

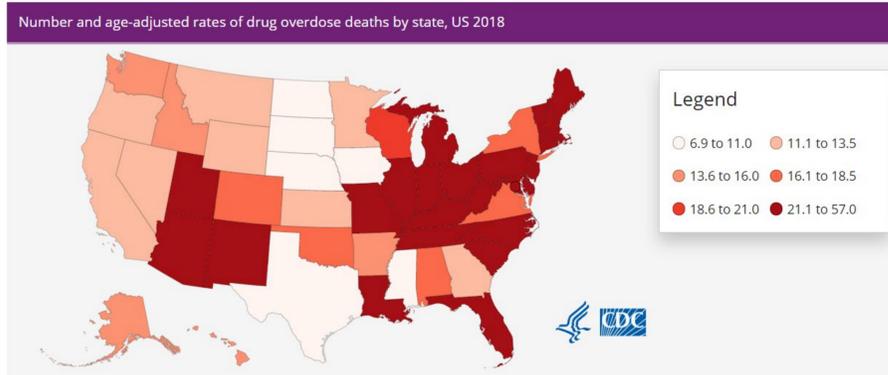
Local wound infiltration with liposomal bupivacaine decreases post-cesarean pain scores

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ABSTRACT & INTRODUCTION

- Surgical patients are routinely prescribed opioid analgesics that are strongly associated with drug overdose deaths.



- Liposomal bupivacaine is a long-acting local anesthetic that received FDA approval in 2011 for local surgical site infiltration to promote post-operative analgesia
- This anesthetic has demonstrated an improvement in post-operative pain control in various surgical realms, indicating a decreased need for opiates and subsequently decreased risks. However, few studies have investigated its use at the time of cesarean delivery.

Patients who received liposomal bupivacaine during C-section had significantly lower pain scores 0-24 hours after surgery.

METHODS

- Retrospective study of patients who underwent cesarean delivery from May-December 2019 at Miami Valley Hospital in Dayton, OH
- Inclusion criteria: Age 18-45, BMI <60
- Liposomal bupivacaine group (n=57) received intraoperative liposomal bupivacaine in addition to standard of care analgesics, which includes intrathecal or epidural morphine
- Control group (n= 59) underwent C section within 1 week of LBG counterpart and within 3 weeks of gestational age of LBG counterpart
- Statistical analysis was completed using IBM SPSS Statistics

PRIMARY OUTCOMES

- Patient opiate use in morphine-equivalent doses (MED) from 24-48 hours post-operatively
- Patient pain ratings via 11-point Likert Scale averaged every 12 hours

RESULTS

Table 1. Morphine equivalent dosing (MED) for post-operative timeframes

Outcome	Control (N=57)	Liposomal Bupivacaine (n=59)	P
0-6 h	15.1 (21.1)	10.3 (13.0)	0.15
6-12 h	5.6 (71.)	4.8 (6.6)	0.54
12-24 h	18.9 (28.2)	13.6 (14.6)	0.21
24-48 h	44.4 (82.2)	31.3 (29.7)	0.26

Data are mean (SD) MED averaged over the 12 hour period

Table 2. Pain scores for post-operative timeframes

Outcome	Control (N=57)	Liposomal Bupivacaine (n=59)	P
0-12 h	4.7 (1.9)	1.5 (1.7)	< 0.01
12-24 h	4.4 (2.3)	2.1 (1.9)	< 0.01
24-36 h	3.7 (2.0)	3.7 (1.7)	0.91
36-48 h	4.4 (2.1)	4.4 (1.6)	0.92
48-60 h ^a	3.8 (2.0)	5.3 (1.7)	< 0.01
60-72 h ^b	4.0 (2.2)	5.6 (1.6)	< 0.01
72-84 h ^c	3.5 (2.1)	5.9 (1.4)	< 0.01

Data are mean (SD) pain scores averaged over the 12 hour period

^a Pain scores available for 49 and 52 patients in the CG and LBG, respectively.

^b Pain scores available for 38 patients in each group.

^c Pain scores available for 27 and 29 patients in the CG and LBG, respectively.

CONCLUSIONS & FUTURE DIRECTIONS

- Confounding factors include differences between post-operative opiate pain medication administration by nursing care which could lead to lack of significant differences in opiate use.
- Future directions include a prospective randomized control trial emphasizing patient and healthcare worker education on post-operative analgesic usage. Additional studies should assess differences between liposomal and systemic bupivacaine

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