

P-71

SHORT STATURE IS ASSOCIATED WITH A HIGHER CESAREAN SECTION AND EPIDURAL RATE *Dimarco, C.S.¹ Ramin, K.D.¹ Ramsey, P.S.¹ Vasdev, G.M.²* 1. Obstetrics and Gynecology, Mayo Clinic, Rochester, MN; 2. Anesthesiology, Mayo Clinic, Rochester, MN The concern about rising cesarean section (CS) continues to challenge resources in the USA. The aim of this study was to determine if short stature was associated with an increased CS and epidural utilization rate. Using an IRB approved obstetric database, a retrospective review of 12,521 deliveries were studied from January 1993 to December 1999. Height, type of delivery, and epidural utilization was determined for all nulliparous women. Data was compared with Chi square analysis and $p < 0.05$ taken as significant. 4302 (34.4%) of deliveries occurred in non-obese nulliparous women with singletons. 639 were excluded for the following reasons: no maternal height or weight record (n = 568), elective cesarean section (n=71). The overall CS rate was 17.0% (623/3663). This included 1139 patients which were induced (CS=192/1139 16.9%). Epidural rate for the entire cohort was 73%. Table 1 shows CS and epidural utilization rate vs height. Patient height of <157.5cms was associated with higher CS and epidural utilization rates. Our study supports the findings that women of short stature are at increased risk of CS and the utilization of anesthesia services.

Height in cms	CS (rate %) p=0.04	Epidural (Rate%) p=0.001
<152.5 n=230	54(23)	198(86)
<157.5 n=750	167(22.3)	555(74)
<165.1 n=2252	423(18.8)	1554(69)

P-72

DOES INTRATHECAL FENTANYL INDUCE ACUTE TOLERANCE TO OPIOIDS? *Giarrusso, K.A. Mirikitani, E.; Carvalho, B.; Tingle, M.; Drover, D.; Ginossar, J.; Cohen, S.E.; Riley, E.T.* *Anesthesiology, Stanford University, Stanford, CA* Introduction: Spinal anesthesia has replaced epidural anesthesia as the technique of choice for elective cesarean delivery. Many centers combine bupivacaine 12-15 mg and fentanyl 5-25 µg to improve intra-operative analgesia, with morphine 0.1-0.25 mg for post-operative analgesia. Recent reports suggest that intrathecal (IT) fentanyl for spinal anesthesia increases postoperative morphine requirements and visual analog pain scores [VAPS](1,2). The objective of this pilot study was to investigate this phenomenon and determine whether usual fentanyl doses induce acute dose-related opioid tolerance. Methods: In a randomized, double-blinded IRB approved study, ASA 1 and 2 women having elective cesarean section (CS) were enrolled after informed consent was obtained. To date, 37 of 40 patients have been enrolled (10 per group). Patients received 12 mg IT hyperbaric bupivacaine, 0.2 mg preservative free morphine, and either fentanyl 0 (Gp A), 5 (Gp B), 10 (Gp C) or 25 µg (Gp D) diluted to a total of 2.5 ml and administered with the patient sitting. Each patient received an IV morphine PCA until 24h post CS. No other form of analgesia was administered. Postoperative observations included VAPS and satisfaction scores (0-100), nausea, pruritus and cumulative morphine usage at 4, 8, 12 and 24 h. Analyses included appropriate parametric and nonparametric testing with $p < 0.05$ considered significant. Results: There were no differences among the groups in intra-operative analgesia, cardiovascular stability, pruritus, nausea or vomiting. Overall satisfaction scores post-op and at 24 h were relatively high (table) with no significant differences among the groups ($p = 0.063$). VAPS at 30 and 60 min, 4, 8, 12 and 24 h postoperatively were similar in all groups. IV-PCA morphine consumption during individual time periods studied and total morphine consumption did not differ among the groups ($p = 0.41$). Conclusion: In contrast to previous reports, our findings did not suggest that IT fentanyl in the doses studied induced acute morphine tolerance. Group numbers were small, however we consider it unlikely we missed any clinically significant differences. We believe that IT fentanyl 5-25 µg can be used for elective CS without fear of inducing acute postoperative opioid tolerance. 1. Lee et al. *Anesthesiology* 2000; 92: Suppl A77 2. Cooper et al. *BJA* 1997; 78: 311-3

Variables (Mean±SD)	Group A	Group B	Group C	Group D
Overall satisfaction score (0-100)	91±8	82±18	68±20	79±14
Total morphine consumption (mg)	13±10	17±16	13±7	19±7