length of catheter left in the epidural space, duration between insertion of catheter and CS, the loss of resistance (LOR) technique used, patient weight and whether residents are in their first or second rotation on labor and delivery. Statistical analysis was done using chi squared test and logistic regression analysis. $P < 0.05$ was accepted as statistically significant. Results: We collected data from 674 patients: 24 had a GA, 382 a spinal and 268 an epidural anesthetic. Conversion to GA occurred in 9 spinal (2.35 %) and 22 epidural blocks (8.21 %) [p=0.0006]. Failed blocks occured in 49 patients in the spinal (12.8 %) and 84 in the epidural group (31.3 %) [p=0.0001]. Results of the univariate and multivariate regression analysis are shown in the table Conclusion: Inadequate blocks occurred more frequently with epidural compared with spinal anesthesia. Higher patient weights and the need for >2 top-ups while using a PCEA were found as significant predictors of failure of labor epidural catheters in providing adequate analgesia for CS. Inadequate pain relief requiring frequent top-ups during labor warrants early epidural replacement.

Univariate predictors of failed block		
Predictor	Odds ratio (95 % CI)	p value
Need for >2 top ups	2.1 (1.2-3.8)	0.01
Reposition of epidural catheter	12.8 (1.5-111.8)	0.02
Replacement of epidural catheter	3.3 (0.7-15.2)	0.12
Resident Rotation (1 vs 2)	0.88 (0.5-1.5)	0.63
LOR technique (A vs S)	0.8 (0.2-2.8)	0.73
Duration between insertion and CS	0.99 (0.99-1.0)	0.22
Length of catheter in space	1.26 (0.9-1.8)	0.21
Patient weight	1.0 (0.99-1.0)	0.079
Multivariate predictors of failed block		
Need for >2 top ups	2.2 (1.1-4.2)	0.02
Patient weight	1.006 (1.001-1.012)	0.02

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PERIPARTUM HYSTERECTOMIES: ANESTHETIC AND OBSTETRIC OUTCOMES *Zinner, T.R. Khan, K.; Lee-Parritz, A.; Camann, W.R. Brigham and Women's Hospital, Harvard Medical School, Boston, MA* A retrospective study of peripartum hysterectomies performed at Brigham and Women's Hospital from July 1, 1994 to June 30, 2001 (n=66) was conducted to elucidate obstetrical indications, surgical techniques, anesthesia management and post operative outcomes. As with prior studies from our institution, the primary indication for a peripartum hysterectomy was placenta accreta (56%)[1]. The majority of patients had a placenta previa or other contraindication to labor; therefore only 41% underwent labor before their hysterectomy. No association was identified between prostaglandin usage for labor induction and hysterectomy. Prior to hysterectomy, 59% received a uterotonic agent and 53% underwent additional surgical procedures to decrease blood loss. Only 3% of our peripartum hysterectomies were considered elective, but 42% were anticipated due to prenatal ultrasound diagnosis for placenta accreta or placenta previa. These patients had an average of 1.1 prior cesarean sections and 79% had undergone some prior uterine surgery. Regional anesthesia was initially administered in 85% of procedures, but 32% were subsequently converted to general anesthesia. The indications for conversion included pain control, degree of blood loss, and length of surgery. 8% of all cases required intubation beyond the operating room, but none needed re-intubation. Arterial lines were placed in 56% and central lines in 15% of the patients for access and monitoring. Average estimated blood loss was 3500cc (range:500 - 10,000). 38% of patients developed thrombocytopenia and 41% developed DIC. An average of 4 units of packed red blood cells were transfused. While no intestinal injuries were noted, 8% of patients experienced a urinary tract injury. Post operatively, 16% of patients developed an infection and 12% developed an ileus. Three patients required a second surgery for post operative bleeding. In conclusion, peripartum hysterectomies should be anticipated in patients with multiple prior uterine surgeries. Regional anesthesia is not contraindicated for peripartum hysterectomies[2]. Close collaboration between the obstetrical and anesthesia teams will ensure high quality patient care. *1. Zelop CM. Harlow BL. Frigoletto FD Jr. Safon LE. Saltzman DH. Emergency Peripartum Hysterectomy. American Journal of Obstetrics and Gynecology. 168 (5): 1443-8, 1993 May. 2. Frederiksen MC. Glassenberg R. Stika CS. Placenta previa: A 22-year analysis. American Journal of Obstetrics and Gynecology. 180 (6): 1432-7, 1999 June.*